

UFOs — do they come from outer space?

By H. H. Bolotin*

DOWN through the ages, apparitions of one kind or another have plagued the human race. Primitive people believed in the existence of elves, goblins, dragons and sea-serpents — to mention just a few of the popular ones. They believed in them probably because they provided a simple explanation for otherwise mysterious happenings.

happenings.

In our modern society anybody who believed in dragons would be looked at askance. But what of 'flying saucers' — now that's a different story; or is it? Do they exist — or are they just a quirk of modern-day imagination?

'Flying saucers' became popular things to see in the 1950s, and since then they have had good and bad years. In the 1950s there were numerous reports from many parts of the world; some people actually 'saw' them land and noticed the 'little green men' aboard them.

Several countries, including the United States, Great Britain and Australia, decided to investigate their local reports. In Australia, the Royal Australian Air Force was given the responsibility for the investigation and analysis of all sightings. The term 'flying saucer' was updated to 'unidentified flying object' (UFO) and later changed to 'unusual aerial sighting' (UAS) — the current 'in' term.

Since 1960 the RAAF has thoroughly investigated about 950 reports. Approximately 90 per cent of these were attributed to causes which included aircraft, satellites, meteors, space debris re-entry, meteorological balloons, stars and planets (Venus clearly wins the 'Miss Planet' popularity stakes). Seven per cent of reports either were received too late or did not provide sufficient information to permit proper analysis. Three per cent only of all reports were attributed to

of all reports were attributed to unknown causes.

The last three years, however, have produced a higher than normal number of inexplicable reports — 4.5 per cent in 1974, and 10 per cent each in 1975 and 1976 (good years for the 'flying saucer' believers).

Satellites and space debris re-entering the earth's atmosphere are responsible for many sighting reports from members of the public, and it is highly likely that man-made objects in orbit will continue to attract attention for many years to come. Of 9,645 man-made space objects catalogued since 1957 there were still 4,141 in space on December 31, 1976.

On October 29, 1969 the then Minister for Air, Mr F. M. Osborne,

made a statement in Parliament summarising the analysis of unidentified aerial sightings. He concluded by saying: "Nothing that has arisen from that 3 or 4 per cent of unexplained cases gives any firm support for the belief that interlopers from other places in this world or outside it have been visiting us".

This statement still holds true in 1977, no evidence having been produced in the meantime to warrant a government reconsideration of the situation.

Most people tend to agree that it is particularly foolhardy, and certainly frustrating, to argue politics or religion. It is not that these

or religion. It is not that these subjects are necessarily forbidden topics of conversation; rather it is because such discussions are, in the main, fruitless. A person's politics and religion are virtually immutable. They reflect tenaciously held beliefs that are resistant to change and remain steadfast in the face of argument.

However, there is another subject which, although hard to credit, seems even more impervious to reasoned persuasion; a tenet of faith so unshakable that it is manifestly impossible to alter in the slightest. That subject is UFOs (unidentified flying objects) and the belief or denial that these sightings are evidence of space vehicles sent to earth from extraterrestrial civilisations on reconnaissance missions or for other unknown purposes.

It is not the intent of this exposition to argue directly for or against such an interpretation of so-called UFOs; nor is the naive expectation harboured that a 'believer' or 'disbeliever' would be persuaded to change his or her view one way or the other on the subject by a recitation of examples of UFO 'sightings' whose origins have been conclusively traced to common, more benign terrestrial phenomena; nor, conversely, is it considered fruitful to describe those few 'sightings' whose causes have, as yet, failed to be identified. Rather, it may prove far more productive to adopt a wholly different tack.

Although it is not expected to

effect a change in attitude on the part of the reader, the presentation of a rather novel perspective on the subject may, at least, provide some food for thought.

Let us suppose that UFO sightings are accepted as observations of extraterrestrial, extra-planetary-system spacecraft flying low in our atmosphere and piloted by whatever beings normally inhabit that site out in space that is their origin.

Further, and most important, as we have not yet been capable of sending our own manned space vehicles out of reach of the gravitational pull of our sun and they have, it must be the case that these extraterrestrial civilisations are, at the same time, both much more highly intelligent and technologically advanced than are we.

With this as our point of departure, let us examine the consequences of this assumption and see where it leads us.

Before proceeding, however, we must consider that these beings came from a 'civilisation' that exists, or did exist, somewhere — after all, they cannot be thought of as having no origin. In addition, if pilots of UFOs exist, they must be alive, or were alive at the time they began their voyages.

But life — any form of life, whether intelligent or primordial — must certainly require the 'near' presence of a sun for light, radiant

presence of a sun for light, radiant energy, etc. Well, this is no obstacle; there are billions of stars in the universe and in our own galaxy, any one of which could serve as a sun (just as our sun is a star) about which planets circle, and on one of these planets conditions could be appropriate for life to exist and flourish. Earth-bound optical and radio telescopes have thus far viewed what is certainly a vast universe.

What they have seen, however, is merely an insignificant fraction of our beautiful universe studded with billions upon billions of stars. How many of these may serve as suns for planets on which life — yes, even intelligent life — could exist staggers the imagination.

Therefore, there is no dearth of potential sites near stars that could serve as the 'home' of these extraterrestrial 'astronauts' and of the civilisation of which they are, or were, a part.

So far, so good! Now, our own explorations of the moon and Mars have failed to turn up any evidence, no matter how fragmentary, that life, in any form, exists on these two bodies. Other space probes have been sent to Venus, some have passed close to Jupiter; and no indication of life or conditions capable of sustaining life has been uncovered. Conditions on other planets of our solar system are considered by scientists to be too hostile to

by scientists to be too hostile to allow life in any form to exist. This means that the origin of these extraterrestrial 'astronauts' is not within our own solar system.

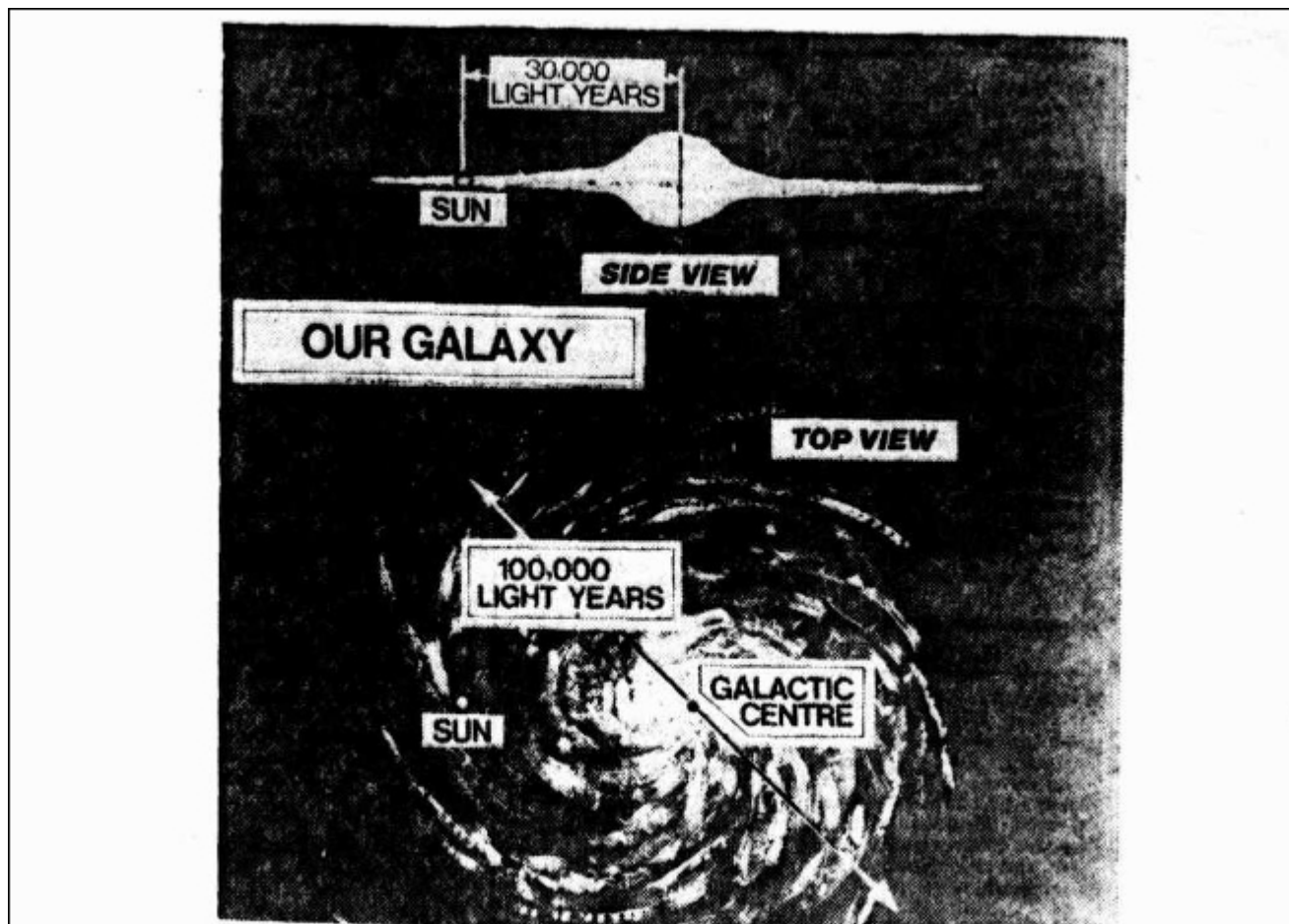
Well, small loss! There are still countless billions of stars and, consequently, roughly an equal number of possible other solar systems which might have been the home of our UFO occupants.

However, in order to pay us the visits we have assumed they have, these vehicles and their occupants ('astronauts') must have travelled from the vicinity of their sun (a star to us) about which a planetary system exists and upon one such planet life could be sustained.

It turns out that the nearest star to our own planetary system is Alpha Centauri. It is approximately 40 million million kilometres away from us. Therefore, the shortest distance these UFOs could have possibly travelled to reach us was 40 million million kilometres — and if they expect to return home, their shortest round-trip journey would be one of 80 million million kilometres.

For light (or radio waves) to travel the distance from Alpha Centauri to earth requires somewhat more than four years. The only entities that can travel at the speed of light are those which possess no mass.

However, it is obvious that if these UFO sightings reflect the existence of a spacecraft ('manned' or



A top and side view of our galaxy showing the lonely location of our own sun far out on one of the galactic spiral arms. The thickness of the bulging dish-shaped galaxy indicates the density of the stars and indicates how far we, orbiting the sun, are from the centre of the galaxy.

pilotless), it must possess some mass. Well, if a spacecraft cannot travel at the speed of light (297,000 kilometres per second), at what speed might we imagine they have travelled to us (forget the fact that once near the surface of our earth they slow down to take a leisurely look at us)?

We must first appreciate that the speed at which earthlings (our own astronauts) have travelled to the moon was approximately 40,000 kilometres per hour; it requires a speed of 160,000 kilometres per hour for our own space probes to escape the influence of our sun's gravitational

influence of our sun's gravitational pull in order to leave our solar system. As fast as this speed appears, we earthlings have, indeed, succeeded in achieving it with the unmanned space probes of the Pioneer series.

Consider, if you will, that even moving at a speed of 160,000 kilometres per hour, it would have taken these UFOs close to 30,000 years to reach us even if they originated from a planet around the nearest possible site of extraterrestrial life — a planet circling in the vicinity of Alpha Centauri!

Travel from a more distant, but

Travel from a more distant, but still 'close', solar system would have taken even longer. Certainly, if this were the case, there is at least one characteristic of these UFO visitors of which we could be sure without having set eyes on them — they are old!! And, let us not forget, if they visit us and then return home, it would necessitate their spending more than a total of 60,000 years in space travel.

However, there is no reason to suppose that they travel at this speed. Perhaps they sail towards us through space at five million kilometres per hour. Nevertheless, even racing towards us at that fantastic speed, their one-way journey from even the nearest star to us, Alpha Centauri, would still require roughly 1,000 years.

But, hold on for a moment. What about Einstein and his theory of relativity? Wouldn't this travel time be modified by so-called relativistic effects? Travel time to the space voyager is, indeed, altered when relativity comes into play.

However, a speed of five million kilometres per hour can be likened to a leisurely stroll when compared to the speed of light. It is only when the speed of a traveller (or an object) is a fair fraction of the speed of light that the time of travel becomes appreciably altered by special relativistic effects.

At five million kilometres per hour, these UFOs would be moving at less than one-half of 1 per cent of the speed of light; at this velocity,

of the speed of light; at this velocity, apparent time intervals are affected by Einstein's relativity to the tune of only a little more than one-thousandth of 1 per cent. This means that the UFOs near 1,000 years' travel time to earth at this enormous speed would be changed by less than five days.

If a one-way trip of roughly a thousand years seemed to them to be too long to undertake, relativistic effects (which we must assume they also fully understand) at a speed of travel of five million kilometres per

hour would not materially alter the duration of the voyage to the extent that they would change their minds.

In order for the apparent duration of a journey to be altered by as much as 10 per cent, special relativity demands that the UFO be speeding along at close to 450 million kilometres per hour.

The power required to be delivered by the engines of the UFO, even if it weighed a mere 1,000 kilograms on earth, to boost it to this speed over a period of a century would be in excess of 30,000 million horsepower!

Now, of course, the true 'believers' may well consider such a technological achievement within the capabilities of that extraterrestrial 'civilisation' and maintain that UFO sightings were indeed proof that visitors from another world outside our solar system have arrived and are busy inspecting our earth. Perhaps it would not alter their faith in UFOs even if no life exists around Alpha Centauri.

exists around Alpha Centauri.

And, if not near Alpha Centauri, the origin of these space travellers would be even more distant; 10 times farther away than the closest star to us? A hundred times more distant? If they come from a planet of a star 100 times more distant than is Alpha Centauri, we must lengthen all travel times, irrespective of the speed of the UFOs, by 100. At even a speed of 450 million kilometres per hour, that trip would take a little over 1,000 years; at only five million kilometres per hour, 100,000 years.

Where do scientists reckon are the most probable sites for extrater-

restrial civilisations? Certainly, where the stars (and therefore potential suns for planets) are in greatest profusion. Within our own galaxy (the Milky Way), such sites would be near the centre of the galaxy — some 300,000 million million kilometres away from us.

Now, if you are not prone to dropping zeros, you may have already calculated that a one-way travel time of more than 72,000 years would be required for a UFO to span that distance speeding along at 450 million kilometres per hour; close to eight million years, if moving at a mere five million kilometres per hour.

If 'believers' still cling to their faith; still consider it within the capabilities of some extraterrestrial civilisation to mount such an undertaking and have space travellers

taking and have space travellers endure this endless journey; and still maintain that UFO sightings are observations of spacecraft that have made such a voyage, then let us return to our basic premise — that these civilisations must be far more intelligent than we are.

Now, if this is so, would someone please explain why these space travellers endure such a journey and never appear to disturb us; never seem to step out of their vehicles to make a closer inspection; and hide themselves from us to the extent that we must constantly be unsure as to their existence? Certainly, being so highly intelligent and technologically advanced, they have nothing to fear from mere earthlings should they openly introduce themselves to us.

And, it would be of enormous service to the 'disbelievers' if anyone could possibly explain why these highly intelligent beings choose to visit us. Being so intelligent, they certainly must know that the chances of finding life outside their own solar system would be immeasurably enhanced if they roamed about near the centre of our galaxy rather than endure one or more endless journeys to a planet such as our earth — a planet revolving about a lonely star in our galaxy that is some 300,000 million million kilometres away from that galactic centre. And any intelligent beings would select the galactic centre as the most promising for reconnaissance of other civilisations.

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One could certainly excuse any respectable disbeliever who wonders, "How can these 'beings' be so extremely intelligent and yet exhibit such profound stupidity at one and the same time?"

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Footnote: The nearest star to earth is Proxima Centauri which, with Alpha Centauri, makes up a triple system. But the nearest visible star to earth is Alpha Centauri.

**Professor Bolotin is professor of physics at the University of Melbourne.*