

Space, Life, Science and Stories

Space, Life, Science and Stories:

*Our Recurring Interest in the
Possibility of Cosmic Visitors*

By

Carl L. DeVito

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PART ZERO

WHAT'S IT ALL ABOUT?

There are a great many people who have a deep curiosity about space, the possibility of life somewhere in space, and the chances of such life coming here. This population includes many college graduates whose course of study, often intense and difficult, simply had little room for a science class. Among these are many members of the rapidly growing senior community.

To satisfy this curiosity many turn to the internet and “educational” television programs. But here they are confronted with lurid tales of ancient extraterrestrial intervention in human affairs. Some sites feature claims that virtually every old building was constructed by aliens and others claim extraterrestrials visit regularly.

For many good reasons my colleagues in science rarely address the many provocative questions raised on these websites and in these programs. But someone has to!

Otherwise many come to believe that the scientific community is too arrogant to address what they see as reasonable questions. This leads to a deep suspicion of scientists and a lack of respect for their profession.

These are serious matters if for no other reason than the fact that people with these views vote, write their representatives and often have local political influence.

Those with these views also become easy prey for scam artists and political opportunists who tell self-serving half-truths and sometimes blatant lies.

There is a real need for a book that presents the picture of reality developed by modern science and the support for the claims found on the websites and television shows mentioned above. This book is my attempt to fill that need.

My treatment is conversational, and non-judgmental. I leave it to my audience to decide if the support given really justifies the claims made, and whether or not our understanding of reality needs radical revision. The audience I am writing for consists of highly intelligent people, people used to making their own decisions. They don't need me to tell them what to think. So I make a point of acknowledging the limits of our knowledge and although my own pro-science opinions certainly show, I try to present other views as well.

Having said that I'd like to stress two things: First, this is not a science book, although I do discuss a great deal of science. This is presented in a conversational way, a way that I hope readers will find both easily accessible and enjoyable. No knowledge of science is needed to read this book just a willingness to stretch your mind a little bit.

Secondly, my willingness to discuss an idea or a belief does not mean that I share that belief or support that idea. Someone (Aristotle?) once said that it is the mark of an educated mind to be able to entertain an idea without accepting it. A person who teaches a college course in government may discuss communism. That doesn't mean that person is a communist. This should be obvious and yet when someone is willing to discuss the idea that aliens inter-acted with humans in ancient times or the subject of unidentified flying objects he or she is immediately labeled a "believer".

This unfortunate fact means that many people, even professional scientists whose views on these topics would be a welcome change from the endless foolishness one hears about them, will not dare talk about them. Even mentioning these subjects can have a serious, and deleterious, effect on a scientist's reputation and negatively affect his or her career.

And it has another unfortunate and very serious, side effect. Many people, people who vote and have political influence, see scientists as arrogant, egotistical boors who are unwilling to face obvious "facts". This must change. Otherwise we will have political leaders who will take us back to the dark ages.

There are reasons scientists are reluctant to study UFOs (unidentified flying objects commonly called "flying saucers"), and reasons why they are dismissive of stories of alien visitation. These reasons can't be summed up in a few sentences. The idea that intelligent life might exist somewhere out there is neither new nor radical. Scientists have learned a great deal about the nature of life and its ability to thrive in unexpected places. Many are seeking evidence of life elsewhere and some are seeking intelligent life. But the possibility of life from the stars coming here is another matter. In order to assess this possibility one must gradually develop a greater understanding of the distances between the stars, the laws governing motion and the properties of that mysterious entity we call gravity. Only then can one appreciate the problems involved in attempting inter-stellar travel.

Science has, over the last several centuries, given us an understanding of all these matters and I will try to tell the fascinating story of how this all came about. We today are so accustomed to the wonders of modern science that we sometimes fail to appreciate just how much science has accomplished. This understanding of nature that it has given us

is not to be taken lightly or even dismissed-- as I have actually heard people do!

We have learned how to prevent the spread of the old “scourges” of humankind: the bubonic plague, small pox, and polio. Some of us still remember the fear parents faced each summer wondering if one of their children would contract polio and never walk again or have to spend several hours a day in an iron lung.

We have also sent probes to planets that are millions of miles away. They go where they were sent, do what they were designed to do and send back valuable information to us here on Earth. One needs to know a lot about space, motion and gravity to be able to do that.

I have tried to be fair in my presentation of the cases and arguments that favor alien visitation and alien interaction with humans. My feeling is that my readers are quite capable of making up their own minds about whether these things actually happened. I certainly don't have all the answers and do not pretend to have explanations for all the weird and disturbing incidents reported. But weird and disturbing things have been reported throughout history. The significance, if any, of these incidents is something readers will have to judge for themselves.

PART ONE

SURGES OF INTEREST

There is only one technological society known to us and that is our own society here on Earth. However the vastness of outer space suggests that there may be others. Do we have cosmic company? If so, can it come here?

These questions are of far more than academic interest. There is a deep and widespread interest in them that periodically rises to the surface of public consciousness. In the end it is the public that supports science and for scientists to ignore anything of widespread public concern is both dangerous and unwise.

Outlined below are three memorable episodes that triggered surges of public interest in these questions. The first of these took place in the late 19th century when astronomers claimed to see canals on Mars. The idea that our neighbor was the home to an advanced civilization stirred enormous public interest. The lectures by Percival Lowell, the principal proponent of this idea, drew standing room only crowds and his three books were best sellers. In this connection an answer to our second question was given by H. G. Wells in his classic novel “The War of the Worlds.” The depth of public concern about a possible Martian invasion surfaced again in 1938. A radio adaptation of Wells’ book caused widespread panic¹.

The second episode began in the late 1940’s. The newspapers of the world were filled with stories of “flying saucers.” Reports of these unidentified flying objects (UFOs) were so numerous that the American military was concerned that they

would overwhelm their channels of communication. Many thought they were inter-planetary space ships and feared an imminent invasion. That of course never happened, but the UFOs are still being reported and the American military seems to be taking a renewed interest in these reports.

The third episode began with a book that sold millions copies and has been translated into 28 languages. Eric van Daniken² made a fortune claiming that not only do we have cosmic company, not only can they come here, but that they have already been here. Furthermore, he said these neighbors greatly influenced the early development of the human race. Granted much of what he said has been discredited but the sales figures alone show that he touched on a matter of wide spread public interest.

In the next three chapters we sketch the history of two of these surges of interest and investigate the effect they had on public thinking. The third incident will be discussed in another chapter.

CHAPTER ONE

THE ENDURING MYSTERY OF MARS

Mars, the red planet, has fascinated humankind for centuries. Its color caused people to fear the times of its closest approach, seeing it as an omen of bad things to come. Scientists studied it intently, but it was just far enough away that it was hard to interpret what they saw. And, of course, the science fiction writers gave us fascinating stories that still entertain even after we have learned that they were based on miss-interpretations of what was seen.

Today a large number of probes have reached, or are orbiting, the red planet. Some of the early ones were stationary, digging for signs of microbial life. Their findings were ambiguous and still controversial. Mars closely guards its secrets and seems to reveal only just enough to keep us interested. Some of the probes from Earth are now robots that roam the Martian deserts, giving us reams of valuable information but never quite telling us if the planet has or had life.

Let us return to the days when we could only gaze in wonder at our neighbor and try to interpret the fleeting glimpses of structure we saw when the atmosphere of Earth was especially clear. Public interest was intense and although it waned over time we saw in 1938 that it never really died¹.

A number of developments in the late 19th century collectively affected public thinking about our nearest neighbor. It was known that Mars had seasons, that it had bright white polar caps that wax and wane with the seasons, and that certain areas of

the planet undergo seasonal color changes. Back on Earth we were digging canals.

The Suez Canal links the Mediterranean Sea with the Red Sea. It is one of the most important waterways in the world. The 160 km (about 96 miles) canal took 10 years to build and was completed in 1869. It was a wonderful work of engineering, the source of great pride and its completion was greeted with much celebration. But, within a decade, we were being told that our nearest celestial neighbor was the home of a civilization capable of engineering feats that dwarfed our best efforts. It was in 1877 that the Italian astronomer Giovanni Schiaparelli claimed that he had seen ‘canali’ on the Martian surface. These were at the very limit of visibility and he wasn’t sure just what they were. So he referred to them as “grooves” or “channels”. Language, our best tool for communication, can sometimes cause problems.

When Marco Polo returned from his travels he said that the Chinese did not burn wood for cooking and heating. They burned ‘black stones’. He had no word for these things so he simply described them as best he could. We immediately realize he meant coal, but that’s not what the Europeans of that time thought. They knew that stones don’t burn no matter what color they are. Marco was branded a liar.

Needless to say the language problem can be exacerbated when more than one language is involved. ‘Canali’ means ‘grooves’ or ‘channels’, exactly what Schiaparelli wanted to say, but it was translated into the similar sounding English word ‘canals’.

Soon the charismatic American Percival Lowell began promoting the idea that there was a planet-wide system of canals on Mars constructed by its inhabitants in order to bring water from the polar caps to the more populated temperate

regions. The low gravity of Mars was, according to Lowell, causing the planet to lose its water to outer space. The Martians were doomed and they knew it. The canals were a desperate attempt to delay the inevitable. Lowell's ideas, which he claimed were based on his own observations made in Flagstaff Arizona, captured the imagination of many. He even found support from some astronomers. His lectures drew standing room only crowds and his three books were best sellers¹.

This picture of super sophisticated engineers and a society capable of planet-wide projects stimulated some thinking. What other engineering abilities did they possess? If they were aware that their planet was losing its water might they not covet the water rich Earth? And given their engineering expertise could they perhaps have the means to come here?

The Suez Canal was not without its share of inter-national squabbling and political in-fighting. What kind of society could carry out a world-wide project like Lowell insisted was done by the Martians? The idea that our neighbors had to be super smart and potentially dangerous took hold of some. Perhaps H. G. Wells, one of the "fathers" of modern science fiction, was among them, for in his classic novel *The War of the Worlds* he wrote:

No one would have believed in the last years of the nineteenth century that this world was being watched keenly and closely by an intelligence greater than man's and yet as mortal as his own ... Yet across the gulf of space, minds that are to our minds as ours are to those of the beasts that perish, intellects vast and cool and unsympathetic, regarded this earth with envious eyes, and slowly and surely drew their plans against us.

Here we get a picture of a race of malevolent beings that are far smarter than we are.

As far as I know no one took the idea of a Martian invasion too seriously in 1898 but, perhaps, the seed was planted. Many years later when the threat of Nazi aggression was very real, the fear of a Martian attack re-surfaced. The trigger was a radio broadcast aired on Halloween eve by the popular radio show “Mercury Theater of the Air.” The program was an adaptation of the H. G. Wells book for a radio audience and was narrated by the actor Orson Welles. This was in 1938 and according to newspaper accounts of that time there was wide-spread panic¹.

Soon after the Welles broadcast World War Two erupted and people’s minds were occupied with many very real, very pressing matters. But the idea of an advanced Martian civilization didn’t go away it was just put aside for a while.

The two moons of Mars were discovered in 1877 by the American astronomer Asaph Hall. He named them for the two horses who, in Roman mythology, drew the chariot of the war god Mars: Phobos (fear), the larger of the two, and Deimos (panic). Curiously, 15 years earlier, under better viewing conditions and with a better instrument, the Danish astronomer d’Arrest searched for Martian moons and didn’t see any. Some find significance in this.

The idea that Phobos, and possibly even Deimos, might be artificial was raised by the Russian astronomer Sklovskii in 1959. The orbit of this moon exhibited some strange anomalies indicating that it had a very low density. Sklovskii pointed out that the low density could be explained if the moon was hollow! There was serious discussion that this moon might have been put in orbit by an ancient Martian civilization³.

Some went even further. Perhaps, it was said, the reason d’Arrest didn’t find the moons in 1862 was because they weren’t there! Maybe they were launched sometime in the fifteen year period between 1862 and 1877. If that was the case

then they were not the product of an ancient Martian society. They were the product of a relatively recent, possibly still existent Martian society!

This kind of speculation is great fun and I'm sure many waited anxiously to see what our probes of Mars would show. Unfortunately the pictures of the moons show that they are nothing very exotic. They're just large rocks.

CHAPTER TWO

WHO GOES THERE?

It was shortly after World War Two that people again turned their attention to outer space and the possibility of an alien invasion. The stimulus was a rash of sightings of strange objects in the sky. There is no doubt that these sightings had an effect on the public. The question was, and still is, were they part of objective reality or were they the result of a post-war psychic phenomenon?

This question is still relevant because where people are concerned, what matters is not what is true but what they *believe* is true. What we believe about other people affects how we treat them. If you think your neighbor is a thief you will keep an eye on your belongings when he is around. If you think civilization is about to 'break down' you might collect weapons, fortify your house and stock up on food. Sad to say, there are people who are doing this.

What we believe about the world affects what we will accept as fact and what we will dismiss as nonsense. We have ideas about the nature of the world around us. Humanity is not monolithic these ideas do vary. It seems however that in any age a certain set of ideas dominates the thinking of most. There is a story about Thomas Jefferson (1743 – 1826) America's third president that illustrates this point. Like many stories about historical figures it may not be true but it is widely believed. When told that two Harvard professors had witnessed the fall of a meteor he reputedly said "I would sooner believe

that two Yankee professors would lie than that a stone could fall from heaven.”

In Jefferson’s day the observation of the two Harvard astronomers simply didn’t fit into the then dominant view of reality. We had to learn that there were more things between heaven and earth than were dreamed of in the early eighteen hundreds.

Is our view also too restricted? Are there any observations that we dismiss simply because they don’t fit with our notions about what is possible and what isn’t? In other words are there observations that have no place in our current view of reality?

This brings us back to the provocative and highly emotional subject of unidentified flying objects (UFOs). Let’s leave the discussion of the nature of these objects, if objects they be, for another chapter and focus here on the early sightings and how they were handled. This has had a lasting impact on how the public views the phenomenon.

Throughout history there have been reports of strange objects being seen in the sky. The modern interest in UFOs however is usually dated from the time businessman Kenneth Arnold, while flying his plane in the Cascade Mountains of Washington state, observed nine strange crescent shaped craft flying in rough formation near Mt. Rainier. Arnold knew the area well and timed the objects as they passed certain land marks enabling him to calculate their speed. They were moving very fast, far faster than the top speed of any aircraft then in existence. Arnold told his story to a local reporter in Pendleton, Oregon and there it might have died, but it was a slow news day and the story was picked up by the Associated Press wire service giving it national attention.

This occurred on 24 June of 1947 and his description of how they flew “as a saucer would if you skipped it over water”, became the popular designation of all unusual craft seen in the sky. They were all “flying saucers” or “flying discs”. Something very strange happened here. Arnold didn’t see discs. It was the reporter who erroneously described them that way. Yet discs are what people started seeing. The more accurate designation “unidentified flying object”, UFO, came later.

Soon reports of flying saucers were coming in from all over the U.S.A. and the Air Corp., the branch of the U. S. Army in charge of protecting the nation’s skies, was faced with a perplexing problem: What were these things?

A list of possible explanations appeared in the New York Times on July 6th, 1947 and among them was this: “They may be visitants from another planet launched from space-ships anchored above the stratosphere.”

A possibility that, as time went on and the number of sightings increased, gained some support. At first however, other explanations seemed more reasonable.

Some believed they were secret weapons belonging either to the United States or the Soviet Union. At this time the cold war between these two countries was getting nasty, and each side had “acquired” German scientists skilled in rocketry.

Some said it was “war nerves”. World War Two had only recently ended and the extent of the devastation and a realization of the scope of the atrocities committed was certainly unsettling.

And some said it was all nonsense stirred up by people with more imagination than brains.

It has been reported that the situation at the technical intelligence division (where all reports were sent for analysis and, hopefully, explanation) during July of 1947 was one of confusion bordering on panic⁴.

No wonder! Were we under surveillance by a potentially hostile alien race? If so, we were in deep trouble because the saucers could out pace and out maneuver our best planes.

The U.S. Air Force was established as a separate branch of the military on September 18, 1947. From then on the UFO phenomenon became the "Air Force's problem". On Sept. 23, General Nathan F. Twining sent a preliminary report about UFOs to his superior in Washington⁴. In it he stated:

The phenomenon reported is something real and not visionary or fictitious.

A sentence that is often quoted by those who believe UFOs are to be taken seriously. He also stated that due consideration must be given to:

The possibility that some foreign nation has a form of propulsion, possibly nuclear, which is outside our domestic knowledge.

At that time the idea that the power of the atom, which was then new and mysterious, might be harnessed to power airplanes was on the minds of many people.

The U. S. Air Force is not a scientific organization. Its primary concern is the security of the United States, not solving mysteries. But people wanted answers and they expected the Air Force to provide them. Officers pressed by reporters often simply gave their own opinions which only added to the general confusion surrounding the phenomenon.

It was an exciting but very scary time. These weird things were being seen all over the country and most troubling, they were seen near the nation's most sensitive military installations. Fortunately the saucers made no hostile moves and never threatened military or civilian planes until, on January 7th of 1948, someone got too close to one.

On that day a silvery, spherical object was seen over Kentucky by numerous military and civilian witnesses⁴. As it happened four military aircraft, on a routine training mission, were approaching Godman Air Force Base while the object was in view. Those in the base control tower asked the flight leader, Captain Thomas Mantell, to investigate. He agreed and soon reported seeing the object directly in front of him. Mantell's plane was not equipped with oxygen and all pilots know that without oxygen one doesn't fly above 12,000 feet. Those who knew Captain Mantell say he was a level headed family man not given to taking foolish chances. Yet, it has been reported that he was at 15,000 feet when he informed the tower "I'm still climbing, the object is above and ahead of me moving at about my speed or faster. I'm trying to close in for a better look." That was the last anyone heard from him and his plane crashed a short time later. It was conjectured that he flew too high and blacked out due to lack of oxygen⁴.

The Air Force was scrambling for answers. At this point in time it seemed that any answer would do. They said that Captain Mantell had been chasing the planet Venus!

They were clearly "grasping at straws". The incident took place at 3:15 in the afternoon on a bright clear day. Venus was a point of light, like a star, hard to find unless you knew exactly where to look. Beyond that Mantell had reported that the object was of "tremendous size"⁵.

It was around this time, when public interest was strong, sightings were frequent and official explanations were “less than convincing”, that the scientist whose name is now synonymous with UFOs became involved. The Air Force investigators realized that they needed the help of an astronomer to weed out all reports that were obviously natural, if unfamiliar, phenomena. A natural choice, since the air technical center was located at Wright-Patterson air base in Ohio, was the director of the nearby MacMillan observatory at Ohio State University. At that time this was Dr. J. Allen Hynek (1910-1986).

He freely admitted to taking his position as air force consultant with the idea of explaining most reports. He didn't take the subject very seriously and thought that the whole phenomenon was just a silly fad that would soon be replaced by something equally silly.

Why then, did he get involved? He explained his reasons in an article written in 1953⁶:

Ridicule is not part of the scientific method, and the public should not be taught that it is. The steady flow of reports, often made in concert by reliable observers, raises questions of scientific obligation and responsibility. Is there ... any residue that is worthy of scientific attention? Or, if there isn't, does not an obligation exist to say so to the public – not in words of ridicule but seriously, to keep faith with (the) trust the public places in science and scientists.

The above statement helps explain why Dr. Hynek was so well respected by those who knew him. He continued consulting for the air force even when he left Ohio State to become the director of Dearborn Observatory at Northwestern University. I did my graduate work there and had the pleasure of meeting