



Tuesday, Sep. 17, 2002

It's the Little Asteroids that Get You

By Leon Jaroff

My friends tell me that I'm obsessed with asteroids, and maybe they're right. When the late Nobel Laureate Luis Alvarez more than two decades ago proposed his theory that a comet or asteroid had done in the dinosaurs, paleontologists and many other scientists pooh-poohed the idea. But his reasoning immediately resonated with me, probably because I was just ignorant about geology. In a high state of excitement, I published a major story in Discover magazine, lauding the theory. It just made so much sense.

Several years later, when a 110-mile-wide, 65 million-year-old, buried crater was discovered under the Yucatan Peninsula in Mexico, my story in TIME was headlined, "At Last, the Smoking Gun." Virtually no doubt remained. The crater had been made by the object, probably an asteroid about ten miles across, that killed the dinosaurs. To celebrate, my wife and I threw a big party for our bewildered neighbors.

Over the next several years, I dreamt frequently about asteroids, published a dozen stories about them in TIME and became convinced not only that they had caused massive extinctions in the past, but that they almost certainly would do so again — unless we learn to intercept and divert or destroy them long before they are due to strike. Indeed, my dreams usually had happy endings, involving successful intercepts that Saved Civilization.

Urged on by such luminaries as the late Gene Shoemaker and the Jet Propulsion Laboratory's asteroid hunter, astronomer Eleanor Helin, I campaigned for increased funding of the small band of selfless astronomers scanning the night skies for threatening asteroids. For my troubles, Helin got the International Astronomical Union to name an asteroid after me. It's called 7829 Jaroff, it's probably about five miles across, it hangs out near the orbit of Mars and, like me, presents no immediate threat to Earth.


Anyhow, after all that, I had good reason to think that I knew practically everything there was to know about asteroids and their threat to Earth — until this summer, when Brig. Gen Pete Worden, deputy director of the U.S. Space Command, disabused me of that notion. Though the asteroid detection program has so far concentrated on finding the big guys, civilization-ending monsters about six-tenths of a mile across or larger, Worden thinks that the more plentiful, and harder-to-detect smaller ones present a more imminent threat.

Many of these asteroids are not massive enough to penetrate the atmosphere and strike Earth. But, as they hurtle into the atmosphere at tens of thousands of miles per hour, friction heats them so rapidly that they explode before reaching the ground. By now, we've all heard of the asteroid, about 300 ft. in diameter, that in 1908 exploded about five miles above the uninhabited Tunguska region of Siberia. The blast, estimated today at 10 megatons, burned and felled trees and killed wildlife over an area of several hundred square miles. And as recently as 1996, an asteroid exploded over Greenland with the equivalent of a 100 kiloton blast. Had either of these intruders from space met their demise over, say, London or New York, hundreds of thousands might have

perished.

That's bad enough, and we'd certainly better start looking harder for the smaller guys. But, as Worden warns, these diminutive asteroids can trigger a danger even greater than their explosive potential. Last June for example, during the standoff between nuclear powers India and Pakistan, an asteroid no more than 30 feet across exploded over the Mediterranean sea with the force of a one kiloton bomb. Had that blast occurred anywhere over the subcontinent, Worden fears, neither side could have distinguished between a nuclear blast and an exploding asteroid. Mistaking the event as a first strike, they might have launched a nuclear exchange and killed millions.

Worden wants the U.S., which has the technology to identify the nature of these air blasts, to set up a warning center that could reassure rival nuclear-armed nations on the subcontinent, as well as in Asia and the Middle East, that they are under asteroid, not nuclear, attack. Until that kind of center is up and functioning, my new asteroid dreams will not have happy endings.

 Click to Print

Find this article at:

<http://www.time.com/time/columnist/jaroff/article/0,9565,351731,00.html>
