Science fiction films: How much science? How much fiction?

WHAT purpose does fiction serve? Howsoever we may wish to glorify fiction by saying that it is supposed to be thought-provoking, that it has a worldy moral or that it carries a profound message, the fact remains that it is basically meant to provide diversion to the human mind. Folk tales, fairy stories, mythological sagas served this purpose in the past. To these were added historical novels and adventure yarns. In the twentieth century, in the so-called age of science, the list has been further augmented by the addition of science fiction.

"The Message of Science Fiction: Prophetic or Profane?" was the topic of a public discussion held in 1975 at the California Institute of Technology between Ray Bradbury and Fred Hoyle. I recall that both speakers agreed on what constitutes good science fiction and what is bad science fiction. They did not agree so much on how successful science fiction had been (and was likely to be) as a guiding light to society. Bradbury took the optimistic view and Hoyle the pessimistic.

Bradbury was of course highlighting good science fiction and extolling how successful it had been in "seeing the future" while Hoyle was bemoaning the fact that the bulk of science fiction was bad or trivial and yet commercially successful. Although the discussion related to science fiction literature, many of the points apply, with even greater force, to science fiction in the visual form.

With the advent of the cinema and later the television, science fiction found visual expression. As in literature, here also the main criterion of success has been how well the piece in question could amuse, divert and attract the viewer's mind. To put it more bluntly, the measure of success of a science fiction film or a TV series is expressed in terms of the box office, audience rating, advertising revenue, etc. It is against this background that we should assess science fiction films.

No doubt, the richness of the fare served and its obvious popularity is impressive. Starting from movies based on such classics as *The War of the Worlds* (H. G. Wells), *Journey to the Centre of the Earth* (Jules Verne) *The Lost Continent* (Conon Doyle) to modern works like *Star Wars* and *The Andromeda Strain* we have serials like *Dr. Who* which has been running for over two decades with the fourth actor recently stepping into the role of *Dr. Who*. There are also TV series like *Star Trek* with many adventure involving the same set of characters. Judging by the successes enjoyed by these creations, we get the first impression that science fiction has really caught on. But... just how much science is there in these works?

To the popular mind, science fiction is computers with flashing consols, scientists in white coats or other distinctive apparel, space ships to and from the 'outer' space, astronauts in gas masks, strange weapons of destruction and, of course, those sinister aliens. Is this real science fiction? If not, what is? Where does one draw the line between futuristic predictions of how science will shape society and *vice versa* and someone's whimsical fantasies? Personal assessments would vary even among scientists. Anyway, here I give my own assessment of some of the better-known science fiction films, old and new.

Let us first consider movies which are good, clean family entertainment in which special effects predominate and which contain all the above ingredients in plenty. *Star Wars* and its sequel *The Empire Strikes Back* are examples of this kind. These are *not* science fiction. Rather, these two, in particular, are old westerns in a new garb, horses replaced by strange beasts, stage coaches by space ships, the baddies by sinister aliens and so on... One wonders whether supercivilisations which draw energy from stars and engage in interstellar travel would be subject to the same emotional stresses as we mortals are! Can we travel faster than light? Why do space ships supposedly travelling under zero gravity environment bank and fall as they manoeuvre through space? Why are their computers so bulky when in the last two decades we have seen them grow more and more compact? Never mind. Dismiss such scientific doubts and enjoy the film. Do not delude yourself that you are watching science fiction.

Science fiction and fantasy

Turning to the other extreme, let us look at *2001: A Space Odyssey* and *Zardoz*. Both are remarkable for their special effects, those in *2001* being more impressive. Both are examples of science fiction which takes us beyond our immediate past and future and which makes us pause and ponder.

2001 portrays the evolution of man from the wild killer ape to the present 'civilised' state and also looks towards his fantastic future (symbolised by 'angels'). A monolith of dimensions in the ratio 1^3: 2^3: 3^3 (suggestive of a Pythagorean concept of perfection?) plays the key role in elevating man from the ape to higher echelons of life. The haunting tune from the slab, shrill but musical, was borrowed by the BBC as a signature tune for its telecasts of the Apollo 11 moon-landing mission. One wonders whether a pop or a rock-based tune would have come out as profound. The special effects too were impressive, especially the astronauts moving about inside (and outside) the space ship under zero gravity. The 'rebirth' sequence towards the end is also very impressive although it is more a fantasy than science.

By comparison, *Zardoz* has more fantasy. It portrays the evil of immortality. Set in the year AD 2293, it describes a small elite group which lives in a 'vortex' apart from the underprivileged 'brutals'. The former have achieved effective immortality since their scientists managed to leave the key to their death in the central tabernacle with many safeguards to prevent access. The brutals have a chosen few—chosen by their god Zardoz—who exterminate the rest under command from him. 'Zardoz', a deformation of Baum's *Wizard of Oz,* is like the old wizard—a humbug not really possessed of superpowers. He is in fact from the vortex and his secret is discovered by 'Zed', a more than curious brutal. Zed enters the large rock head of Zardoz, kills the god and comes to the vortex. He is subjected to scientific analysis there but in the process he becomes wise to many facts. He finally enters the tabernacle, discovers the secret of death and releases the elite colony from the pains of immortality.

If eating, drinking and merry-making are all that is left to do, would immortality be a boon or a terrible bore? Although we are a long way off from the situation depicted in *Zardoz,* the problem can be visualised even today. Would science and technology widen the gap-

between the 'haves' and the 'have-nots'? Will the gap reach the terrible form shown in the film? If no challenges are left, would living be worthwhile?

Films like *2001* and *Zardoz* are thought-provoking, though not everybody's cup of tea. To be box office hits, films like these have to have a sustained plot and special effects. *2001* is more popular because it is more successful than *Zardoz* on both these fronts. However, films in this category are few and far between.

The middle majority

Between the juvenile but successful *Star Wars* and the philosophical but successful *2001* lies the more typical middle level science fiction film. In this type of films, we are concerned with the immediate past or future. The scientists are faced with a problem of their own creation (research getting out of hand, the mad scientist, Frankenstein, and so on) or they are called upon to save humanity from some alien danger. Depending on the director and the 'science' he has to portray, such a film can either degenerate into a mediocre thriller or turn out to be a sophisticated suspense film. *The Andromeda Strain* is a film in this middle category which manages to rise above the average level.

This film is about an alien life form which is brought to the Earth by a returning space probe. The life form is obviously hostile to earthlings, for, falling on a New Mexico village, it swiftly destroys most of its 68 inhabitants. Only two are spared, an old man and a six-month-old baby. Why and how was the death brought about? Would the danger spread? How do we control the alien 'thing' from growing? What is it, anyway? And why were two humans immune to it?

It is up to the scientists to find the answers to these questions and that too in a very short time. A team of top class scientists is chosen (including a Nobel laureate, of course). In fact, the team has been selected and is standing by in case such an emergency arose. And they are to work in a superlab designed to meet just such catastrophic situations, a laboratory deep underground with each lower level increasingly decontaminated. The process of decontamination, the working of an experiment by electronic hands, the precautions in case the scientists lose control over their experiments...all are very well shown. We also catch glimpses of pompous and self-centred (but powerful) politicians and dedicated but narrow-minded scientists with all their brilliance and whimsicality. We are shown in a brief episode the mixed reactions of the superscientists when they suspect that this superlab, built at their behest at a cost of billions of dollars, might also be used for biological warfare.

Astronauts in spaceship from *2001: A Space Odyssey*

With so much of the scientific atmosphere and the aura of superior technology, it is ironical to see in the anti-climax (which is supposedly the climax) that to save the superlab from self-destruction, the one person holding the key (which can stop it all!) has to climb a vertical ladder up several metres to find the appropriate key hole. So ultimately it is man's ape-ancestry that saved the situation. Did the movie have to end like that?

As Ray Bradbury argued in the discussion mentioned at the beginning, we *are* living in the age of science fiction. Our grandfathers would have considered today's science and technology pure science fiction in their time. The miracle chip, the sophisticated weaponry, the advances in medicine...are they not incredible enough to justify the oftquoted remark, 'Truth is stranger than fiction'? Even on the adventure front, the rescue of the Apollo 13 astronauts from their lunar mission when power failed provided a more powerful suspense drama than most science fiction films have created. Surely a generation that witnessed this drama (live on TV in many countries) deserves more scientific climaxes in their films and novels than the ending in *The Andromeda Strain.*

Science fiction on TV

With a few exceptions, TV science fiction series (like *Star Trek*) rely more on adventure than on science. To devise a good science fiction serial with several episodes is no easy task. Yet, I was fortunate to see two serials, *A for Andromeda* and *Andromeda Breakthrough* (science by Fred Hoyle, script by John Eliot), both shown on the BBC in the mid-sixties.

More than 20 years ago, Cocconi and Morrison made the suggestion that it was feasible to search for extraterrestrial intelligence. Frank Drake had a small project to look for intelligent radio signals from outer space. The Jodrell Bank had a big radio telescope in operation while others were being built in the USA and Australia. It was against this background that *A for Andromeda* was written. The main plot is about a new radio telescope in Britain which receives intelligent signals from abroad—that is, from outer space. The signals are decoded; they contain the blueprint for a supercomputer the like of which was never even imagined. The computer is built. Again, aided by the outside code and the computer, the scientists 'build' a life form. It is a one-eyed monster promptly named 'Cyclops'. The scientists, especially biologists, are tempted to go further, for the computer is willing and capable of producing higher life forms. 'Stop. Proceed no further. What may come out could be an alien agent'—this was the advice from Fleming, the scientist who had originally been an enthusiastic supporter of the whole project. But he is overruled. The next creature is apparently not sinister. Instead, it turned out to be a charming girl (played by Julie Christie before she became famous). Fleming was suspicious. Was Andromeda, as the girl was named, really an alien agent? Thereby hangs the tale. And the computer? Fleming suspects its intentions but is assured that it can always be switched off if it turns hostile. But can it be? The scientists are in for a surprise....

Hoyle's *Black Cloud* was a novel written in the late

fifties and was an excellent example of good science with speculative extrapolations woven into a nice plot. It is a pity it has not made its way onto the screen. In the novel, we have an interstellar cloud possessing life and intelligence. A number of scientific speculations in this novel have been successively verified. Radio and microwave techniques have shown the existence of complex organic molecules in the interstellar space. Giant molecular clouds between stars have been discovered. Maybe even intelligence will one day be discovered in such clouds!

From specific examples, I now come to generalities. What do I consider essential in a good science fiction movie (or TV series/serial)? To me it is axiomatic that science should be an essential component of science fiction. How much science and in what form may be indicated by the following range of possibilities: (a) the application of a scientific principle leading to unusual circumstances; (b) an exploration of what we know of science to situations vastly different from those we encounter on the Earth; (c) a piece of scientific research going beyond control and leading to catastrophes; (d) long-term forecasts of the present state and the march of science and technology and their impact on society; and (e) speculations of extraterrestrial intelligence that are not inconsistent with what we know about nature.

If we are to equip ourselves for living in the age of science, we should know what science is, what it stands for and what are its implications. A straight-forward discussion of these issues may be too drab or unpalatable to the layman. Science fiction, in my opinion, should have the role of a sugar-coated pill: attractive, at the same time, useful.

These considerations may explain why I do not consider *Star Wars* a science fiction movie while I regard some of the movies based on the classics of Wells or Verne as good examples of science fiction. *The War of the Worlds* envisages susceptibility of powerful aliens to our terrestrial bacteria. A single scientific concept like this is worth more than a host of robots, weird space ships and flashing computer panels. The prophetic element in the *Journey to the Moon* described by Verne in the last century was vindicated by Apollo 11 landing on the Moon. That good writers of science fiction have been successful in catching glimpses of the future was also shown by the example of communications satellites first thought about by the science fiction writer Arthur C. Clarke.

It is, however, too easy to jump from speculative extrapolations of known science to pure fantasy. I hold no brief for the latter and feel dismayed when it is passed off as science fiction. Even *2001* suffers from this defect towards its end.

Visual medium is a powerful tool for depicting science fiction. Modern technology, coupled with human ingenuity, has shown how special effects can be used to communicate fantastic ideas. However, as with other movies, the movies in this field are made primarily from box office considerations. There *Sholay* rules, not *Aparajito* or *Shataranj ke Khiladi*. But chances are we will see more of movies like *Star Wars* or *Superman* than movies like *2001*.

To sum up then, in spite of the many advantages the visual medium has over the written word, only some selected movies have capitalised on them and given us authentic science fiction. The rest are scientifically trivial, at best good fun and at worst a waste of time.

JAYANT V. NARLIKAR

Prof. Narlikar is with the Tata Institute of Fundamental Research, Bombay. He writes science fiction in Marathi.