

KILLER ASTEROIDS

Popular Depictions and Public Policy Influence

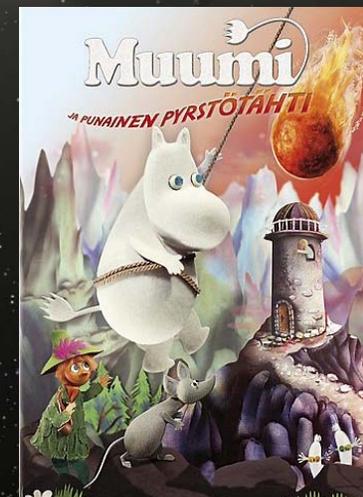
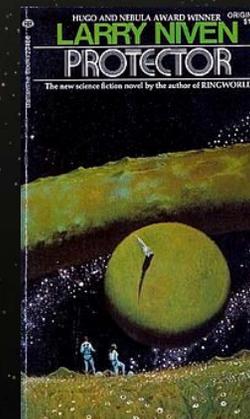
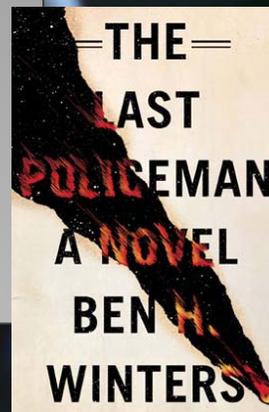
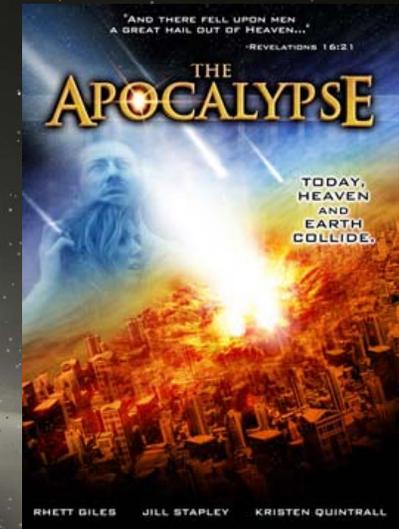
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A long, explosive history

- Many examples
 - 1890 *La Fin du Monde*
 - 1942 *The Magnetic Telescope*
 - 1958 *La morte viene dallo spazio*
 - 1962 *Rendezvous with Rama*
- Key drivers
 - 1908 Tunguska impact
 - 1980 Alvarez hypothesis
 - 1994 Shoemaker-Levy 9
 - 2011 AG5
 - 2012 Mayan “prophecy”
- 25+ in 1990s alone



Public perception

“Warnings about asteroids and comets striking the Earth mobilized a response feeble by comparison to space efforts incited by the Cold War. The Cold War really scared people, and asteroids do not.” – McCurdy (1997)

- 1993 Slovic and Peterson survey: risk ranked 14th out of 24 – “distant in time,” “non-immediate”
- 1999 & 2010 Pew Research Center polls: 62% an asteroid impact “will probably not happen” “will definitely not happen”

Compelling...if unbelievable

- **Uniqueness**

- Risk assessment: dread risk & unknown risk

“unique combination of very low probability and very great consequence” – Slovic (2007)

“equal-opportunity hazard”

– Morrison (2006)

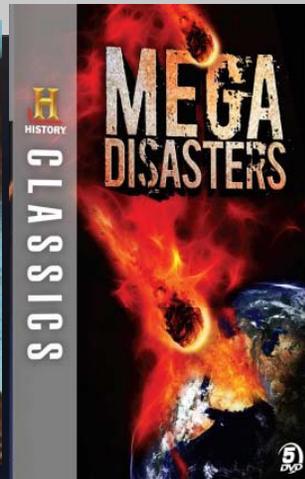
- **Tools of the trade**

- CGI/special effects

- **The draw of space**

“All of the doomsday scenarios, both astronomical and human in origin, fell from the sky.”

– McCurdy (1997)



Houston, we have a problem

- **Incorrect science & technology**
- **Inflated NASA role**
- **Focus on science's limitations**
- **Asteroids are not the focal point**



Not seeing eye-to-eye

- Beginnings of scientific focus

“until the mid-1960s impact crateringwas deemed a curiosity.” – Chapman and Morrison (1988)

- Key events
 - 1980 Alvarez
 - 1994 Shoemaker-Levy
 - Planetary research
- Government action
- ~\$4 million annually

- Sharp contrast with dominant narrative
 - Details: levels of risk
 - No panic

“...the time required to mitigate optimally...is in the range of years to decades, but this long period may require acting before it is known with certainty that a NEO will impact Earth.” – Committee to Review Near-Earth Object Surveys and Hazard Mitigation Strategies (2010)

Final considerations

- Assumptions about role of education
 - Lack of concern driven by lack of knowledge
 - Improved education: greater policy relevance
- Is this true? *“Scientists owe a great debt of gratitude to the Hollywood blockbuster”*
 - Hartwell (2007)
- Note of caution: *“... it will be hard to generate concern about asteroids unless there is an identifiable, certain, imminent, dreadful threat”*
 - Slovic (2007)
- More research on public attitudes useful to inform educational efforts aimed at influencing policy



Thank you!

