

PART 3

You are going to read an article about light pollution. Choose from the paragraphs (A-I) the one which fits each gap (14-20). There is one extra paragraph which you do not need to use. There is an example at the beginning (0).

The Death of the Night

Gaze up on a winter night and you'll see a bright orange glow instead of stars. Will it ever get dark again?

Electric lighting - the thrilling glow of a city at night - has been a symbol of civilisation ever since Thomas Edison first illuminated the streets of New York in 1883.

0 E

Another 100,000 are being put up each year. As satellite photographs show, the rest of the world shares our enthusiasm for keeping the darkness under control.

14

It is caused by streetlights shining wastefully into the sky and their light being scattered by pollution in the air. On the ground, too, millions of people are troubled by what is now known as "light trespass". According to a report released last year, four out of five local councils have received complaints from residents about lights from neighbouring houses or businesses shining into their homes.

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When dozens of airstrip lights were destroyed in North Shore, Alaska, tracks showed that bears had knocked them out one by one. Of equal concern is the fact that light pollution destroys our sight of the wider universe.

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One result of this blocking of the light from distant sources is that astronomers are being forced to move out of cities.

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Unlike Greenwich, the University of London Observatory at Mill Hill Park, has stayed put, but hasn't found it easy. The director, Derek McNally, says: "There are clearly a lot of things we know it is no longer possible to look at."

The authorities of San Diego responded to a similar problem in the 1980's by converting their streetlights to the low-pressure sodium type, saving \$3 million a year in the process.

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Unfortunately, San Diegans were not. They complained that the monochrome yellow light was eerie. Businesses said advertisements didn't look right and car salespeople complained that the lights made all their vehicles look the same.

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The white light they produce is impossible to filter, and astronomers were far from pleased. Such conflicts have been avoided in the UK, and attempts are being made to reduce light pollution by controlling the type and quality of lighting equipment that is being installed.

But the problem is still a real one. We are missing out on one of the most impressive spectacles in nature.

20

But astronomers are confident they can see the dark at the end of the tunnel. "I'm hopeful that in ten years' time people in the suburbs - if not the cities - should get the Milky Way back," says McNally.

A

And it's not just humans who have cause for complaint. Many animals are seriously confused by the amount of light there is at night. Loggerhead sea turtles have given up their nesting areas on illuminated beaches along the Florida coast. In other places, nocturnal animals have stopped looking for food. Polar bears get so upset by artificial light sources they have been known to attack them.

B

The beautiful and constantly evolving saga of the night sky remains a total blank for the vast majority of people. It is a discomfiting thought that an illiterate Klahari tribesman has a great deal more first-hand knowledge of the cosmos than an avid reader of books about the Big Bang.

C

Few of today's city dwellers have ever made out the Milky Way above their heads, let alone the ghostly glow of the "zodiacal light", a cone of light that appears before sunrise and after sunset. Light travelling towards us for billions of years is being swallowed up on arrival in our skies by streetlighting, floodlit golf courses and glowing neon advertisements.

D

Not all the complaints were commercially motivated either. Policemen said they couldn't tell what colour their suspects were. As a result the city council voted to replace the yellow lights with white ones in areas of high crime.

E

Since then, people have been using increasing amounts of electric light to defy the darkness and turn night into day. In the UK alone there are at least seven and a half million streetlamps.

F

The yellow sodium light takes up just two narrow bands of the electromagnetic spectrum. This makes it easy for astronomers to filter out, leaving the rest of the spectrum free. This seemed to be the ideal solution, and the astronomers were pleased.

G

They also say that so much light is bad for our eyes. It seems that exposure to total darkness is necessary to maintain the health of the eyes, and that we are not getting enough of it. But there are solutions to the problem.

H

As far back as 1910 astronomers complained that their view of Halley's Comet was being limited by electric lighting. As the problem grew through the century, the Royal Greenwich Observatory's optical telescopes were moved to Sussex. When lighting followed them there in the 1980's they were moved to the safety of the Canary Islands.

I

From Ahmadabad to Vladivostok, night lighting reduces accidents, deters crime, and eases our ancestral fears of creatures of the darkness. But this security has a hidden cost: the growing problem of light pollution. An orange glow hangs over cities across the world.