

## Follow the Science

*A grab-bag of fascinating books to discuss at your next Zoom cocktail party*

October 14, 2020 Michael Giltz

I don't like nature. I get nervous if I'm more than 200 yards away from concrete. Central Park is my idea of roughing it and I believe we created doors to keep animals out, so why the hell do you bring the little beasties into your home? And yet, I love a good science book and quite enjoy reading about someone else trudging through the muck and mire in search of some rare animal or plant or what have you.

Here are four new science books just out, including a National Book Award nominee, a truly stimulating survey in the vein of Sapiens, a so-so grab bag of insect facts and a book about the end of the universe perfect for your next cocktail party chat. Of course, we're not having cocktail parties but you can always drop some facts from it on a Zoom call.

### A superb owl

Owls of The Eastern Ice is a travelogue and study of a rare, little seen bird called the fish owl. That sounds like a Monty Python sketch or a CRISPR project gone awry. It's called the fish owl because, rather uniquely for owls, it thrives on fish that it hunts in rivers. They're extremely rare, found mostly in parts of Japan and the far reaches of Russia. And they're going extinct.

Like any good student, author Jonathan C. Slaght found this poorly-documented creature and thought, research project! A little funding, some advice from his advisers, and Slaght is off on his adventure to track down the fish owl, figure out its breeding patterns, and devise a plan to protect the poor fellow.

Slaght's scientific odyssey involves a surprising amount of vodka. He nicely balances his book between tales of the humans he meets (like a hermit hiding from organized crime or the many, many men who produce a bottle of alcohol and prove mightily offended if he doesn't empty it by the end of the night) and the intriguing details of this sneaky, private bird. Colorful, amusing, slightly shaggy, it's a good tale even if it involves a great deal of waiting around in the miserable cold. No easy feat but Slaght maintains your interest. Still, I'm slightly surprised it made the long list for the National Book Award.

### My God, it's full of stars

That honor should have gone to The Human Cosmos. This all-encompassing work zeroes in on our understandable obsession with the stars. It's not an up-to-the-minute report on the latest scientific breakthroughs. Instead it's an impressively erudite examination of how stars have inspired us throughout the millennia.

I remember driving cross country and stopping to rest late at night in the Rocky Mountains. I pulled over at a rest stop far away from humans, turned off the engine, leaned my seat back, looked up through the sun roof and gasped. I'd never seen so many stars in the sky. The Human Cosmos makes that sight, once so common and now so rare, seem more meaningful than I'd ever imagined.

Author Jo Marchant charts the historical record of cosmology and the fascinating ways a growing understanding of the universe colored everything we thought and did. I mean, everything. Art, religion, politics, you name it. She synthesizes a remarkably wide-ranging survey of the stars throughout history as charted by historians, archeologists, astronomers (of course) and also philosophers and artists. You can cherry-pick information; I had no idea the halo seen behind Jesus Christ in religious iconography is a holdover from pagan cults celebrating a sun god, for example. Marchant impressively pulls together this wealth of sources to tell a coherent, entrancing tale.

### Those things that insects do

Edward D. Melillo doesn't pull off that same trick with The Butterfly Effect. It's a decent survey of how our lives are intertwined with insects, and I don't just mean bees pollinating flowers and plants. Though that is very, very important. Very.

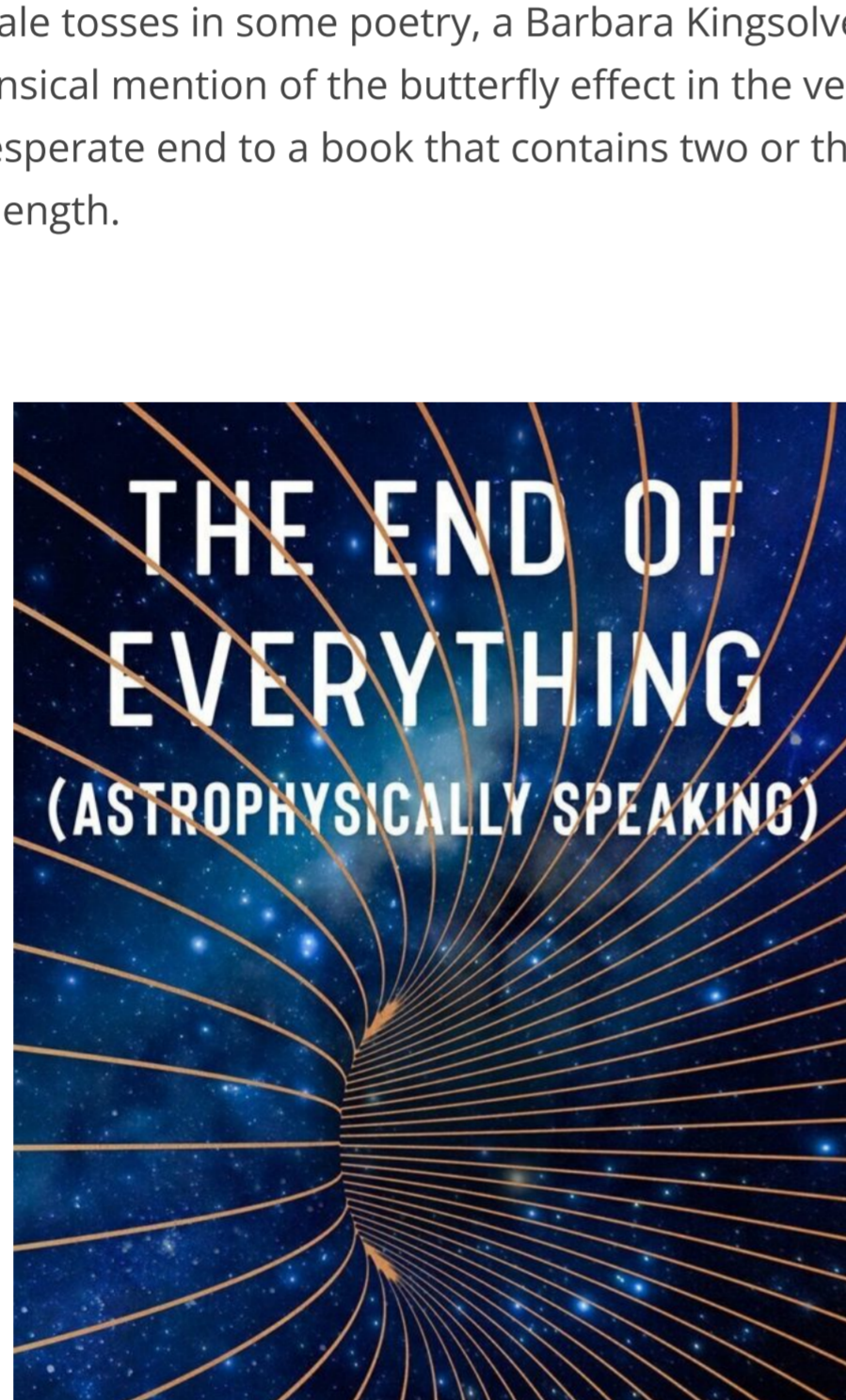
Pollination gets its due, but Melillo is best when surprising us. He offers up six main subjects with decreasing success. First we have shellac, the breakthrough material for capturing sound brought to us by insect secretion. Silk, a surprisingly durable material both beautiful and complex that science simply can't best, tops even that. And then there's the cochineal, a source of red dye and other hard-to-equal attributes held tightly by empires, stolen by "biopirates" and ultimately brought to the world.

So far, so good. Melillo is on less solid ground when tackling the more familiar territory of the fruit fly in science and the insects that pollinate the world's crops. You'd have to be daft or Sarah Palin not to know the fruit fly is an essential element in scientific research and the source of so much knowledge in genetics. And even Palin, who once mocked money spent on studying fruit flies as a boondoggle, must know we depend on insects for pollination.

In the final chapter, Melillo offers the tasty possibility of fried grasshoppers as the West catches up with the two billion people on the planet who chew on insects as a source of protein. It's amusing, slightly squeamish, and offers none of the scope of his best passages.

Melillo offers some succinct history and good tidbits of information but he connects his tales very loosely at best. When the finale tosses in some poetry, a Barbara Kingsolver novel, the Anthropocene and finally, finally (!) a nonsensical mention of the butterfly effect in the very last line, you're a tad embarrassed. It's a rather desperate end to a book that contains two or three very good magazine articles padded out to book length.

### This is the end



Let's end on a happier note, with The End of Everything. In that book about the demise of the universe, author Katie Mack assures us science knows exactly how the Earth will end. It's a huge ball of fire, apparently, though whether that's after the sun becomes a giant red dwarf or we're roasted as the sun becomes a giant red dwarf is a tad unclear to me. In any case, we're toast.

That's billions and billions of years in the future, so don't sweat it. The more interesting question is how the universe ends. Mack gives us the seven-ish front runners and why or why not they're plausible. She's clearly a terrific lecturer; I'd sign up for any class she's teaching at North Carolina State University.

Mack uses a LOT of all caps, usually for quite good humorous effect. She tosses in so many pop culture references at first, I feared she'd be too slap happy, turning this into End Times For Dummies. But it calms down a bit and she's consistently funny, very good at explaining scientific concepts, and keeps the mathematics far away. Mind you, Mack insists the math makes all these ideas even more elegant and beautiful and dead easy to grasp, as long as you're ready to dig deep and do the work. I'll take her word for it.

As for the end of everything, it could be the Big Crunch, the idea that the Big Bang sent everything vamoosing outward as far as possible until at some point far in the future it pauses in space and then slowly starts to contract again until we're all very very skinny indeed and the entire contents of the universe squishes back into an impossibly tiny dot. Apparently, it's not so likely because...math.

Would you prefer Heat Death? We assumed the universe would slow down in its expansion but now it seems like everything is in fact speeding up. Sweet! No Big Crunch. However, if it keeps happening, eventually we'll get more and more isolated from one another and the planets will be drifting alone far away from friendly suns and we'll all be social distancing to a terrifying degree and life everywhere will slowly freeze in a bleak dark nothingness until all light and heat blinks out for good. Oops.

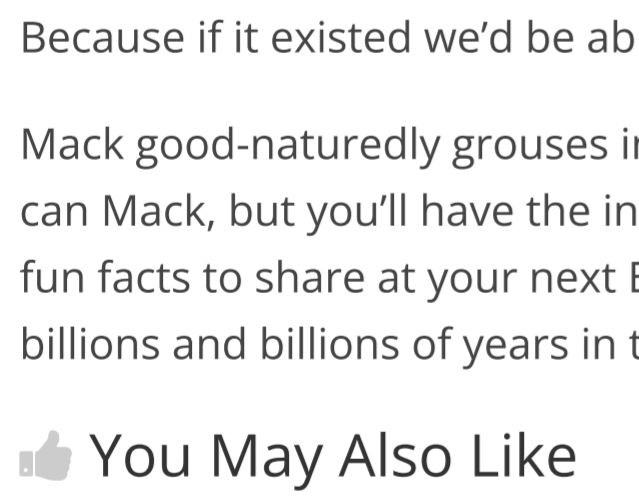
Then there's the Big Rip, in which negative pressure tears the universe apart. But slowly! It would take hundreds of billions of years, at least. Heat Death takes even longer, so we shouldn't sweat either of them. Then there's Vacuum Decay, which means the entire universe might blink out of existence in a millisecond and it really could happen but we wouldn't feel it so why worry; or Bounce and so on and so forth.

Mack makes it all quite understandable, at least while you're paying attention. And blithely assuming we'll live forever, can we really be upset by the universe ending? Most scenarios are so far in the future, it's like getting worried over the national debt. What's a few trillion dollars or the universe imploding in a gazillion years, give or take?

The End of Everything is breezy, fun, and unfair to a fine episode of Star Trek: The Next Generation. Mack says in a footnote that an episode where the Enterprise accidentally travels a billion light-years in a few seconds and they're suddenly surrounded by a shimmering blue energy is implausible. Why? Because if it existed we'd be able to see it in telescopes.

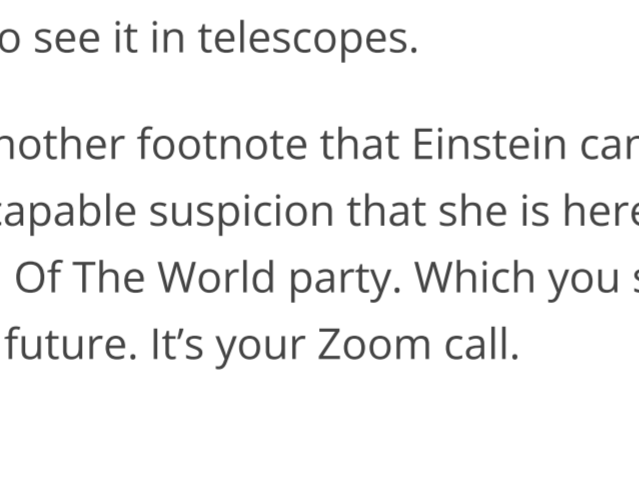
Mack good-naturedly grouses in another footnote that Einstein can't always have been right. Neither can Mack, but you'll have the inescapable suspicion that she is here. Oh well. At least you'll have some fun facts to share at your next End Of The World party. Which you should schedule for right now, or for billions and billions of years in the future. It's your Zoom call.

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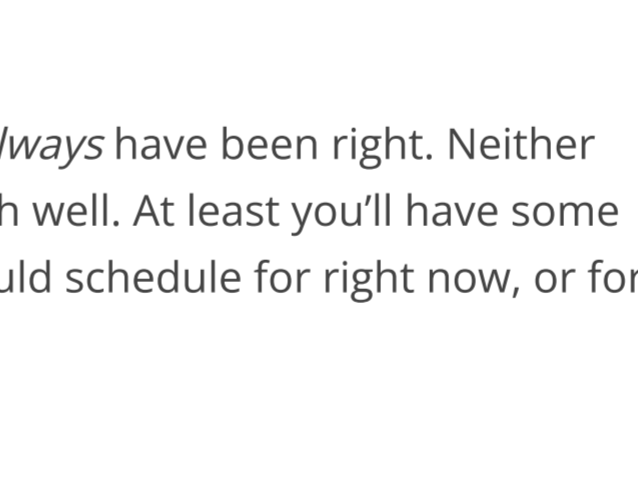
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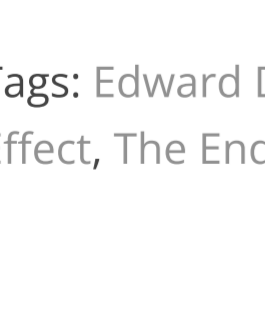
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Tags: Edward D. Melillo, Jo Marchant, Jonathan C. Slaght, Katie Mack, Owls of the Eastern Ice, The Butterfly Effect, The End of Everything, The Human Cosmos

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Michael Giltz is a freelance writer based in New York City covering all areas of entertainment, politics, sports and more. He has written extensively for the New York Post, New York Daily News, New York Magazine, The Advocate, Out, Huffington Post, Premiere Magazine, Entertainment Weekly, BookFilter, USA Today and the Los Angeles Times. He co-hosts the long-running podcast Showbiz Sandbox.

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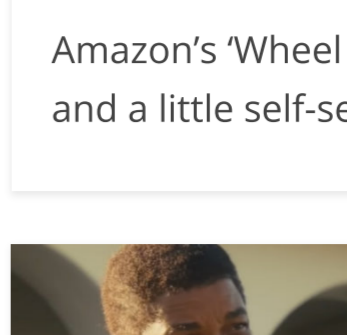
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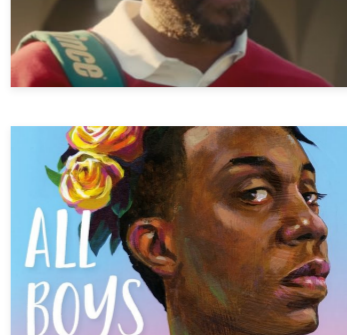
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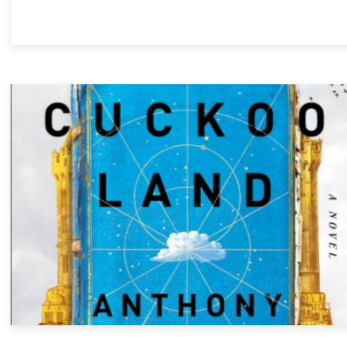
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