Chapter 2

Invasion of the Townies

Introduction

> Skyglow is denying people the opportunity to see the glory of a starry night, which is part of our environment and heritage. When people go to the countryside they are usually blown away by seeing the night sky for the first time.
>
> Graham Bryant, Commission for Dark Skies

The recent upsurge in people's interest in astronomy has meant nationwide publicity about the creation of dark sky places where stars are protected and stargazers are catered to. See, for example, the information and video on www.breconbeacons.org/stargazing. Increasing numbers of hopeful aurora watchers book northbound cruises; eclipse chasers travel halfway around the world to see the Sun disappear behind the Moon. People worldwide now participate online in projects such as Galaxy Zoo, planethunters.org and seti@home, using their computers to classify galaxies, and search for extrasolar planets and signs of extraterrestrial life.

The phenomenon of astro-tourism is the principal subject of this book. The wonders of the universe are in books and magazines and on screens. Ever-improving CGI techniques now make us all astronauts moving through space, exploring planetary surfaces and weaving through the debris of a collision between a space station and a rogue satellite. Little wonder that so many of us are inspired to see the cosmos for ourselves. Safaris beneath the stars are a growing reality. We want to relate to the universe directly, not just see the pictures.

B. Mizon, *Finding a Million-Star Hotel*, The Patrick Moore Practical Astronomy Series,
DOI 10.1007/978-3-319-33855-2_2

One Small Step: And Many More

Any primary school teacher will tell you that there are two things in the early science curriculum that modern seven-year-olds can't get enough of: dinosaurs and outer space, both of them remote, magical, vast, tempting with the twin lures of the totally unattainable and the visually splendid. Such fascinations linger on in most of us.

Many well-publicized space events have happened in recent years, spurring our interest. After the Apollo lunar missions had us on the edges of our seats during the late '60s and early '70s, there was perhaps a 'lull after the storm': Not easy to follow that.

What managed to follow was the launch in 1990 of the Hubble Space Telescope, and its later performance in orbit. The HST captured the public imagination. The fact that its optics needed a 'fix' in 1993, with astronauts adding new optical components—'spectacles for the HST'—made the mission even more interesting. The vast Internet photo gallery of this wonder telescope expanded, and records huge numbers of 'hits.' One of the best known images in the world must be that of the iconic Pillars of Creation (1995), the 20-trillion-mile high dust towers of the Eagle Nebula, followed by a second, more detailed image dated 2015 (Fig. 2.1).

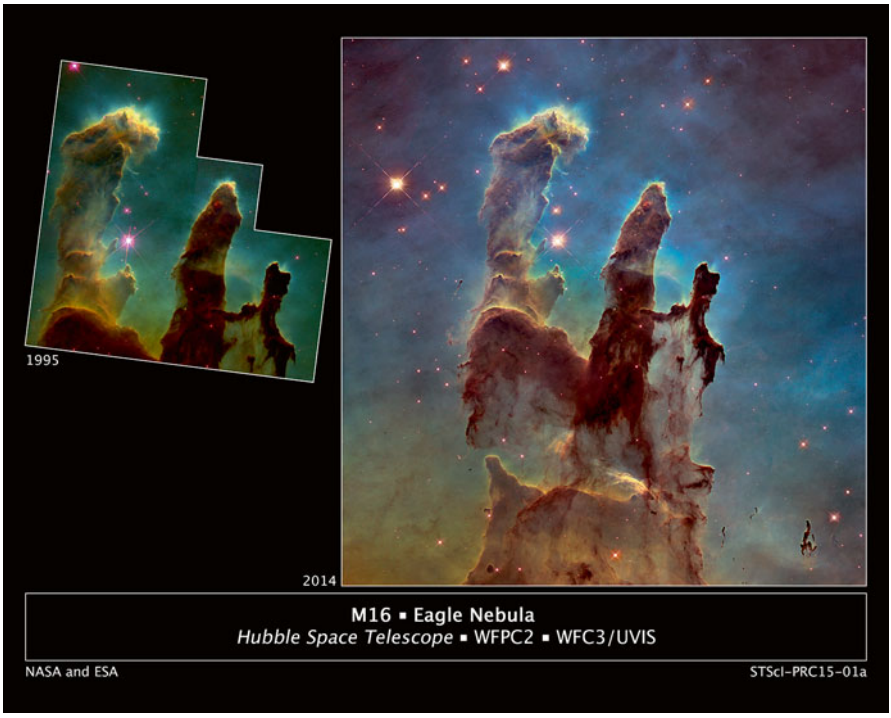

Fig. 2.1 The Pillars of Creation, in the Eagle Nebula. (Photo: NASA/ESA/Hubble Heritage Team (STScI/AURA)/J. Hester, P. Scowen, Arizona State University)

A memorable event, still talked about by non-astronomers, even though they often confuse its name with another of its famous celestial sisters, was Comet Hale-Bopp (not Halley-Bopp). This comet (Fig. 2.2) was bright and easily observable, even from cities, for over a year in the late 1990s, and was estimated to be about a thousand times brighter than Halley's Comet on its 1985-86 visit. Discovered by Alan Hale and Thomas Bopp in 1993, the brilliant comet had been curving towards us through space for thousands of years after passing through the deep-freeze of the remote Solar System. Its previous pass of Earth had been around 4,200 years ago. A possible record of this event exists in the darkness of an ancient Egyptian tomb, that of the pharaoh Pepi I (2332–2283 BC). In his pyramid at Saqqara is a text referring to a 'long-hair-star.'

The first landing on an asteroid (Eros) and the first tourist in space (American businessman Dennis Tito) made the news in 2001, and the Spirit and Opportunity Mars rovers were headliners in 2004. The landing of the Huygens probe on Titan in 2005 and the seemingly endless stream of Saturn images from its companion craft Cassini were viewed across the world. In 2015, we marveled at the amazing Rosetta mission, a hot topic in all media, dropping a probe on a comet called Churyumov-Gerasimenko (Fig. 2.3). Newscasters often referred to Comet Churyumov-Gerasimenko by its serial number, 67P, for obvious reasons.

The pinpoint engineering triumph that was the New Horizons Pluto mission, with the spacecraft sweeping in summer 2015 through the Plutonian system after nine years of hurtling past the planets, again focussed public interest in what lies out there (Fig. 2.4).

Eclipses make the news nowadays, and also make work for travel companies. On the morning of March 20, 2015, the Moon's shadow passed near the British Isles. Thousands left workplaces and schools to observe the Sun (through proper eclipse viewers, of course) as a thin crescent in the sky. More adventurous enthusiasts had boarded ships or flown to the Faroe Islands or Spitsbergen (Svalbard) to see the Sun totally hidden by the Moon.

A total lunar eclipse of September 28, 2015, was seen across most of the United States, and the total solar eclipse of August 21, 2017, will attract observers from all over the world to the track of the Moon's shadow as it crosses the continental United States from Oregon to South Carolina. A later chapter will explore this event in detail, and look forward to other solar eclipses up to and including the next major European eclipse in 2026, when the track of totality will pass across the Atlantic from Greenland, shaving the western coast of Iceland and making landfall in northern Spain.

So, with all this recent inspiration, we can understand why the starry sky, and the phenomena created by the Moon and our daystar the Sun, are pulling in more viewers.

Fig. 2.2 Comet Hale-Bopp graces the sky in 1997. (Photo: Peter Carson)

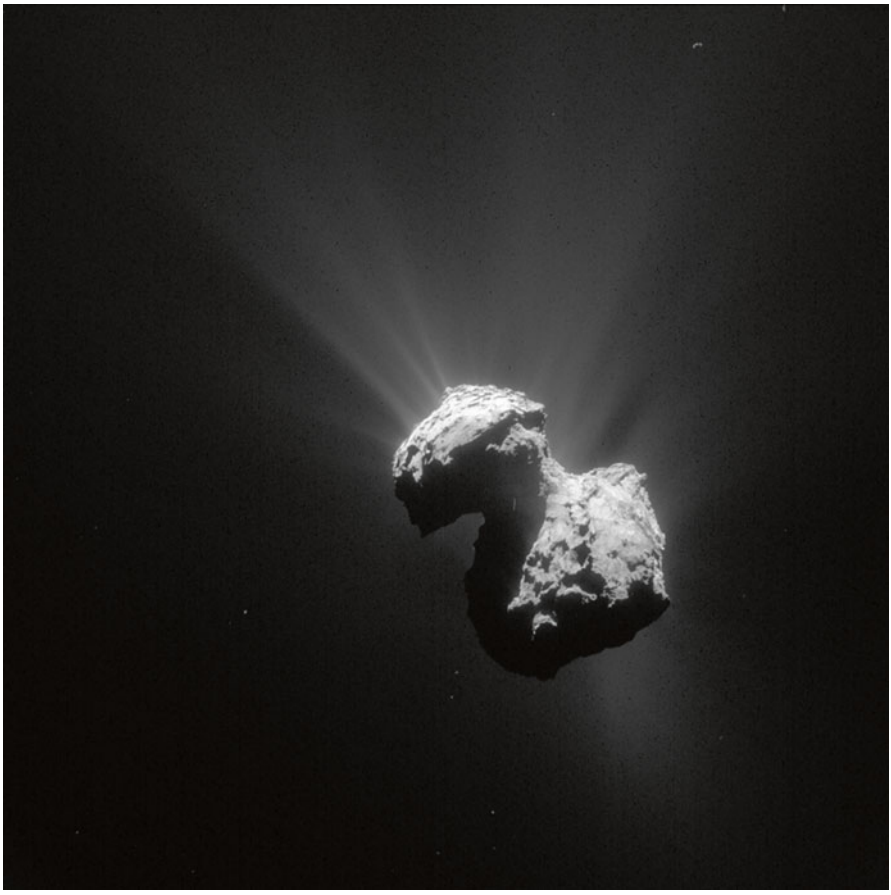

Fig. 2.3 Comet 67P/Churyumov-Gerasimenko. (Photo: ESA/Rosetta NAVCAM)

"Visit Our Stars"

There are hundreds of websites on the subject of stargazing holidays. There are long lists of Dark Sky Communities, Parks and Reserves; Dark Sky Discovery sites (DSD is a UK network of organizations promoting astronomy and the environment). There are mentions of nighttime hikes and astronomy 'adventures'; festivals focusing on the mythology and science of the constellations and planets; 'sky-friendly' rural hotels and guest houses; campsites with telescopes and visiting astronomers; public-access observatories. All are inviting people to share their starry skies.

Local administrations' tourist offices and websites invite visitors to come stargazing, and publicize their dark-skies efforts. Here are some examples.

Fig. 2.4 Pluto from New Horizons. (Photo: NASA/Johns Hopkins University Applied Physics Laboratory/Southwest Research Institute)

From the Orange County (North Carolina) site, Recreations section:

> Stargazing at Little River: Volunteers from Morehead Planetarium will bring high-powered telescopes and give a tour of the night sky. Bring a blanket, camp chairs, your own telescope or binoculars.

From Sustainable Lighting Strategy for Edinburgh (City Council of Edinburgh, capital of Scotland):

> (Paragraph 1.2) Protecting darkness and dark skies is also important. The mission of the International Dark-Sky Association (IDA) is to preserve and protect the night-time environment and our heritage of dark skies through environmentally responsible outdoor lighting. Global initiatives like Earth Hour raise awareness of the effects of consumption. Adopting a lighting strategy can assist in coordinating and helping to reduce the impact of lighting, protecting the contrasts created by the atmospheric character of the city.

Even big cities can try to bring more stars to their nightscapes. One holiday company's website listed thirty-two rural places to stay, across the UK, which mention their good night skies, with some providing specialized facilities for astronomers. Given the pages and pages of websites that come up for "stargazing holidays" alone, there must be many hundreds of such places on what Bill Bryson calls our 'small island',[1] and far more across the greater expanse of the United States and elsewhere. Chapter 3 explores a selection of dark sky destinations in the UK and in the United States.

[1] Eleven U.S. states are larger than the United Kingdom. The UK is a little smaller than Oregon, and slightly larger than Wyoming. A fun way to compare the two countries is to drag the UK around the United States on www.sarmonster.net/UK.htm.

What astronomy experiences may be on offer at a dark sky destination? What range of facilities can you expect? Has your destination a lighting strategy to ensure good viewing? Is there anything else to do if the weather doesn't cooperate? If a dark observing site has no overnight accommodation, will there be some nearby? An excellent example of an informative dark sky brochure, addressing the above considerations, is to be found at www.beacons-npa.gov.uk. The Brecon Beacons National Park's *Dark Skies Guide* leaflet defines its status as Wales's first IDA Dark Sky Reserve, shows photos of dark skies, star trails and the aurora taken from the park, and has maps of the best locations within the reserve. Also, it features basic seasonal constellation charts and notes on the depredations of light pollution. Lastly, to add a little spice, it has a list of "Did You Know…" astro facts, i.e. did you know that we're moving through space at 67,000 miles an hour? Perfect publicity (Fig. 2.5). You don't have to search for long for what you need to know for your stargazing sortie.

Fig. 2.5 Dark sky literature issued by the Brecon Beacons National Park. (Photo: Bob Mizon)

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