The Hammer of God Short Guide

The Hammer of God by Arthur C. Clarke

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Characters

R obert Singh, sixty-year-old Captain of the space ship Goliath normally has a quiet duty assignment. His ship, stationed "equidistant from the sun and Jupiter," is one of two vessels posted for Spaceguard duty, and serviced by bimonthly "fast shuttle from Mars or the moon." The ship's computer, David, monitors the status of all systems and all routine personnel needs. Astrophysicists and astrogeologists attend to the monitoring of and occasional exploration of asteroids in the area assigned for observation.

Singh considers his job an out-of-theway position with command status but with little risk and thus, a very good career-capping assignment to hold before retirement.

A two-family man, Singh uses "memnochips" to recall the good times with his first wife, Freyda Carroll and their son Toby on Earth, and with his second wife, Charmayne Jorgen on Mars, with whom he has two children, Mirelle and Martin. Extended service in space and on the low gravity environs of the moon and Mars, have cost Singh the physical strength to tolerate full Earth gravity. He maintains contact with his first family via telecommunication and memnochip recordings.

Robert's relationship with Freyda faded into relationships with others for each of them, but the exact terms of Singh's separation from his first wife are not disclosed, nor is specific mention made of marriage to Charmayne, the second wife whom he first met on Mars when he was fifty-five years old.

Through flashbacks in the story line, details of Singh's personal history are periodically disclosed. He took his engineering degree at the moon's Aristarchus Institute of Space Technology.

In his final year of studies, he won first place in a marathon race in the Lunar Olympics. In his early career, he worked Earth-moon shuttles, but later moved to jobs that took him farther from Earth for long periods.

Singh's use of the Brainman and memnochips triggers a brief reflection on his baldness and its variance from traditional expectations of the ancient Sikh religion. For proper neural stimulus through the helmet, the user must have a shaven head. Singh has had his scalp permanently depilated — an act his ancestors in India would have deemed sacrilege. Reliving memories of the past can bring tears to Singh's eyes, but the historical anecdotes which build his personal history seem more a patchy record of what he has done than a revelation of who he is as a person. The hints of his religious affiliation — the Singh surname and the allusion to traditional concern for a man's hair — remain superficial factors in the story. They do not connect with Singh's work or social or recreational interests in any way. No aspects of Sikh beliefs enhance or hinder Singh's duty assignments.

Similarly, Robert Singh remains a relatively flat character in relation to his wives and children. He is shown as passionately drawn to a woman early in the relationship, is

described as involved with the children and concerned about being less distant with the second family than with the first.

Still he does little to make a reader see him as a multifaceted character.

Robert Singh deserves to be called the main character because he is the human who gets the most attention in the plot. Still, he is not particularly dynamic, and the advance of the plot action often depends on the choices or the acts of minor characters around him. Establishment of the Spaceguard system resulted from Senator George Ledstone meeting Professor Carlos Mendoza, an expert on asteroids and their collisions with planets in the solar system. While not fully convinced by Mendoza's direct arguments, Ledstone is moved by Mendoza's death to support the funding of the Spaceguard program. The ship's computer, David, interacts with Singh as a cogent personality and, when the Atlas effort has been sabotaged, deduces that the Goliath could still apply thrust to Kali to fulfill the deflection mission.

Dr. Angus Millar of the Port Lowell Medical Center on the moon is an amateur astronomer who detects the Kali asteroid before the Spaceguard system does. Background and description provided on Millar show he knows astronomy well and can be egotistical; his discovery is an essential complication in the story line. But once his role as discoverer of Kali's threatening trajectory has been fulfilled, Millar disappears from the narrative.

Once the Goliath/Atlas craft have landed on Kali, Deimos port engineer Torin Fletcher becomes important to the story in supervising the Atlas mass driver project. Sir Colin Draker, centenarian astrogeologist, is useful for reporting the composition and geophysical behaviors of Kali. Within the span of the last two sections of the novel, Fletcher and Draker interact with Singh and David enough to be considered major characters, although judged for their comparative shares of the full story, they would rate as minor characters.

Social Concerns

With The Hammer of God, Clarke revisits his usual broad interest in the place of humanity in the solar system and the universe with a particular twist, portraying the possible threat of an asteroid colliding with the Earth with such mass and force that a major catastrophe results. The functions of religion and science in human life are variously evident in both the events of the plot and in the "historical background summaries" frequently used to background the plot action of the novel. The summaries and plot action also reflect on humans' capacity to cooperate when faced with common danger, and their tendency to ally with subgroups of a society when they can find support for individual traits, beliefs, or tastes.

Governments in the world of 2110 have been able to gain (or force) consensus on population control and pollution control. Technology has provided computer-controlled housing that can be ecologically self-sustaining through recycling of all wastes.

Techniques

The novel consists of seven major parts, each containing several individual chapters, usually brief, and sometimes composed of almost fragmentary anecdotes or passages of description.

The Hammer of God displays Clarke's habits of generalizing rapidly through events of a character's past or through a century's social and technological changes, and of sketching characters lightly with just enough "qualifications" to suit them to a role in the narrative without offering much background or plot involvement to "round" the characters or produce significant change in them through the conflict.

Fuller character development seems to happen when Clarke works with a coauthor such as Gentry Lee.

Clarke includes historical facts and modern scientific hypotheses about asteroid travel and asteroid impacts on Earth in his narrative. In addition, when portraying Singh's visit to DisneyMars with his wife and daughter, Clarke uses an excerpt from Ray Bradbury's Martian Chronicles as part of the Disney display narrative of past impressions of what Mars would be.

At times, Clarke uses effective dialogue between characters to liven the presentation, but he relies more often on description and reporting — historical and fictive to advance the tale. He concludes the work with several pages of acknowledgments which echo the historical precedents already used in the novel and expand on them and on related topics.

Themes

Brief expositions of two prior Earthmeteorite collisions ground the novel's main premise in historical reality: the Tunguska, Siberia impact of June 30, 1908, and prehistoric reality, an impact at Chicxulub on the Yucatan Peninsula of Mexico sixty-five million years ago.

A near miss is cited in the chapter "Oregon 1972." However, the specific location from which a tourist captured the passage of the meteor on film is said to be "Grand Teton National Park," which lies in the State of Wyoming — leaving the reader to ponder whether the meteor's lowest point in trajectory came while it passed over Oregon, or whether the author inadvertently relocated a national park.

Clarke's acknowledgments cite additional strikes and near misses, and the published concerns of government agencies and academic astronomers which have led to discussions of a possible Spaceguard Survey intended to identify moving bodies in space which could pose a serious threat to Earth's inhabitants.

While the asteroid threat is the dominant issue in the novel, other motifs inhabit the plot and the "historical" summaries which fill in the technological and sociocultural backgrounds for the life in the year 2110. Clarke gives brief explanation of "Chrislam," a religion born of American contacts with Islamic culture during the Gulf war in the early 1990s, mixing premises of Judaism, Islam, Christianity, and Buddhism, and propagated rapidly and intensely through Brainman memnochip programs which can carry virtual reality experiences to the user's brain via a special neural net helmet. Unnamed radicals from among the Reborn, a fundamentalist sect of Chrislam, complicate the novel's plot by sabotaging the mission to deflect the asteroid Kali from its collision course with Earth. The Reborn believe that the attempt to save the Earth is an attempt to evade divine judgement, not an opportunity to use science and technology to protect human life. And while it is a few extremists within Chrislam who serve briefly and vaguely as villains in the novel, the formation and spread of the new religion serves as a vehicle for two streams of social comment. First is the premise that, even with remarkable scientific and technological advances, and with the world views of older traditions being abandoned, humans will still engage in religious interpretations of their roles in the universe and — whether in scientific or religious perspectives — will still continue to align themselves by sect and clan. Chrislam has its liberals, moderates, and fundamentalists. Scientists and crew members on the Goliath tend to follow their separate schedules, and the scientists divide according to their interests and methods of operation. The theoretical astrophysicists prefer to observe and to measure distant celestial bodies from afar and disdain their companions, the astrogeologists, who thrive on field trips to gather actual specimens of material from planets, moons, comets and asteroids. Neither the religious nor scien tific approaches to life and its philosophical questions are allowed the privilege of posing ultimate truths and unchangeable answers. The events in the novel show beliefs sometimes challenged and sometimes sustained, but always confronting change and question.

Less often visible but still given some attention is the issue of population control. Earth dwellers who establish families are permitted a single child. Inhabitants of Mars are allowed to have two children. Problems of poverty and pollution stemming from overpopulation, as well as medical developments which prolong the average human life to more than 100 years have led to Pope John Paul XXV's 2023 Encyclical endorsing birth control measures other than outright abortion of a fetus.

Governmental cooperation on Earth rises and falls in the various historical perspectives Clarke provides sporadically through the novel. The Spaceguard program is developed, left to wither for a period, then reestablished as humans renew their settlement and industrial development of more distant sectors of the solar system. Chaos theory, developed in the late twentieth century, has eventually been applied to economics sufficiently to smooth the boom and bust cycles in the international economy, and thus the problems of dire poverty have been overcome.

Thus, while differences of personality and regional interest continue to exist in the Earth's governing bodies, there is still sufficient cooperation and financial means to be found that a mission to deflect the Kali asteroid from its fatal course can be arranged. Earth does suffer some substantial damage from a near miss by a chunk of the original Kali asteroid. Still, since there is enough cooperation — and luck — that the deflection mission is ultimately a qualified success, and the novel gives a generally positive view of the human future.

Key Questions

With the novel The Hammer of God comes an appreciable although eclectic appendix of sources and acknowledgments in which Clarke accounts for some documented impacts of meteorites on Earth, for film, print, and astronomical software precedents for other aspects of the novel, and for details about asteroids traveling within the solar system — details revealed just after he finished his book manuscript.

The idea of an asteroid threatening Earth is not new, but as the economic and political tides of international relations ebb and flow, the possibilities of nations combining their resources to explore the solar system and expand the range of territory accessible to human beings also ebb and flow. In the 1990s, American and Russian space programs have each included astronauts from other nations and, occasionally, have mounted joint activities.

Numerous satellites have been launched for civilian telecommunications purposes, for weather and geographical analysis, for military intelligence purposes, and for reasons of scientific research. Still, year by year, planning and execution of programs fluctuates according to funding. The Hubble telescope, orbited and repaired in the 1990s, has brought new and clearer views of distant galaxies and astrophysical processes, but no comprehensive system for asteroid watch has been made operational as of this writing.

The Hammer of God stimulates discussion of the relative need for an asteroid warning system. The cost of ships and equipment to monitor the solar system for threatening comets or asteroids is sure to be very great. Also, while many readers may immediately respond to the threat of meteorite impacts with the desire to defend the home planet, Clarke's premise is that some people, given to specific views of an apocalyptic end to human history, might well oppose any effort to counter action that they believe is divinely decreed. What scientists and engineers could view as a challenge for humanity to put forth its best thought and technology in order to safeguard the future, some "end-time" prophets could read as a final punishment for sin which will, in turn, usher in a new epoch of divine peace for the true believer. The realities of politics and religion in all of human history (for example, the Muslim-Hindu-Sikh conflict in India or the Catholic-Protestant warfare in Northern Ireland) demonstrate that the opposition which Clarke attributes to one sect of Chrislam is by no means an implausible conflict.

1. Arthur C. Clarke's popularity as a science fiction writer is due, in part, to his use of scientific and historical facts as background for his stories and their projections into the future. In The Hammer of God, the attempt to destroy the Kali asteroid with a nuclear blast becomes a partial failure because the electronic triggering system malfunctions. The physical impact of the missile on the asteroid, however, does create some beneficial results while allowing the crew of the Goliath to survive. Both the story's text and Clarke's acknowledgments refer to the U.S. Navy's problems with torpedo firing pins during World War II. Does the historical precedent of technical failure make the parallel event in the novel more believable, or is the failure of the nuclear device "an easy way out" for the characters?

2. What are the roots of the religion of "Chrislam?" In what ways does it continue beliefs of the religious traditions before it? In what ways does it show changes? Which changes would only be possible in a future world?

3. Occasionally, Clarke will use a place name or a character name which seems to have allusive values. For example, the space ship in The Hammer of God is named Goliath — the name of the Philistine giant who was slain by the shepherd boy David. The ship's computer (a "Legal Person" under "the One Hundredth Amendment") is named "David," and its counterpart on Earth is named "Jonathan." Is the grouping of the names a superficial convenience, or do the roles of the name-bearers in the novel show any meaningful parallels to the characters of the same names in Biblical tradition?

Is the use of the Greek name "Atlas" for the mass driver significant?

4. An early twentieth-century cartoonist, Rube Goldberg, became known for drawing elaborate contraptions made up of everyday items and tools such as chairs, hammers, brooms, and so forth tied together with wire, string, or rope, and intended to perform mundane tasks such as sweeping a floor or trapping a mouse. What significance may exist in the fact that Clarke's founder of the Chrislamic religion is Ruby Goldenberg?

5. In placing "Chrislamic fundamentalists" in opposition to the mission to deflect the Kali asteroid from its collision course with Earth, is Clarke building an "antireligious" theme into the novel, or does he simply pose an "antiextremist" view with his choice of human villains?

6. During Clarke's writing career, critics have faulted him for thinlydrawn characters. In The Hammer of God, Captain Robert Singh's personal history is portrayed through several separate chapters scattered through the novel. Does Clarke give the reader enough insight into Singh to make him a character most readers would believe in and care about? Does Singh actually make any important decisions that affect events in the plot, or does he just react to circumstances as they arise and "follow orders from headquarters?"

7. After the Goliath's mission has been sabotaged, Captain Singh speculates briefly about who actually set the explosive charge, and when. The novel, however, never brings specific personalities into focus as opponents for the crew to face. Would the conflict in the novel be more engaging if Singh and his crew actually confronted the saboteurs?

8. Estimates of Earth's population in the 1990s have ranged between five and six billion. In citing Mars' inhabitants' disdain for Earth, Clarke says that "everyone knew that Earth was noisy, smelly, polluted and horribly overcrowded — almost three billion people!" What factors cited in the novel's historical overviews have reduced the future Earth's population? What attitudes toward population control are prevalent on Earth and on the other inhabited sites in the solar system?

What policy differences exist and why?

9. While Clarke and other writers from time to time have raised the theme of an asteroid colliding with Earth with sufficient mass and force to cause a major catastrophe, is the threat actually serious? Given all the existing problems of war, famine, poverty, and disease in the world at present, should money actually be devoted to some version of a space watch program to track approaching asteroids and comets?

10. The novel projects the use of plants both on the moon and on Mars to enhance the livability of certain sites for humans. Clarke refers to "terraforming" Mars with the intent of developing an atmosphere that humans could tolerate without special technology for individual life support. Assuming humans can eventually settle on the moon and on Mars, should they plan to change the environments radically to make "normal life" possible, or should they adapt their own lifestyles to the environments as they exist, intruding as little as possible?

11. Assuming humans move to live on space stations, and on planets and their satellites such as Mars, Deimos, and Phobos, should all the available resources found in such places be exploited by mining or other industrial activity in order to defray the costs of extraterrestrial life and exploration?

Literary Precedents

In his acknowledgments, Clarke notes that the theme of an asteroid striking earth has been used in Shiva Descending by Gregory Benford and William Rotsler (1980) and Lucifer's Hammer by Larry Niven and Jerry Pournelle (1980). The first novel he knew by title; the second he had read.

A short story, "The Hammer of Thor," by Charles Willard Diffin in Astounding Stories (August 1932) also influenced his thought. Place names for Mars he has taken from the NASA "Atlas of Mars" (1979). The title The Hammer of God Clarke took from a G. K. Chesterton Father Brown murder mystery.

Related Titles

The novella in Clarke's version of the asteroid collision theme began with a short story of the same name commissioned by Time magazine for a special edition — Beyond the Year 2000: Time Volume 140, Number 27 (Fall 1992), which he subsequently expanded to book length. Not dealing with asteroid threats, but raising the concept of humans being influenced by aliens from far beyond the solar system is the Rama tetralogy: Rendezvous with Rama (1973), Rama II (1989), The Garden of Rama (1991) and Rama Revealed (1994) (the latter three coauthored with Gentry Lee).

Copyright Information

Beacham's Guide to Literature for Young Adults

Editor - Kirk H. Beetz, Ph.D.

Library of Congress
Cataloging-in-Publication Data

Beacham's Guide to Literature for Young Adults
Includes bibliographical references.
Summary: A multi-volume compilation of analytical essays on and study activities for fiction, nonfiction, and biographies written for young adults.
Includes a short biography for the author of each analyzed work.
1. Young adults□Books and reading. 2.Young adult literature□History and criticism. 3. Young adult literature□Bio-bibliography. 4. Biography□Bio-bibliography.
[1. Literature□History and criticism. 2. Literature□Bio-bibliography]
I. Beetz, Kirk H., 1952
Z1037.A1G85 1994 028.1'62 94-18048ISBN 0-933833-32-6

Printed in the United States of America First Printing, November 1994