

Arthur C. Clarke

Born 1917. Writer and inventor of the communications satellite.
Available online at www.livesretold.co.uk



Contents

1. Introduction
2. Early Life
3. Communications Satellites
4. Vision and Influence
5. Futurology and History
6. Later Years and Death

1. Introduction

*Chapters 1 to 5 were archived in 2021, with acknowledgement and thanks, from the www.nature.com website. The article was written in January 2017 by Andrew Robinson. Andrew Robinson was Arthur C. Clarke's editor at The Times Higher Education Supplement from 1994 to 2005. His most recent book is *Earth-Shattering Events: Earthquakes, Nations and Civilization*.*

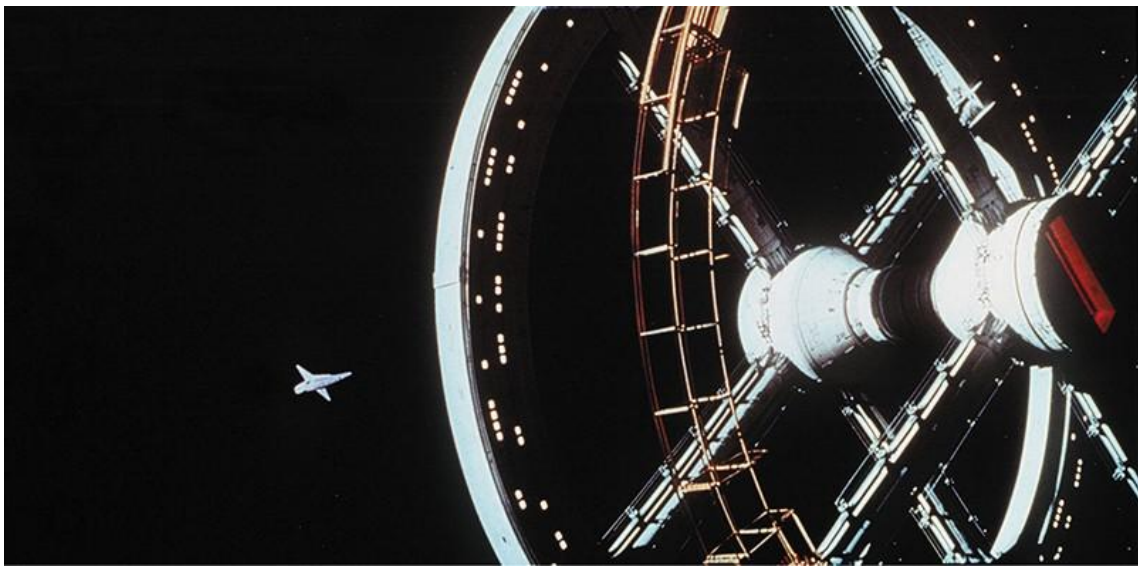
When Arthur C. Clarke died in 2008, Nature's obituarist — astrophysicist and science-fiction writer Gregory Benford — hailed him as “the most famous of science-fiction writers” (G. Benford Nature 452, 546; 2008). The makers of Hollywood biopic *Steve Jobs* (2015) seem to agree: the film opens with black-and-white footage of Clarke from a television interview filmed in 1974, two years before Jobs co-founded Apple Computer. Balding and bespectacled, Clarke stands opposite the interviewer and his young son in a large office thrumming with massive computers. He captivates them and us when he says: “The big difference when he grows up — in fact you won't have to wait for the year 2001 — is that he will have in his own house ... a console through which he can talk to his friendly local computer and get all the information he needs for his everyday life.”



Arthur C. Clarke in 1968, on the set of 2001: A Space Odyssey. Credit: Everett Collection/Mary Evans.

Clarke, who was born 100 years ago, was famously prescient. He anticipated, for instance, satellite communications and powerful computers in the form of HAL in the cult film *2001: A Space Odyssey* (1968). He also popularized the 'space elevator'. That concept, which now has some solid scientific support (see Nature <http://doi.org/fv4rxv>; 2007), was central to *The Fountains of Paradise* (1979), one of his score of science-fiction novels.

As an editor of Clarke's non-fiction in his eighties, I was struck by his unquenchable curiosity about science, literature and civilization — human and extraterrestrial. He would usually agree to my request for a book review after an initially discouraging response on grounds of frantic busyness. The result seldom needed any editing.



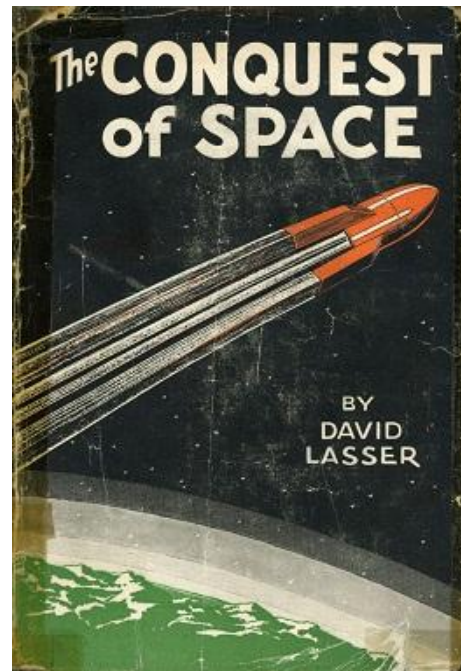
From the space travel sequence in 2001: A Space Odyssey.

2. Early Life

Clarke's interest in telecommunications began in rural Somerset, UK. His father had been an engineer in charge of telephone and telegraph circuits; his mother, a telegraph operator. The young Arthur received cast-off equipment, such as telephones, switch-gear and a photocell from his relative George Grimstone, an engineer who taught him to build wireless crystal sets. Clarke also experimented with homemade rockets on family farmland.

He read David Lasser's introduction to rocketry and space flight, *The Conquest of Space* (1931); devoured US science-fiction pulp magazines; and joined the British Interplanetary Society, founded in 1933 to promote space flight (then seen as a concept of the lunatic fringe by most scientists and engineers).

In 1936, having scored 100% for arithmetic in the civil-service entrance examination, Clarke moved to London and worked for the Exchequer and Audit Department. During the Second World War, he gained experience in electronic engineering while building and testing ground-controlled radar in the Royal Air Force — later dramatized in his sole non-science-fiction novel, *Glide Path* (1963).



3. Communication Satellites

In 1945, Clarke inadvertently launched a career as a futurologist with his outline for a geostationary communications satellite. In a letter ('V2 for ionosphere research?') published in February's issue of *Wireless World* and inspired by the German V2 rockets then landing on London, he made a revolutionary proposal:

An 'artificial satellite' at the correct distance from the earth would make one revolution every 24 hours; i.e., it would remain stationary above the same spot and would be within optical range of nearly half the earth's surface. Three repeater stations, 120 degrees apart in the correct orbit, could give television and microwave coverage to the entire planet.

Clarke realistically concluded: "I'm afraid this isn't going to be of the slightest use to our postwar planners, but I think it is the ultimate solution to the problem." He followed up with a more detailed piece in *Wireless World* that October, envisioning "space-stations" that relied on thermionic valves serviced by an onboard crew supplied by atomic-powered rockets.

Space Godfather



Garry Lockwood as Frank Poole in 2001: A Space Odyssey.

The first commercial communications satellite, Telstar I, was built by Bell Telephone Laboratories and launched in 1962. The first to be geostationary, the Hughes Aircraft Company's Intelsat I ('Early Bird'), went up in 1965. Both launched on conventional rockets, and operated with transistors and without human maintenance. The two US engineers chiefly responsible — John Pierce for Telstar and Harold Rosen for Intelsat — saw Clarke as the father of satellite communications. Richard Colino, director-general of Intelsat (the International Telecommunications Satellite

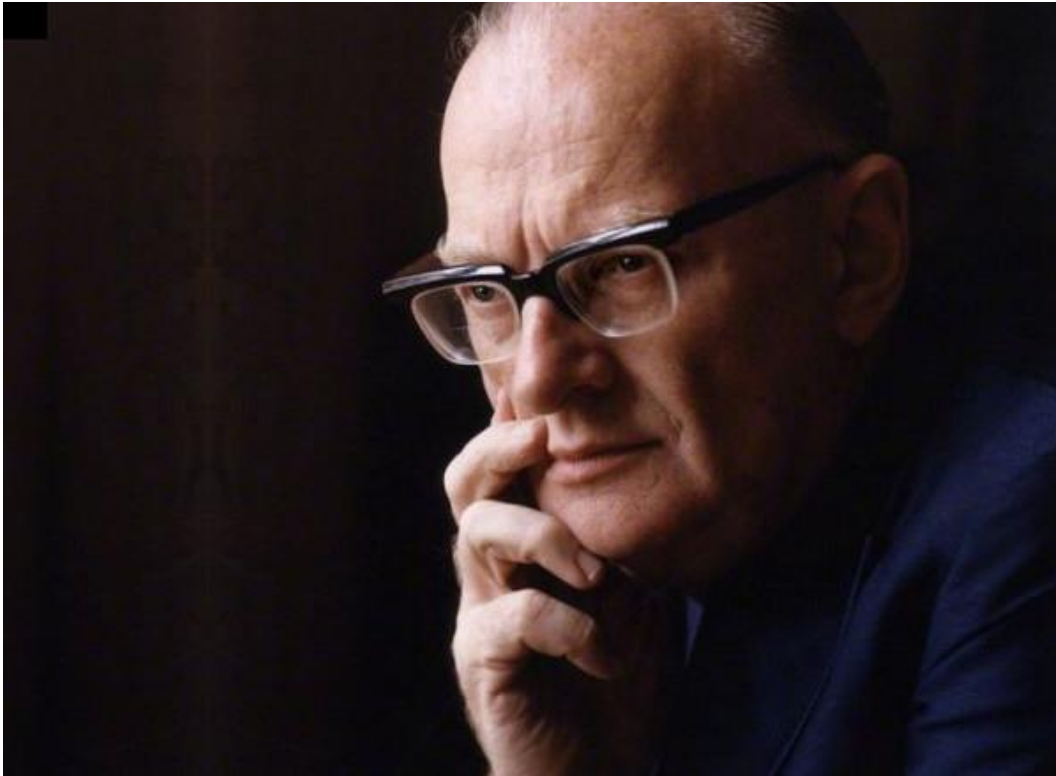
Organization) agreed in his foreword to a collection of Clarke's technical writings, *Ascent to Orbit* (1984). Clarke preferred “godfather”, noting with uncharacteristic modesty in the book that he had received “rather more of the credit, I suspect, than I really deserve”. In old age, however, he told me that his comsat article was “the most important thing I ever wrote”.



Telstar 1, built by Bell Laboratories and launched in 1962.

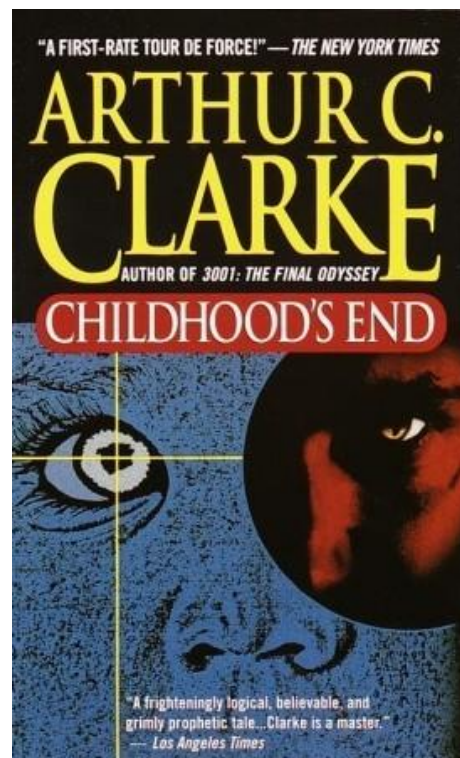
Clarke consolidated his wartime hands-on training with a degree in mathematics and physics at King's College London, graduating in 1948. In 1950 he published the non-fiction book *Interplanetary Flight*, which he claimed was the first English-language study offering “the basic theory of space travel in any technical detail”. (It borrowed from Hermann Oberth's *The Rocket into Planetary Space*, published in German in 1923.) The cold-war threat of nuclear war might have contributed to Clarke's growing enthusiasm for humanity's future beyond Earth. After 1957, when the Soviet Union's Sputnik ushered in the space age, Clarke excelled at communicating this optimism to scientists, engineers and the public through writings, television series, media interviews and his fraught collaboration with Stanley Kubrick as co-screenwriter of *2001: A Space Odyssey*.

4. Vision and influence



Clarke's prolific fiction encompasses the grittily technical and the unashamedly fantastic, sometimes almost on the same page. His numerous short stories include 'The Sentinel' (1951), which contains a key element of 2001 — the human discovery of an alien artefact on the Moon — and 'The Nine Billion Names of God' (1953), an ironic tale of two computer engineers hired by Tibetan monks to generate the divine monikers.

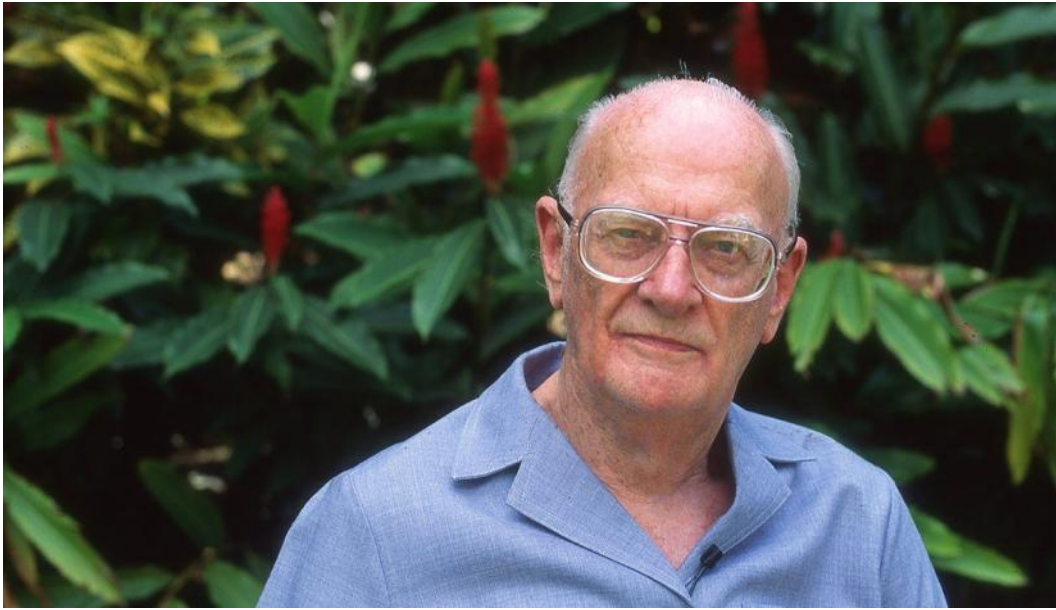
His best-known novel, apart from 2001 (Clarke and Kubrick developed the 1968 book alongside the film), is the semi-mystical *Childhood's End* (1953). Here Earth is controlled by the Overlords, benevolent aliens who have abolished war, hunger and disease, along with adventure and innovation. As well as the elevator, the techno-drama *The Fountains of Paradise* features an island closely resembling Clarke's adopted home, Sri Lanka. *The Songs of Distant Earth* (1986), his own favourite novel, is set among former Earthlings who have escaped the predicted



destruction of the planet by a solar nova in the fourth millennium, to settle on Thalassa, an oceanic planet in another star system.

His copious non-fiction comprised articles and reviews collected in *Greetings, Carbon-Based Bipeds!* (1999), as well as several influential books about space. Astronomer and science popularizer Carl Sagan recalled *Interplanetary Flight* as “a turning point in my scientific development”. NASA rocket designer Wernher von Braun used *The Exploration of Space* (1951) to convince US President John F. Kennedy that Americans should and could go to the Moon. *Profiles of the Future* (1962), with its chapter on teleportation, inspired Gene Roddenberry to create *Star Trek's* futuristic advances (S. Perkowitz *Nature* 537, 165–166; 2016).

5. Futurology and History



Throughout, Clarke's futurology was enhanced by an awareness of the history of civilization, science and technology. Profiles, for example, remarks that writing is “perhaps the most important single invention of mankind”. Add to this his perceptive forecasts of technological developments in space — including his own satellite-linked broadcasts from Sri Lanka — and you have the basis of his unique reputation.

“We have to clean up the gutters in which we are now walking — but we must not lose sight of the stars.”

Will it endure, as the man himself recedes into history? The answer depends on future developments in space. Will humanity colonize the Moon, Mars and beyond? Clarke (for whom asteroid 4923 is named) believed that we must. In 1992, giving his own twist to a famous remark by Oscar Wilde, Clarke wrote in *The Bulletin of the Atomic Scientists*: “We have to clean up the gutters in which we are now walking — but we must not lose sight of the stars.”

And what of the prospect of extraterrestrial contact? At the end of 2000, Clarke scribbled with characteristic brio in my copy of *Greetings, Carbon-Based Biped!*, “I hope this greeting comes in my lifetime!” On his 90th birthday in 2007, his last wish was for “ETs to call us”, perhaps by means of a radio signal or even an astronomical phenomenon. The best of his imaginative, witty and scientifically grounded writings will surely help to keep this ultimate of riddles at the forefront of human consciousness.

6. Later Years and Death

The text of this chapter was archived in 2021, with acknowledgement and thanks, from Wikipedia.



Arthur C. Clarke at his home in Sri Lanka.

Sri Lanka and diving

Clarke lived in Sri Lanka from 1956 until his death in 2008, first in Unawatuna on the south coast, and then in Colombo. Initially, his friend Mike Wilson and he travelled around Sri Lanka, diving in the coral waters around the coast with the Beachcombers Club. In 1957, during a dive trip off Trincomalee, Clarke discovered the underwater ruins of a temple, which subsequently made the region popular with divers. He subsequently described it in his 1957 book *The Reefs of Taprobane*. This was his second diving book after the 1956 *The Coast of Coral*. Though Clarke lived mostly in Colombo, he set up a small diving school and a simple dive shop near Trincomalee. He dived often at Hikkaduwa, Trincomalee, and Nilaveli.

The Sri Lankan government offered Clarke resident guest status in 1975. He was held in such high esteem that when fellow science-fiction writer Robert A. Heinlein came to visit, the Sri Lanka Air Force provided a helicopter to take them around the country.

In the early 1970s, Clarke signed a three-book publishing deal, a record for a science-fiction writer at the time. The first of the three was *Rendezvous with Rama* in 1973, which won all the main genre awards and spawned sequels that along with the 2001 series formed the backbone of his later career.

In 1988, Clarke was diagnosed with post-polio syndrome, having originally contracted polio in 1962, and needed to use a wheelchair most of the time thereafter. Clarke was for many years a vice-patron of the British Polio Fellowship.

In 1994, Clarke appeared in a science-fiction film; he portrayed himself in the telefilm *Without Warning*, an American production about an apocalyptic alien first-contact scenario presented in the form of a faux newscast.

Clarke also became active in promoting the protection of gorillas and became a patron of the Gorilla Organization, which fights for the preservation of gorillas. When tantalum mining for mobile phone manufacture threatened the gorillas in 2001, he lent his voice to their cause. The dive shop that he set up continues to operate from Trincomalee through the Arthur C Clarke Foundation.

Television series host

In the 1980s and early 1990s, Clarke presented his television programmes *Arthur C. Clarke's Mysterious World*, *Arthur C. Clarke's World of Strange Powers*, and *Arthur C. Clarke's Mysterious Universe*.

Personal life

On a trip to Florida in 1953, Clarke met and quickly married Marilyn Mayfield, a 22-year-old American divorcee with a young son. They separated permanently after six months, although the divorce was not finalised until 1964. "The marriage was incompatible from the beginning," said Clarke. Clarke never remarried, but was close to a Sri Lankan man, Leslie Ekanayake (13 July 1947 – 4 July 1977), whom Clarke called his "only perfect friend of a lifetime" in the dedication to his novel *The Fountains of Paradise*. Clarke is buried with Ekanayake, who predeceased him by three decades, in Colombo's central cemetery.

Knighthood

On 26 May 2000, he was made a Knight Bachelor "for services to literature" at a ceremony in Colombo.

Tsunami

Although he and his home were unharmed by the 2004 Indian Ocean earthquake tsunami, his "Arthur C. Clarke Diving School" (now called "Underwater Safaris") at Hikkaduwa near Galle was destroyed. He made humanitarian appeals, and the Arthur C. Clarke Foundation worked towards better disaster notification systems.

Illness and Death

Because of his post-polio deficits, which limited his ability to travel and gave him halting speech, most of Clarke's communications in his last years were in the form of recorded addresses. In July 2007, he provided a video address for the Robert A. Heinlein Centennial in which he closed his comments with a goodbye to his fans. In September 2007, he provided a video greeting for NASA's Cassini probe's flyby of Iapetus (which plays an important role in the book of 2001: A Space Odyssey). In December 2007 on his 90th birthday, Clarke recorded a video message to his friends and fans bidding them good-bye.



The funeral of Arthur C. Clarke in Sri Lanka.

Clarke died in Sri Lanka on 19 March 2008 at the age of 90 after suffering from respiratory failure, according to Rohan de Silva, one of his aides. His aide described the cause as respiratory complications and heart failure stemming from post-polio syndrome.

Just hours before Clarke's death, a major gamma-ray burst (GRB) reached Earth. Known as GRB 080319B, the burst set a new record as the farthest

object that can be seen from Earth with the naked eye. It occurred about 7.5 billion years ago, the light taking that long to reach Earth. Larry Sessions, a science writer for Sky and Telescope magazine blogging on earthsky.org, suggested that the burst be named the "Clarke Event". American Atheist Magazine wrote of the idea: "It would be a fitting tribute to a man who contributed so much, and helped lift our eyes and our minds to a cosmos once thought to be province only of gods."

A few days before he died, he had reviewed the manuscript of his final work, *The Last Theorem*, on which he had collaborated by e-mail with contemporary Frederik Pohl. The book was published after Clarke's death. Clarke was buried alongside Leslie Ekanayake in Colombo in traditional Sri Lankan fashion on 22 March. His younger brother, Fred Clarke, and his Sri Lankan adoptive family were among the thousands in attendance.
