Editorial

On Not Dying of the Light

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My father believed that—no matter what the odds—one should always go down metaphorically swinging and never face the end with resignation. Where some living wills indicate "Do Not Resuscitate," his instructed us to extend his life by "all means possible." I don't think every situation lends itself to this philosophy, but I know I've been influenced by it. It's one reason Arthur C. Clarke's 1972 novel, *Rendezvous with Rama,* so quickly convinced me that humanity could do with an early warning system that would help Earth avoid disastrous collisions with objects from outer space. As Bill Nye the Science Guy says, "We are the first generations of humans who can do something about an asteroid or comet impact. We have learned enough about the cosmos and our place in space that we can understand the danger and make a plan."

Asteroids and comets as methods of mass destruction have been much on our minds lately. We've all seen the videos of the 11,000-ton meteor that blew up over the Chelyabinsk Oblast earlier this year. Although the atmosphere absorbed most of it, the meteor was packing a kinetic energy punch twenty to thirty times greater than the energy released by the bomb that fell on Hiroshima. Almost directly on its heels came the awfully close flyby of Asteroid 2012 DA14. At four times the size of the Cheyabinsk meteor, this asteroid could do significant damage if it impacts the Earth at some point in its future travels. There are good reasons for why asteroids and their comet cousins are the nightmares of science fiction writers, readers, and editors.

But objects like asteroids have duel natures in science and in science fiction. We know one ended the reign of the dinosaur and one could as easily bring about our own demise. Lurking in my submissions system are numerous stories chronicling the Earth's fiery destruction, yet for every one of those there's another tale about the daring deeds of brave asteroid miners or the exploits of dodgy, and sometimes misunderstood, asteroid pirates. These ideas are so common in science fiction that they are often viewed as clichés. Still, they may become reality sometime in the not too distant future. A company called Planetary Resources Inc. hopes to mine near-Earth asteroids for water and platinum. NASA's proposed budget for 2014 "includes a plan to robotically capture a small near-Earth asteroid and redirect it safely to a stable orbit in the Earth-moon system where astronauts can visit and explore it." Kim Stanley Robinson's latest novel, *2312,* imagines us using asteroids as nature preserves and means of transportation.

My earliest encounter with an asteroid story may have been Isaac Asimov's "Marooned Off Vesta." I found the story in a collection called *Asimov's Mysteries* when I was in middle school. In this tale, three plucky characters must use their ingenuity to survive after their spaceship is wrecked by a meteroid. Last year, Jason Sanford's "Heaven's Touch" featured an equally competent character who desperately tries to save the Earth and herself from a close encounter with a comet.

In James Maxey's 2005, "To the East, a Bright Star," and Robert Reed's 2007, "Roxie," characters await the inevitable end of life on Earth as we know it with varying degrees of acceptance. These stories have their quiet beauty. Although fatalistic, they are powerful. They remind us of what we will lose if we don't take steps to protect ourselves. I know that just because we have a "can-do" attitude doesn't mean that we will succeed at everything we set our minds to. But inaction could certainly doom us. I'd rather throw my lot in with those who are trying to ward off these cosmic terrors than ignore the issue and convince myself that asteroids or comets aren't going to inflict

massive destruction on the Earth during my lifetime.

Clarke called his fictional early warning system for detecting hazardous Near Earth Objects "SPACEGUARD." Today, there are numerous national and international associations working on the problem of detecting NEOs and avoiding a major impact event—some of these organizations even take their names from Clarke's novel. NASA lists many of the groups at *http://neo.jpl.nasa.gov/links*. The Planetary Society <*http://www.planetary.org*> is a nonprofit organization that funds "asteroid hunters" through their Shoemaker NEO Grants. One grant partially funded the La Sagra Sky Survey, at the Observatorio Astronómico de La Sagra. Asteroid 2012 DA14 was discovered during the course of this survey.

Although scientists have lots of promising ideas, it doesn't look like humanity is prepared to take on the redirection of a massive object anytime soon. Right now, the best defense seems to be an orderly evacuation of the endangered area. Evacuation won't be the answer if a planet-killer sized asteroid shows up, though. Many hope that the dramatic footage of the Chelyabinsk explosion, and its concurrence with the visit from Asteroid 2012 DA14, will encourage more research into methods for nudging treacherous NEOs out of our path.

I hope it does. I'd prefer that we not face extinction from the skies as helplessly as the dinosaurs did. I want humanity raging effectively at the blinding light of a catastrophic Near Earth Object and finding ways to destroy or deflect the planet killer before it gets us. Neither I nor my children nor my children's children should have to go gently.