This booklet discusses the development of science fiction, tracing its origins to the time of the industrial revolution. Many of the people of this time realized that life was changing and would continue to change, that there were new forces at work in the world, and that humankind should exercise forethought about the direction in which change was going. Mary Shelley's "Frankenstein" is often thought of as the first science fiction novel. Other writers discussed include Edgar Allan Poe, Nathaniel Hawthorne, Fitz-James O'Brien, Jules Verne, and H.G. Wells. In 1926, Hugo Gernsback founded the first science fiction magazine, called "Amazing Stories." The state of science fiction today is also discussed, as well as science fiction and the movies, the possibilities of science fiction, the readers of science fiction, and the different perspectives of science fiction. (TS)
A Texas A&M University Library Lecture

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by

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I am delighted to be here. If you had been with me on that commuter flight from Dallas, dodging in and out of thunderheads, you would begin to have some idea just how glad I am. Actually, your weather reminds me of a science fiction novel that was serialized in one of those pulp adventure-story magazines that began to appear in 1896. The magazine was the Cavalier, the year was 1911, the story was The Second Deluge, and the author was a popular writer of popular science and scientific romances, Garrett P. Serviss.

The hero of the story was a scientist named Cosmo Versal who discovered that the earth was about to pass through a watery nebula which would cause another Flood. Like any sensible man, he set about building an ark. If this weather keeps up much longer, I think we should all begin looking for suitable blueprints, tools, and a supply of wood.

I am honored to be asked to help dedicate the Science Fiction Research Collection at Texas A&M University. I have had a chance to look through the collection, and it is truly magnificent - a tribute to the efforts and knowledge of people such as Hal Hall and Vicki Anders, and to the vision of the administrators and budget-allocators who allowed them, even encouraged them, to collect this fascinating ephemera.

I started writing science fiction in 1948, and if someone had told me in 1948 that in 1974 I would be talking in a major university library at the dedication of a significant science fiction collection, I would have been astonished. None of us who were writing science fiction that long ago
would even have thought of that: Isaac Asimov, who began writing in 1939, Jack Williamson who began writing in 1928, Murray Leinster, the oldest of us all, who began writing his first science fiction in 1919. None of us would ever have thought, among all the possible things that we thought about and wrote about, that science fiction would ever be of interest to university libraries. That was not what we were about.

But it's very interesting that science fiction suddenly has become academically respectable, in fact, sought after in high schools and colleges and even junior high schools—and I have even heard recently that there are some courses that are being taught in grade schools. There are articles appearing everywhere about science fiction in all sorts of media and mostly approvingly, which reminds me of the time when I was working on my Master's thesis in 1950, and I was told by one of the faculty members that science fiction was at best sub-literary. I didn't mind the sub-literary part, but I thought the "at best" was gratuitous. However, I did go on and write my thesis about science fiction, and perhaps I had the last laugh in a sense, in that I probably had the only Master's thesis that's ever been serialized in a pulp magazine.

So it is with some astonishment that I find the kind and extent of serious interest that is current today. The first science fiction course in a college, for instance, was taught just over a decade ago, in 1962, by Mark Hillegas at Colgate University. Today some three to four hundred courses, at least, are being taught in colleges and universities, and an uncountable number of courses in high schools. The large part of this is due, I believe,
to the increasing system of electives in high school English, which depend
to a large extent, upon the preferences of the students themselves; and so
it turns out that frequently, perhaps once or twice a year, options for
science fiction courses are included. Science fiction offers particular
values to high school; there are reasons why one might offer such courses
in addition to the fact that students might like to read it. I'll get to
that, however, a little bit later.

Science fiction began very recently, although in my book Alternate
Worlds I trace precursors back to the earliest of man's narratives and
myths. (Alternate Worlds, incidentally, will be published next Fall. It's
been postponed now, for the third time. But it is going to come out in a
large coffee-table format. The editor-in-chief's theory is that science
fiction has for too long existed as a kind of paperback pulp literature,
which its purchasers may love but do not display on their coffee-tables.
They tend to read it in the privacy of their bedrooms or their studies,
somewhere the public cannot see the kind of garish covers these pulp maga-
azines used to have, or the kind of shredded paper that came off the un-
trimmed edges of the magazines by which you could always identify the reader
of a pulp magazine. He always looked as if he were covered with a snow of
little paper pieces. The theory of Prentice-Hall's editor-in-chief is that
science fiction readers will pay $20 to have a book that they can put on
their coffee-tables and say, "This is science fiction." I hope he's right.)

Science fiction, as I said is relatively new. People have traced it
back to the industrial revolution, which is as good a place to start as any.
It did not exist in its contemporary form before that, for good reasons. In
my book I do go back to discuss the period beginning with written literature of any kind because many of the things that were written early and throughout the centuries did have a strong element of the fantastic. Fantasy has always been very close to the heart of literature itself. But not science fiction. Science fiction involves a belief in change and the fact that life is changing, and a belief in the ability of man to influence the direction of change. For most of man's history he could not look forward to anything even as good as he had. Mostly he looked back to what has been called a golden age, when times were better. If he wanted to make a decision about what to do, what actions to take when he had some opportunity to make such choices, he would ask himself not what is the best thing to do in terms of how it would come out, but how did my father do it? And his father before him? There were traditional ways of doing things, planting fields and so forth, and the only changes that existed in his life were the changes produced by the cycle of the seasons and the regular cycle of birth, life, and death, the changes created by the elements, drouth and flood, the changes created by injury, disease and plague, changes created by his fellow men who would descend upon him with sword and spear and fire. Changes like these were always for the worse, and I suppose we can agree that for most of man's life his career was nasty, short, and brutish.

After the Renaissance things began to change; the attitude of men towards their own lives began to change. During the next couple of centuries a series of significant events occurred. Men began to turn to science seriously as a career and other men of ingenuity and genius and sheer dogged determination began to apply themselves to new methods for doing work.
One of the most important of these was James Watt, who in the middle part of the eighteenth century perfected the steam engine. Steam was a magnificent thing in its time. It was considered the miracle worker of the period, much as we look at electricity today. Men thought that steam would do almost everything, and it did. Its primary use was to pump water out of English mines so that workmen could go down and dig coal. Somewhat later it was applied to all sorts of transportation from steam engines on railroads to steamboats on rivers and eventually to steam automobiles. There never was a steam airplane, I suppose, because the power to weight ratio never was quite good enough and the airplane had to wait for the invention of the internal combustion engine. But it was applied to all forms of doing work, particularly the weaving of cloth, one of the major industries. There were power looms in factories and suddenly, as C. P. Snow said in his "Two Cultures" lecture, wherever men had the chance they walked off the farm into the factories as fast as their feet would carry them. They saw an opportunity for a better life than they had, where they worked 14 to 16 hours a day in the field and their reward often was minimal, to a job in the factory where they only had to work 12 hours a day. And they took their wives and children with them. The children also worked. But they got the idea, and probably it was true, that it was a better life than they had known.

It did mean quite a change in their ways of living with each other, because the farm family, the rural family, broke up. The relationships between people broke up, the old traditions that had governed their lives changed dramatically, and the way they thought about themselves, the way they reacted to each other had to change and it did, remarkably, usually for the worse.
Somebody invented gin, for instance, and that became the general pacifier of people who were in this shock of change. What Alvin Toffler in contemporary times has named future shock occurred even then. Drunkenness, particularly by gin, was a phenomenon of the middle part of the nineteenth century. Other things happened, very fascinating things; the introduction of the potato into European farming, for instance, suddenly meant that the land could produce a great deal more food than it had before. Population exploded in England and Europe. When the potato blight arrived (it always seems that a blight arrives shortly after anything good comes along), food became very short and people began abandoning babies on the street, on doorsteps, and it was at this time in England and Europe that the foundling home was created, the orphanage, and the sort of conditions developed that led Dickens to write *Oliver Twist*. The poorhouses, the workhouses and so forth, all of these social evils of the time, were produced, in part at least, by the introduction of technology.

We should not be surprised that out of these changing conditions and out of the perceptions of people generally that their lives were changing, that perhaps in bewilderment they looked around and said, "What has gone wrong?" Many of the thinking people of the times realized that life had changed and was going to continue changing, that there were new forces at work in the world and that man should exercise some forethought as to how things were changing and the directions in which change was going. And so in 1816 an eighteen-year-old girl wrote what has some right to be called the first science fiction novel.

She was the second wife of one of England's prominent poets, and her name
was Mary Shelley. The book, of course, was *Frankenstein*-you all know that.

*Frankenstein* also had strong elements of the Gothic novel, as well, but Mary Shelley wrote in one introduction that she did not want anybody to attribute what went on in the novel to the supernatural: if not supernatural, then of course, natural. She was interested in the natural scientific progress of her age.

The novel came about when she and her husband, Percy, and Lord Byron and a friend of Byron's named Dr. Polidori were reading ghost stories one night from a book called *Phantasmagoriana*. When they got through Byron suggested, "Why don't we all try our hands at writing a ghost story?" The only person who really took him seriously was the eighteen-year-old Mary Shelley who thought about it a long time. One night, after they all again had been reading another book, Erasmus Darwin's work on natural history, she went up to bed and said she saw "a hideous phantasm of a man stretched out, and then, on the working of some powerful engine, show signs of life, and stir with an uneasy, half vital motion."

Following Mary Shelley's novel, many writers of the 19th century, turned their hands to science fiction. Edgar Allan Poe, for instance, was one of the significant early authors in the field. Just as he helped create the detective story, create some of the foundations of criticism in our country, both for poetry and for the short story, and wrote his *Tales of Terror*, he also wrote some significant works of science fiction. Nathaniel Hawthorne wrote a number of short stories and one novel which were related to science fiction. One of the things which fascinated him was mesmerism, which was a kind of new science of the times, and he and Poe both speculated about what kind of
truths might come from people who had been mesmerized and thus had some link
to the mysterious and the eternal. Most of the writers of the nineteenth
century, at one time or another, turned to science fiction.

The romantic author of the times was Fitz-James O'Brien, an Irishman
who had an ambition to be both a writer and a bohemian and succeeded in both
at an early age. As a young officer of an Irish regiment he inherited about
5000 pounds, ran through it in two years, eloped with the wife of a fellow
officer, came to this country without the wife and became a very successful
writer. His stories appeared in the Atlantic and other magazines of the times.

His most famous story was "The Diamond Lens," about a microscopist who
wanted to make the most powerful microscope in the world. He went to a medium
to put him in touch with the spirit of Leeuwenhoek. Leeuwenhoek told him that
if he wanted to make the most powerful microscope in the world, he had to get
a 150-carat diamond. He killed a man for his diamond, made his microscope;
peered into a drop of water and saw this wonderful microscopic world and in
that microscopic world a beautiful girl floating along. Almost all these
stories, particularly the microscopic stories, had beautiful girls in them.
Eventually, over the weeks as he watched the world began to shrivel, to
disappear, the girl, whom he called Animula, began to shrivel up, and died,
and he realized, to his dismay, that the drop of water had evaporated. He
falls across the microscope, breaks it, and ends up telling doddering old
stories, none of which are believed, to students at the medical school.

Fitz-James O'Brien, incidentally, volunteered for the Northern forces in
the Civil War, and within two weeks was challenged to a duel by a Confederate
officer, was wounded, and died at the age of thirty-two.
Mark Twain, of course, had his Connecticut Yankee at King Arthur's Court. Kipling wrote some interesting science fictional works one called, "With the Night Mail" about dirigible travel and mail delivery in the year 2000. Significant work came in utopian literature like Edward Bellamy's Looking Backward.

I won't go into all of these. From the time of the industrial revolution, that is, about 1750, it took a little more than a century before the first true science fiction writer started to write. By true science fiction writer I mean a man who devoted most of his life to writing science fiction, a man who made his success out of it, a man who made a fortune out of it. Of course, this man was Jules Verne.

His successor, in a sense, although not in a sense that either of them liked, was H. G. Wells. And Wells became the first man who proved not only that science fiction could be popular but that it could be art. And he, in at least the first six years of his writing career, from 1895 to 1901, was writing scientific romances. Afterwards, he turned to novels of contemporary life and to utopian literature, none of which was as good as his science fiction, although he didn't think so. But his science fiction has lived while the other works are little read.

In the early part of this century, a movement began in 1896 with a magazine called Argosy, which began life as Golden Argosy, a magazine for boys. When it became a pulp magazine, the first pulp magazine of general readership, it offered 192 pages of fiction for a dime. This led to a lot of pulp magazines in the early part of the century which published stories of romance and adventure, all sorts of stories really, but also some stories which had some reason to be called science fiction, stores written by authors like...
You notice they always had three names or initials. One of the famous writers a little later on was A. Merritt. All of them wrote tremendously fascinating, though improbable, stories about fantastic adventures on other worlds.

Then in 1926 came an event that changed the course of science fiction perhaps more than anything else up to this time. An immigrant from Luxembourg, a man who had been an inventor, who had been selling radio equipment since 1908 (since there were no radio transmitters he sold a little apparatus which both sent and received called the Telimo Wireless, for $7.50), who had published a radio magazine and a popular science magazine called Radio News and Electrical Experimenter and began including science fiction stories in his magazines which got good comments from readers, a man named Hugo Gernsback founded the first science fiction magazine. It was called Amazing Stories, and it was the part of a trend that had developed in 1908 when the first specialized pulp magazine was published; it was called The Railroad Man's Magazine. It was all railroad stories, for people who thought railroading was adventure. Another specialized pulp (it didn't last very long) was called The Ocean, which was full of sea stories. Then in 1915 Detective Story Monthly appeared; it was the first detective story magazine, and it was followed in 1919 by Western Story Magazine, the first western magazine, in 1921, by Love Story magazine, and then others of all types.

In 1926 with the publication of Amazing Stories and in 1929 with the development of other science fiction magazines, science fiction went into what lots of people have called a kind of ghetto, where it was walled off from the
rest of literature, where it developed its own writers who primarily read science fiction and learned what they knew about writing from other science fiction writers, and learned what they knew about science from other science fiction writers. At this time and in the earlier pulp period, science fiction got a reputation for being too popular to be good, for being sub-literary. Much of it was not very well written.

One result was that between 1926 and 1946, a period of 20 years, there were almost no science fiction books published. Some of Edgar Rice Burroughs' books, for instance, were reviewed by the *New York Times* before 1926. Now, for 20 years, there were no science fiction books published; then, after World War II, when the atomic bomb dropped, people suddenly began to think, well, maybe after all there is something to what science fiction has been dealing with. In 1946, two big anthologies appeared. There was a big boom in science fiction book publishing in 1950, 1951, 1952. It had a slump, in the middle fifties, and it has come back strong since 1960, and primarily since 1965, until today; one out of every 10 fiction books that are published today are classified by the *Publishers' Weekly* as science fiction. That's a surprising figure to you, I know: one out of every ten fiction books; it's surprising even to me. Science fiction is of growing interest to young people. It always has been a young people's literature, but increasingly, I think, it is a young people's literature. There even are good juvenile books being published in the field, since Robert Heinlein first began turning out juveniles for Scribner's in 1948 with *Rocket Ship Galileo* and *Space Cadet*. There are a number of good authors who do that today.

The movies have not done well by science fiction. They come out of, as
one critic said, a different tradition. They don't come out of science fiction at all, but out of the tradition of the medieval morality play and of grand guignol. But some interesting science fiction movies have been produced ranging from "Destination Moon" up to "2001: A Space Odyssey"—which have done some justice to the field and attracted people to the reading of science fiction.

But primarily, I think, the new interest in science fiction is due to the fact that the conditions in our society have changed. For one thing, much of what was written about back in 1939 and 1940 we are seeing realized around us today. Practically every facet of our technological lives has been anticipated by the science fiction story and novel. Almost every one of them has been derided by most people as being ridiculous. Any far-out speculation about how we might live, about society, about technology, about the possibilities of the human spirit and what it might achieve, has been derided by the term, "That's mere science fiction." Today, as one example of how science fiction has come of age, when such speculations or such realities are considered the expression usually goes, "This is straight out of science fiction." One might say with Isaac Asimov that we are living in a science fiction world, and the only way we are going to understand this world is to understand the kinds of visions that people have had and have now.

The problem of pollution, the problem of man's relationships with the machine, the relationship of one race to another, or even of one species to another, practically all the things we think of as problems of today have been dramatized in the past, and this is the important aspect of science fiction, that it offers us a dramatic portrayal of the possibilities we see in our world.
today so that we may choose among them, and choose the better and not the worse. We need to see our choices laid out for us in people's lives as it will affect them. Just in such a sense, I think, George Orwell's prophetic novel, 1984, was not very prophetic at all. We will not see 1984 in 1984. I doubt if we will see it at all, but part of the reason we will not is because 1984 was published and was seen as the terrible kind of world that it would be.

What does science fiction have to offer? I would like to mention two things as a conclusion, two reasons why I think science fiction offers something to the reader that seems to me available in no other way or at least in no other way as readily. Before I get to that, however, I might mention that it is used as a literature which, coming out of the ghetto, has always been written to entertain. That is, it's first goal is to grab the reader and say, "You'll like this story," and get him into it, and so it represents something that is readable. That's a major advantage in teaching a literature. In addition it is a literature about contemporary events; it is a literature as I call it, of alternatives.

The science fiction reader used to be a minority of one in his high school, a person who was alienated in some sense from society, and he turned to science fiction as a means of finding acceptance on his own terms in a kind of medium that valued him and his contributions by the validity of his ideas and not by whether he was socially acceptable or not. Today it seems that to me that we live in an era of alienated people, alienated in a sense that they have decided that the answers society is providing them for their problems no longer are providing any kind of answers that seem suitable when we try to apply them. Science fiction suggests other ways of acting, other ways of thinking about
the problems that we have or the problems that we may have.

But I spoke of two things that I think science fiction does uniquely. One of them deals with the fact, as I see it, that life is a process of telling us what we can't do. Life is a process of narrowing rather than broadening horizons. The infant in the crib, for instance, has infinite possibilities. If he has Chinese parents for instance, he will grow up speaking Chinese. If he has Polish parents, he will grow up speaking Polish. He has the opportunity, if he is an American, to grow up to be President, which is not such a good prospect as it used to be. At least, his potential at that point is unlimited, but life, the circumstances of his parents, the limitations of his environment, begin to tell him what he can't do, begin immediately to narrow his possibilities.

It seems to me, I'm sorry to say, that so does school. It seems to me that we teach students a lot of things, we teach them facts, ways of thinking, skills, but in the very act of teaching them these things, we also teach them what they can't do. We begin to limit them. We begin to say what is acceptable, to say what is the right way of thinking. Telling them about logic automatically eliminates all that seems illogical to us. Science fiction is one of the few things in life, it seems to me, that spills over with ideas that nobody has ever thought before, which tells us about possibilities that nobody has ever entertained before, and it tends to keep the mind open, receptive, flexible. I know some people at my university who say they've been reading science fiction for years, and they seem to be the people who still have the capacity to consider new ideas.

People tend to read science fiction vigorously, avidly, through high
school, begin to drop away in college because they get a lot of practical problems forced upon them, then almost stop when they begin to get away from college and begin to enter upon business or professional careers. Life presses in upon them and makes them practical people. Sometimes they turn back to science fiction later. One thing that science fiction can do, that is desirable, is to keep people's minds open to possibilities, not to limit them, not to tell them what they can't do but to tell them what they can do.

Rón Evans, the University of Kansas graduate who was Captain America on the last space flight to the moon said much the same thing when I interviewed him recently. He said "what this whole experience has added up to" — what the science fiction credo insists upon — "is that man can do anything he wants to." Many of you here probably would have reservations about that, but Evans didn't and in a sense I don't either. I think man has the potential to do whatever he sets his mind to do. If it's the right thing to do or not is a different matter; people have all sorts of wrong ideas. But certainly we shouldn't limit people by what we conceive to be practical considerations or what we consider even to be desirable in our own circumstances. Let them dream large dreams.

The other aspect of science fiction that I want to talk about, the thing that science fiction does, it seems to me, that other media do only with great difficulty, if at all, is to provide a different perspective on ourselves, new viewpoints that allow us to do what some critics have called distancing. It allows us to stand outside ourselves, our families, our beliefs, our systems, even our own species and see ourselves from outside.

One of these different viewpoints that I have identified I call the view
from space. The astronauts pointed out that at a relatively close orbit of Earth, if you look down, you can see absolutely no signs of civilization, no signs of human life on Earth. If indeed you're in orbit at the same distance from the planet as our Mariner series were from Mars, when they reported no life on Mars, you can see no signs of life on Earth. This is a humbling thought. All the things we get uptight about, all the things that we think we've done that are great and marvelous and stupendous are invisible to a person looking at us from just a thousand miles away. That's one viewpoint.

Another viewpoint, one might call the viewpoint of the universe. In terms of the duration of the universe, some ten billion years, the total history of man represents just the movement of an eyelash. We have been on this earth hardly long enough for the universe to take a deep breath. In those terms, it seems to me we can stand outside the human race and say, "What have we done? What is important?" To think in these terms at least once in awhile, is sobering and perhaps profitable. It is a good thing to do.

In terms of the extent of the universe our planet is only a medium-sized planet of our particular sun. Our sun is a very average sun in our galaxy, almost unnoticeable and very far away, existing on the outskirts, sort of in the rural area of our galaxy, far from its center. But our galaxy is only one of a billion or so galaxies in the universe, and in those terms, our little biological rust on the outside of our planet is very small indeed, very insignificant. And in those terms, we begin to wonder again, "What have we done, what is being human all about?"

Another viewpoint is the viewpoint of the alien, a person, for instance, who may come from Mars. (I just learned recently, that there actually may be
life on Mars, but that's another story.) Or who may come from Alpha Cen-
taurus, which is four light years away, or may come from even farther than
that, and take a look at us, looks at us and see not as we see ourselves,
not as each one an individual, but all of us, no matter what our color, what
our convictions, religions, cherished beliefs and customs, all of us like
peas in a pod, indistinguishable, virtually, one from another, and all of us
equally ridiculous from their viewpoint. Now if we can stand off from our-
selves and see ourselves as being pretty ridiculous, maybe we can begin to
weed out from all of the things we believe to be true what will last, what
will still be important in humans to the eyes of someone else who may not
know anything about us.

One last viewpoint: science fiction also has a viewpoint from the
future. The viewpoint of our descendants, either near or far away, who
can look back on our era just as we look back on the Victorian era and think
how ridiculous those people were, back to the Middle Ages and think how far
away and romantic and funny they were or back to the Egyptians, back beyond
them to the Olduvai Gorge, and think of all their ancestors as people who
were strange and funny, and perhaps from this viewpoint we can begin to think,
"What kind of world are we going to leave to these future descendants, no
matter how distant? What is going to be meaningful 100, 200, or 300 years
from now?" And I suspect perhaps the only thing that is truly going to be
meaningful is what we leave to them: knowledge, resources, a world to live on,
a world in which to fulfill their own possibilities; and everything else is
going to seem like romantic nonsense.