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Light and color in the open air: introduction by the feature editor

James A. Lock

A number of years ago Marcel Minnaert wrote a book¹ that attempted to express the joy that he experienced in observing and understanding optical phenomena in the natural world around him.^{2,3} This collection of papers, which takes its name from Minnaert's book, is an attempt on the part of the authors similarly to express the joy that they experience in observing and understanding nature. This collection grew out of the talks presented at the topical meeting Light and Color in the Open Air, held in Washington, D.C., on 11–13 July, 1990.⁴ In this technological age, the analysis of naked eye optical phenomena is a largely neglected field of research. But it is also a rich and challenging field, as evidenced by the enthusiasm of the 48 attendees from 6 countries at the topical meeting and from the high quality and wide variety of the 30 talks presented there. It was the point of view of the attendees and presenters alike that not only does the analysis of naked eye optical phenomena represent good physics but also observing and enjoying the beauty of the natural world enriches our lives.

It is quite fitting that this collection of papers appear

in *Applied Optics*, because these papers represent the application of optics in the large sense—to a wide range of fields of human endeavor including physics, meteorology, biology, psychology, and art. It has been said that the true expression of science is not to be found in the performing of experiments or in the carrying out of calculations. Rather, it is to be found in the understanding of nature that one derives from those experiments and calculations. The authors sincerely hope that they have communicated this understanding to the readership of *Applied Optics*.

References

1. M. Minnaert, *Light and Color in the Open Air* (Dover, New York, 1954).
2. M. Minnaert, "Unusual or neglected optical phenomena in the landscape," *J. Opt. Soc. Am.* **58**, 297–303 (1968).
3. W. C. Livingston, "Marcel Minnaert and optics in nature," *Appl. Opt.* **19**, 648–649 (1980).
4. Three similar collections of papers associated with topical meetings on atmospheric optics have been published. These are *J. Opt. Soc. Am.* **69**, 1051–1198 (1979); **73**, 1622–1664 (1983); *J. Opt. Soc. Am. A* **4**, 558–620 (1987).

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