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Light Pollution

Responses and Remedies

Second Edition

Bob Mizon

 Springer

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Preface

In July 2003, the 11 members of the UK Parliament's Science and Technology Select Committee convened beneath the high ceiling of a gilded meeting room at the House of Commons in London. They were there to gather evidence for an enquiry into light pollution and the gradual disappearance, since the 1950s, of the night sky over much of the country. Politicians, engineers, astronomers (including the Astronomer Royal, Sir Martin Rees) and many other interested individuals gave evidence.

A now prominent politician, at that time a junior education minister, concluded during his evidence that "if we cannot give young people access to the night sky because of where they live, we have to find other ways of giving them practical engagement with the subject" – by, he said, buying Internet time on telescopes abroad! The committee, in their report, expressed surprise "that the Minister... did not see the irony of his own words. Schools are now obliged to buy time to enable their pupils to view stars in the southern hemisphere, when the UK's own night skies should be there for all to view for free."

We require our children to appreciate "the wider universe" in the school curriculum, but the vast majority of them see very little of their universe because of the pall of wasted light that hangs over every city – and many villages and rural spaces – in our increasingly urbanized world.

Thousands of stars should be visible to the unaided human eye from a dark place, but it is becoming increasingly difficult to find such places. There are sites in modern town centers where nothing outside the Solar System is ever seen in the sky.

Wherever you are in the developed world, whether it's in your back garden or a well-equipped professional observatory, it is increasingly likely that the night sky will be tainted, degraded by wasted light. The second half of the twentieth century saw the gradual disappearance of the starry sky over large tracts of our planet.

Together with radio interference, space debris and aircraft contrails, light pollution contributes to the increasing barrier between the human race and its cradle, the cosmos. We are all made of star-stuff, nearly every atom in our bodies having been created in some distant and probably long-dead star, some explosive event whose reverberations have long since dissipated. Whatever is left of our material selves, when our planet finally sears in what Bertrand Russell called "the vast death of the Solar System," will be redistributed and recycled into the cosmic depths that we can no longer, in the twenty-first century, properly see and appreciate.

Robert Macfarlane told of both the value and the loss of the heavens in his book *The Wild Places*¹:

On a cloudless night, looking upwards, you experience a sudden flipped vertigo, the sensation that your feet might latch off from the earth and that you might plummet upwards into space. Star-gazing gives us access to orders of events, and scales of time and space, which are beyond our capacity to imagine: it is unsurprising that dreams of humility and reverence have been directed towards the moon and the stars for as long as human culture has recorded itself.

Our disenchantment of the night through artificial lighting may appear, if it is noticed at all, as a regrettable but eventually trivial side-effect of contemporary life. That winter hour, though, up on the summit ridge with the stars falling plainly far above, it seemed to me that our estrangement from the dark was a great and serious loss.

Light Pollution: Responses and Remedies is not a 'science book' in the usual sense. It is in the Practical Astronomy series because it concerns itself with the night sky and because it offers a selection of objects that may be studied in moderately light-polluted skies; but it is hoped that its contents may point to courses of action that astronomers and friends of the environment, be they ardent campaigners (Fig. 1) or mildly concerned individuals, can follow in order to contribute to the alleviation and eventual solution of the skyglow problem, and of the many other problems caused by wasted light.

This book deals with human perceptions as much as with the discipline of astronomy; with our aspirations and needs as well as with our technical achievements. It explores one of the saddest paradoxes of modern life: the fact that our developing technology can provide us with stunning images of the near and far universe, and at the same time blind our eyes to the stars above.

Wimborne, UK

Bob Mizon

¹Robert Macfarlane: *The Wild Places*, Granta Publications, 2007 (ISBN 978-1-86207-941-0).



Fig. 1 Dark-sky campaigners from around the world meet at Genk, Belgium, 2005 (Photo: Friedel Pas)

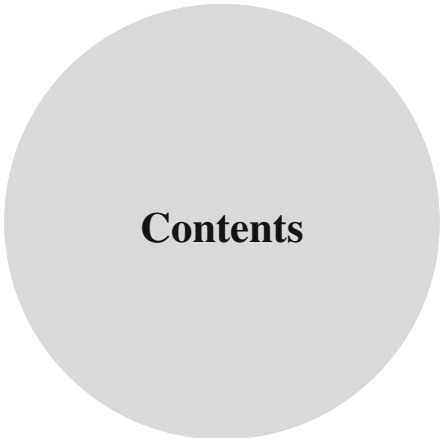


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Photographs

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