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LIGHTS IN THE SKY

Ken Tapping, 10th July, 2018

One night, some years ago I had a phone call from a rather worried-sounding man. He lived a few kilometres to the north of where I live. He said that his children had come into the house excitedly reporting that there were three disc-shaped objects circling over Giant's Head, an extinct volcano to the south of his home. He was understandably sceptical but went out to see, and said there *were* three discs up there, doing exactly what his children said. Giant's Head lies to my north, so I said I would go outside to look for myself, from the other side of the mountain. There were the three discs, circling in the sky. However, from my side of the mountain I could see what he and his children could not. A local car dealership had three searchlights pointing into the northern sky, and waving them around, and there was a very thin layer of high, icy cloud, an ideal movie screen.

Every year we get reports of "lights in the sky". People see something unusual in the sky and report it, and then we try to work out what it might have been. Sometimes we succeed, and often we don't. Although alien spacecraft cannot be totally ruled out, the main cause of the unresolved reports is not enough information, with the added issue of weeks or months being allowed to pass before making that report. Here are some suggestions.

What does it look like: size, brightness and colour? Note that a bright, starlike object, such as a bright planet like Venus, Jupiter or occasionally Mars, can look bigger in the sky than it really is. Where is it in the sky? If you know your constellations, sketch its position with respect to at least three identified bright stars. Otherwise give the position as a compass bearing and elevation (angle above the horizon); for example, Southwest, 30 degrees elevation. To estimate angles, use your hand at arm's length. Hold your thumb and little finger as far apart as you can get them. From thumbtip to fingertip spans about 25 degrees. The tip of your index finger to the tip of your little finger is around 15 degrees. The width of a clenched fist is about

10 degrees. Three middle fingers together span around 5 degrees, and the width of your little finger is roughly one degree. "Guesstimates" made by eye are usually useless. Note the time and date.

Is it moving? In what direction? How fast? Use the hand angle technique and a watch. Is it moving on a fixed course? Manmade satellites cross the sky at about the same speed, or slower than high-altitude airliners. Unless it has to be otherwise, satellites are generally launched eastwards to pick up a free 1000 km/h from the Earth's rotation, so we see them crossing the sky in a very roughly west-east direction. Some satellites are launched into polar or near-polar orbits, crossing the sky in a roughly north-south direction. If it seems not to be moving, note where it is with respect to a flagpole, chimney, tree or some other reference feature and check again an hour later, from the same location. If it has moved a bit to the west it is probably a celestial object, like a star or planet.

The Earth is orbited by a large number of satellites with highly reflective antennas. These can catch the sunlight and reflect it in your direction. You will see something slowly moving across the sky, brightening until it is unbelievably bright, and then fading away to invisibility after a few seconds.

If you see something odd in the sky, check all the things listed here, plus anything else you notice, and write it down as soon as possible. Record the accurate time and date. Without this, nothing much can be done with your observation. Finally, report it promptly. Then your information can be combined with any other reports, with a higher chance we will be able to find out what you saw.

After dark, Venus lies low in the west, Jupiter in the Southwest and Saturn in the Southeast. Mars, bright and red, rises about 11pm. The Moon will be New on the 12th.

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