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Stephen Hawking Taught Us a Lot About How to Live

The cosmologist not only overturned our imaginations, he became an icon of mystery, curiosity and determination to understand this place we are in.

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By DENNIS OVERBYE MARCH 14, 2018

Stephen Hawking, the English cosmologist and black hole maven, liked to say he was born 300 years to the day after Galileo died, and he died on Wednesday, 139 years after Albert Einstein was born.

That was a fitting bookend.

In the popular press, he was often referred to as the greatest physicist since Einstein. That, he always said, was media hype, driven by the public's thirst for heroes.

As someone who might have contributed in some small way over the years to this impression, I have to say I agree. History will pass judgment on that dubious and problematic distinction.

But Dr. Hawking's life was Einsteinian and he was a hero, not just for what he taught about the universe, but for what he taught us about how to live.

Whether or not he overturned the universe, he did overturn our imaginations. To the public, however, he was, in Homer Simpson's words, "the wheelchair guy," who despite being slowly paralyzed by Lou Gehrig's disease, amyotrophic lateral sclerosis, to the point where he could move only an eyeball, roamed the world and figuratively the universe, married twice, fathered three children, wrote best-sellers and nurtured generations of graduate students.

He was the kind of guy who showed up at his own 60th birthday party with a broken leg after flipping his wheelchair trying to take a street corner too fast, a guy whose eyes lit up with a mischievous grin at good and bad jokes. He mingled with kings and presidents and the Dallas Cowboy cheerleaders. He had hoped someday to take a trip to the edge of space on Richard Branson's Virgin Galactic spaceship.

He preferred to be called Stephen. He was proud of being a family man.

"His sense of humor was legendary," said Kip Thorne, his old friend and recent Nobel laureate from Caltech, with whom he collaborated on the seeds of what would become the movie "Interstellar." "When he started a sentence, laboriously on his computer, I never knew whether it would end in a deep pearl of wisdom or an off-the-wall joke," Dr. Thorne said in an email.

To scientists, however, he will be forever known for finding a relation between gravity — in the form of Einstein's general theory of relativity — that bends the cosmos and determines its destiny and the atomic randomness that lives inside it, swept helplessly along in the river of time.

[A brief history of Stephen Hawking's discoveries]

Like Einstein, and Galileo, he did his greatest work on gravity, a force we all feel in our bones, a force that, Einstein decreed, would even bend starlight, leaving, "lights all askew in the heavens."

As a result, Dr. Hawking became an icon of mystery and curiosity and determination to understand this place we are in.

"Determination" is the key word here. Like Einstein, who portrayed himself as a slow learner who never let go once he had seized on some question, Dr. Hawking was

legendarily, even irritatingly stubborn.

Without that iron will, frustrating as it was to even his best friends at times, Dr. Hawking probably would have vanished into his own black hole a long time ago.

He was only 22, a lackadaisical graduate student, when he was given a diagnosis of Lou Gehrig's disease, which usually kills in two to five years. By the time he died, he had lived with it for half a century, and doctors had added the word "atypical" to his diagnosis. As if that explained anything at all.

I was an assistant typesetter at Sky and Telescope magazine, hungry for action, when I first glimpsed Dr. Hawking whirring in his electric wheelchair through a ballroom in Boston's Copley Plaza Hotel in 1976. It struck me as the most dramatic moment I had experienced in science. I felt like I had somehow known him forever. The genius, the brilliant mind trapped in a wrecked body, are archetypes of literature and folklore.

Of course, I didn't know him at all.

He was there to talk about black holes, the scariest things that otherwise sober physicists had ever dreamed up. Black holes, objects so dense that not even light can escape them, are the most extreme manifestations of gravity. You didn't need to understand the mathematics to grasp the notion of gaping maws sitting at the bottoms of galaxies or at the end of time, or the six-foot-deep hole with your own name on it.

Einstein, himself, had rejected the notion, but in the early 1970s astronomers were finding black-hole candidates all over the sky. The universe was rife with death.

In my own hopelessly romantic eyes, Dr. Hawking in the Copley Plaza will always be St. George in a wheelchair, sallying forth to slay the black-hole dragon.

In intricate calculations that even his friends doubted he could perform, Dr. Hawking discovered that black holes were not black at all when quantum rules were taken into consideration, but were in fact fountains of energy, fizzing faintly with particles and radiation. Over vast eons they would eventually explode, giving back to

the universe all the mass and energy that had once disappeared, in a sort of cosmic reincarnation.

In a statement that felt like it was about much more than just mathematics, Dennis Sciama, Dr. Hawking's former Cambridge professor, called Dr. Hawking's discovery, "the most beautiful paper" in the history of physics. St. George had slain the dragon.

He could talk back then and a colleague and I spent some time after his speech sticking a pencil in his tie to make it stand up, in defiance of gravity.

My article about all this got me promoted at the magazine. A year later, I was on a plane to England to do an in-depth profile. Later on, Dr. Hawking was one of the main characters in my book, "Lonely Hearts of the Cosmos."

He didn't always appreciate the attention. He was mad when he came home one day in Cambridge and found me interviewing Jane, his wife at the time. And frustrated by my obstinate refusal to understand some point of quantum physics (that I still don't understand), he ran over my toes in an elevator with his wheelchair.

As he continued to outlive the odds and progressed from a cane to a wheelchair and from grunting to a computerized voice synthesizer operated first by a thumb and then by an eyeball, it was hard not to think of him as his own best metaphor, a man with one foot in his own black hole.

But Dr. Hawking was not interested in being anyone's metaphor. "I've always found a way to communicate," he once told me. He was not about to surrender his narrative or anything else without a good fight.

There were, for example, what have been called the "black hole wars." His breakthrough calculation had come with a huge price tag for physics. When black holes exploded, all the information about what had fallen into them would be erased.

"God not only plays dice with the universe," Dr. Hawking said in 1976, paraphrasing Einstein and outraging many physicists for whom it is an article of principle that they can untangle the history of the universe, "but sometimes he throws them where they can't be seen."

And so the fight was on.

Two years later, Dr. Hawking, who made an art form of admitting his mistakes, said he had been wrong.

But it turned out that nothing had been settled. Also like Einstein, even when he made a mistake Dr. Hawking was being productive.

How and if information gets in or out of a black hole is now one of the thorniest, most profound and hotly debated questions in physics. Its resolution, most agree, will likely require a — dare I call it Einsteinian — revolution in how we view space and time. The universe, they say, might be a hologram.

It is hard not to perceive, peeking out from behind the math and inscrutable space-time diagrams on which this debate takes place, the need and desire of all humans for some kind of reassurance that death be not final, that something is left behind.

The black hole has now claimed Dr. Hawking from his life on the boundary of oblivion. And there is indeed something left behind: a mischievous grin and a great, great mystery.

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