2001: A Space Odyssey

Arthur C. Clarke

About the author

Arthur C. Clarke was born in 1917 and graduated from the University of London with a First Class Honours Degree in Physics and Mathematics. He is a member of the Academy of Astronautics, the Royal Astronomical Society and many other scientific organizations.

He is a prolific author with over fifty titles to his credit, many of them books describing factual discoveries in science and astronomy for the general reader. The use of the latest scientific theories and technological inventions in his science fiction stories add to their realism and take them a step beyond the ‘cops and robbers/cowboys and Indians’ pattern of much earlier science fiction.

Among others, he has written the science fiction classics, Childhood's End, The City and the Stars, The Sands of Mars and Rendezvous with Rama. The last title won all three of science fiction's most prestigious awards, the Hugo, Nebula and John W. Campbell Memorial Awards.

He collaborated with the film director Stanley Kubrick for four years in developing the plot for the Oscar-nominated 2001: A Space Odyssey and his novel and Kubrick's film came out in 1968, one year before a man stepped on the Moon for the first time. The film and book were enormously successful and both men became famous.

Summary

This is the story of a billion-kilometre journey to solve a three million-year-old puzzle. Against the backdrop of the space age in 2001, scientists stationed at the base on the Moon have uncovered a three metre-high black object which is about three million years old and is considered the first proof of intelligent life beyond Earth. As the sun strikes it, the object sends a powerful radio signal aimed exactly at Saturn. Who put the object on the Moon? Who is waiting for its signal? Is life possible beyond Earth? The spaceship Discovery is given the mission to travel from Earth to make contact with the rings of Saturn to solve the mystery.

PART ONE (Chapters 1 to 6)

Millions of years ago a group of man-apes live on the African grasslands struggling to survive. One day a large, smooth rock suddenly appears near them. The rock has the power to enter their minds and instil new ways of thinking. With this new intelligence, the man-apes can now learn how to survive better by making and using tools. The rock disappears. Time passes and the ape men become humans. They develop culture and language. From the African grasslands they spread slowly over the world and survive four Ice Ages. They learn how to make fire and use the forces of nature. This is the birth of civilization.

PART TWO (Chapters 7 to 14)

Dr Heywood Floyd travels in a spaceship to the space station on the Moon, where he meets one of his best friends, a scientist from the USSR, Dr Dimitri Moisewitch. Then Floyd takes the spaceplane to the Clavius base on the Moon where he attends a meeting about a magnetic disturbance detected in a crater on the Moon. After digging, a large black object named TMA-1 is found, which is the first proof of intelligent life beyond Earth. Floyd and a team of scientists drive across the Moon to have a closer look at TMA-1. Upon their arrival, sunlight hits it for the first time in three million years. It then sends out radio signals directed at Saturn.

PART THREE (Chapters 15 to 20)

Discovery, carrying a crew of five including David Bowman and Frank Poole, is sent to Saturn to solve the mystery. The sixth member of the crew is a supercomputer (Hal) which is the artificial brain and central control of Discovery. Bowman and Poole are on duty and the rest of the crew are in hibernation. For Discovery, the journey is a one-way trip. All crew members will finally be in hibernation and wait to be rescued by Discovery II. During the journey, Discovery goes past Mars and Jupiter.

PART FOUR (Chapters 21 to 30)

When Discovery is just beyond Jupiter, Hal starts to malfunction when he reports something wrong with the AE-35 unit when, in fact, nothing is wrong with it. Bowman and Poole intend to disconnect Hal, but no action is taken yet. Poole goes out of the ship to bring
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in another failed AE-35 unit but is killed without our knowing whether it is an accident or the result of Hal's secret plan. Bowman is suspicious of Hal and requests the control of hibernation despite Hal's unwillingness. However, cold air comes inside Discovery as Hal has opened the airlock doors. Now inside the ship is like the vacuum of space. The rest of the crew members who are in hibernation are killed. Bowman manages to save himself, disconnects Hal, and re-establishes contact with Earth. But he is now alone on the mission. Now, for the first time, Mission Control tells him the real purpose of the expedition.

PART FIVE (Chapters 31 to 40)

After months of solitude, Bowman reaches Japetus, one of Saturn's moons. He then notices there is a small black spot on the surface of Japetus where he finds a replica of TMA-1, this time a kilometre high.

PART SIX (Chapters 41 to 46)

Through the Star Gate, Bowman begins a journey that unlocks the secret of the universe.

Background and themes

The future: The space age began in the late 1950s when Russia made and sent the first satellite into the orbit around Earth. The fascination for space since then has never weakened. With the invention of rockets that carried astronauts to the Moon, space travel became possible. When first published in 1968, 2001: A Space Odyssey was set in man's future, a story of exploration through and beyond the Solar System. The novel is actually Clarke's image of the future and he has greatly inspired his readers with many scientific possibilities. How the space travellers spend their daily life on board demands imagination. Clarke's knowledge of the astronomical findings and technical innovations of the American and Soviet Space Programmes of the 1960s enabled him to invent a setting full of exciting but plausible technologies and descriptions of planets and moons still unseen.

Life in outer space: Atmosphere makes life possible on Earth. But is life possible beyond Earth? As far as scientists know, no planets in the solar system except Mars and Earth have been discovered with a layer of atmosphere. But no life has been detected on Mars yet. Did any creatures from beyond the solar system travel to Earth? Scientists tend to believe that it is quite impossible, as the journey would take millions of years to complete.

Evolution: The early part of the story centres on Moon-Watcher the man-ape who becomes civilized through gaining experience and using his newly acquired intelligence. He is the ancestor of human beings. It shows that Clarke, the author, interprets Charles Darwin's theory of evolution in a particular way. While depicting the classical idea of evolution with the growth of human civilization starting from the primitive man-ape and still evolving even now, he introduces the idea of external interventions from time to time helping humankind on its way.

The birth of life on Earth: Clarke mentions in his novel that human beings spread slowly from Africa. Some studies find that human life began in Ethiopia in Africa. Other DNA studies even confirm that people all over the world are descendents of Africans. In other words, we have the same African roots.

Space exploration: One fascinating point for readers, now we have reached 2001, is the comparison between reality and the events and lifestyle in the story. How far have we really come along the path predicted by Clarke. Now we have the evidence of the Voyager missions and data from the Hubble Telescope, it is amazing how closely Clarke's images fit the reality: The Voyager 1 photos show a white oval with a black dot on Japetus; the Skylab crew runs round a circular track like Frank Poole in the film.

Space rivalry: At one time space exploration was an area of competition between nations. In the midst of the Space Race engendered by the Cold War, the novel's indication of friendly co-operation with the Russians was still startling to its early audience. Now, with the Cold War over, we have co-operation in space.

The progress of technology: With the invention of new technology, space travel is possible and computers can replace the human brain to do complicated work. They can do mathematics faster than the human brain and even play chess with humans. In the novel, Hal plays board games with Bowman, and this corresponds to the many computer games played today. A computer company has even invented a very powerful super computer that was able to beat the world chess champion, Garry Kasparov.

The threat of technology: Although the computer or artificial brain is programmed, the future of artificial intelligence and its threat or benefit is still a much debated issue. Will it be clever enough to take control of human beings? Will it have the ambition to take control of
humans? This may be a problem in the future. Hal tries to reject human orders; his disloyalty shows the potential threat.

**Human destiny:** What is Man's destiny as an individual and as a species? Does that destiny have a purpose? And how did he become the being he is, with all the characteristics we consider human. The central character for most of the story, Dave Bowman signifies mankind in general. His thoughts, feelings and actions are the lens through which we undertake the journey and the measure of our own doubts and certainties. For the most part, the other characters at the base on the Moon or on *Discovery* have minor roles. They are there to move the plot along. We compare Bowman’s responses not to his fellow crew members but to his ancestor, Moon-Watcher, his computer companion, Hal, and to his reincarnation, Star-Child. Written against a background of widespread protest about Vietnam and materialism, and in a world divided into opposing power blocs, *2001: A Space Odyssey* is more than a well-researched science fiction story. It shows the benign possibilities of space exploration and in so doing presents us with an optimistic view of man’s potential.

**Discussion activities**

**Introduction**

**Before reading**

1. **Discuss:** Write the following sentence on the board. ‘Intelligent beings now know that men and women have taken their first steps away from Earth.’ In small groups, students decide whether they feel excited, frightened, curious or another feeling.

2. **Research and guess:** The word *odyssey* means a long exciting journey, and it comes from the title of the tale written by Homer based on a traditional Greek story. Put students into small groups and have them do the following tasks:
   a. They find out what Homer’s *The Odyssey* is about from books or the Internet.
   b. They guess why the author makes *2001: A Space Odyssey* the title of this science fiction story.

3. **Check:** The Introduction of the book gives an idea of why the story is about the ‘odyssey’. Ask students to check whether their predictions in activity 2 were correct.

4. **Read carefully:** Read the Introduction and answer these questions.
   a. Which objects in Space are mentioned?
   b. Why was Dr Michael’s audience carefully chosen?
   c. What clues do we have that the black object is proof of intelligent life beyond Earth?

5. **Discuss:** These sentences appear on page v:
   ‘The audience has been carefully chosen, because it is too soon to tell the world’s population that they are not alone in the universe. On the screen behind Dr Michaels is a photograph of a black object, of regular shape and with straight edges … It was certainly made by an intelligent form of life, and it was found buried under the surface of the Moon.’

6. **Guess:** Moon-Watcher is the man-ape and he is on the path of evolution. Ask students to think about the following questions:
   a. What does ‘they are not alone in the universe’ mean?
   b. Why is the ‘black object’ considered something made by ‘an intelligent form of life’? How ‘intelligent’ are they?

**PART ONE**

**Before reading**

7. **Research:** Divide the class into small groups. Ask them to find information from books or the Internet about the concept of evolution written by Charles Darwin in his book *The Origin of Species*. Have each group talk about these questions:
   a. What is Charles Darwin’s concept of evolution?
   b. Why is this concept related to *2001: A Space Odyssey*?
   c. Do you think we are the future generation of man-apes? Do you think monkeys are our relatives?

8. **Discuss:** Write the following on the board. Put students into pairs or small groups. Students say how Moon-Watcher and/or the man-apes feel about these events and situations. How would the students feel about them? What do they think of people who react as Moon-Watcher did?
   - death of the Old One
   - treatment of babies and the very old
   - first raid of the leopard
   - looking at the Moon

**While reading**

9. **Check:** Ask students to check whether their predictions in activity 7 were correct.

10. **Read carefully:** On page 10, there is a sentence, ‘There was a new animal on the planet, spreading slowly out from the African grasslands.’ Ask students to answer the following questions:

   a. What does the ‘new animal’ mean?
   b. What does ‘spreading slowly out from the African grassland’ mean? (Hint: according to some studies, human life began in Africa.)
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After reading

11 Group work: The use of tools is a sign of human civilization. Without them, our life would be very different. Put students into small groups and ask each group to imagine life without tools in one of the following areas and present their ideas to the class:
- how we build houses
- how we get food
- how we travel
- how we dress

12 Research: On page 10, these sentences appear: "Four Ice Ages came and went, with two hundred thousand years between each of them. They killed much of the planet’s early life, including many man-apes". Ask students to find out information from books or the Internet on the following questions:
- What are the Ice Ages?
- What animals died during the Ice Ages?
(For a better understanding of the Ice Age, play the cartoon films Ice Age and Ice Age 2: The Meltdown in the classroom, if possible.)

PART TWO

Before reading

13 Group work: Put the students into small groups. On pages 11 and 12, what tells them that Dr Floyd is considered important and urgently needed? Each group then describes one such clue to the class and they are written on the board.

14 Guess: The experience of taking a flight to the Moon would be very different from the flight to any place in the world, as there would be the loss of gravity during the space flight. Ask students to imagine the following during the flight to the Moon:
- How could you find the weight of your body?
- What would happen if you did not wear a seat belt during the flight?
- How could you walk along the passage between the seats without gravity?
- How could you drink a liquid without spilling it?

15 Research: The United States made the first Moon landing. Ask the students to find information from books or the Internet to answer the following questions:
- When did it happen?
- Who landed on the Moon?
- What was the name of the spaceship that completed the mission?
- What did the astronauts do after the Moon landing?
- It was said that the Moon landing by the US was a fake. Do you believe that the Moon landing by astronauts really happened or not? Give your reasons.

While reading

16 Check: Ask students to check whether what they imagined in activity 14 was very different from the space flight experience of Dr Floyd.

17 Read carefully: On page 26 of Chapter 12, there is the sentence, ‘If intelligent non-human creatures had lived on Earth, they would have left many other signs of their existence.’ Ask students how far they would agree with this.

After reading

18 Artwork: Ask students to design their own space station on the Moon on a piece of paper and describe and explain their design to the class.

PART THREE

Before reading

19 Discuss: Put students into small groups. Write the following question on the board for students to discuss.
"The astronauts were using hibernation to go on a 5-year journey. Assume that hibernation is now technically possible. What would be its advantages and disadvantages for individuals as well as for society?"

While reading

20 Read carefully: In Chapter 16, the computer Hal is introduced. Ask students to answer the following questions while reading:
- How important is Hal in the spaceship?
- In what ways is Hal more powerful than a human brain?
- What is Hal’s duty on the spaceship?
- How does Hal communicate with humans?

After reading

21 Research and discuss: Captain James Cook, one of the great explorers, is mentioned on page 36: ‘Or with Cook to the great unknown continent of Australia’. Ask students to find out more about Cook from books or the Internet and discuss the following:
- How many voyages did he make?
- When was each of these voyages?
- Where did he reach during these voyages?
- What did he discover?
- What strengths did he have as an explorer?
- How did he die?

Then, ask students to discuss these questions:
- Who are the space explorers in the novel?
- What strengths do you think should space explorers have?
- Would you like to be a space explorer? Give your reasons.

PART FOUR

Before reading

22 Guess: Ask students to guess the following:
- The title of Part 4 is Edge of Darkness. What does it mean?
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b How does the story go on in Part 4? Do you expect something good or bad to happen? Give your reasons.
c The title of Chapter 25 is First Man to Saturn. Who is that first man?
d The title of Chapter 27 is Hal’s Secret. What is the secret?

While reading
23 Check: Ask students to check whether their predictions in activity 25 were correct.
24 Role play: In Chapter 26, Bowman tries to get the control of hibernation from Hal, but Hal seems to be unwilling. Divide students into pairs and ask them to play one of the following roles.
Student A: You are Bowman. You are going to persuade Hal why it is important for you to be in charge of hibernation. Give your reasons.
Student B: You are Hal. You don’t want to lose the control of hibernation. You are going to refuse him. Give your reasons.
25 Discuss: The last paragraph of Part 4 reads ‘At the moment, we do not know whether to hope or fear. We do not know if, out on the moons of Saturn, you will meet with good or evil – or only with ruins a thousand times older than Troy’. Divide students into small groups and ask them to discuss the following questions:
   a Who says this?
   b What is the attitude of the speaker? (Hint: positive or negative?) Give your reasons.
   c Does the speaker believe there is life on the moons of Saturn? Give your reasons.

After reading
26 Group work: Put students in small groups. Tell each group they must agree on the three saddest moments/situations in this Part. Each group then describes these moments/situations to the whole class, and they are listed on the blackboard. From these suggestions the saddest can be chosen.
27 Write: Ask students to write down their opinions on the following questions:
   a Would you completely trust artificial brains? Give your reasons.
   b Do you think artificial brains would endanger human life? Give your reasons.
   c Do you think artificial brains would replace humans to do dangerous or hard work? Where can we use artificial brains?

PART FIVE
Before reading
28 Discuss: Put students into small groups. Ask them to imagine that they are government advisors. After the discovery of TMA-1, they are called to an international meeting to give their views on the following points which you write on the board:
‘Was TMA-1 made, or is it a natural object? If it was made, do its makers still exist? Where do they come from? What do they look like and are they enemies or friends?’ Then have a whole class discussion.

While reading
29 Read carefully: Ask students to check out answers for the following questions:
   a The title of Chapter 31 is Life in Space. It tells you some of the reasons why scientists do not believe there are creatures from beyond the solar system. What are their reasons?
   b What is the Star Gate? How did it form? (Hint: Chapter 37)
30 Write: ‘Though he was master of the world, he was not quite sure what to do next. But he would think of something.’ The last words of the book also appear at the end of Chapter 5. What similarities do you see between Moon-Watcher and the Star-Child? What are the differences? Write a paragraph.

After reading
31 Discuss: Hal could easily pass the Turing Test. Do you agree that Hal thinks and, if so, does he think like a human being? Discuss with a partner and write three or four paragraphs giving the reasons for your opinion.

PART SIX
Before reading
32 Discuss: In small groups, students discuss the following:
We have now reached the twenty-first century. Will we travel through the solar system in the next generation? Should we aim to do so?

After reading
33 Group work and discuss: Every story has at least one climax and some ‘twists and turns’. Put students into small groups and ask each group to discuss the following and present their ideas to the class:
   a Which part or chapter do you think is the climax of the story? Why?
   b Where can you find the ‘twists and turns’ in the story?
   c Do you find the ending satisfactory? Why (not)?
34 Discuss: The novel has a film version made by Stanley Kubrick. If possible, show the film in the classroom and ask students to find out if there are any differences between the book and the film, and if so, what are they?

Vocabulary activities
For the Word List and vocabulary activities, go to www.penguinreaders.com.