attest. Victorian custom may have kept many women out of the labor force, may have disenfranchised them, but they were still active outside the home, involved in important public matters.

The editor established four goals for this collection: to "provide a better understanding of the impact of pollution on industrial cities . . . establish the foundation for more comprehensive and speculative historical studies of the urban environment, broaden the study of American environmental history to afford more attention to the cities and urban life, and provide essential background for those individuals grappling with current environmental problems." The collection convincingly accomplishes all four goals, but I am disappointed that the sights weren't set higher, that the essays in the second section weren't more speculative, more analytical.

Although some of the essays end on rather negative notes (for example, the New York Noise Abatement Commission disbanded in 1932 without having a significant impact on noise pollution), the book's underlying message is positive. The response to pollution in the Progressive Era was swift and often successful, especially where public health was involved. Whatever else, the reformers successfully heightened public awareness. Our cities are far more livable today than would have been the case had the public consciousness not been piqued a century ago.

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Double Stars

Close Binary Stars. Observations and Interpretation. Papers from a symposium, Toronto, Aug. 1979. MIREK J. PLAVEC, DANIEL M. POPPER, and ROGER K. ULRICH, Eds. Reidel, Boston, 1980 (distributor, Kluwer Boston, Hingham, Mass.). xx, 598 pp., illus. Cloth, $68.50; paper, $31.50. International Astronomical Union Symposium No. 88.

This large volume of symposium proceedings contains 104 papers ordered in ten major subject categories. It is clearly not possible to do justice to all of the research on binary stars in one meeting or one book, and the volume does not adequately cover work on cataclysmic variables, x-ray results from the Einstein Observatory, or SS433. It does contain a good representation of current trends in sections on Algols, revisited (again!) with definitive data on masses, and on accretion and mass-loss mechanisms. Sections on "theory," mainly concerning evolution and mass exchange, and on RS Canum Venaticorum stars also seem to me to be particularly worthwhile.

Only 31 of the contributions can be read as complete papers. The rest are generally brief summaries of work in progress or to be published elsewhere and are not really useful without further reading.

The "theory" section contains many new ideas and shows that theoreticians are seriously attempting to come to grips with the observations. This is perhaps a result of the present state of maturity of both theory and observation. Many specific evolutionary scenarios are dealt with in this section, and models of mass transfer and accretion phenomena are dealt with throughout the book. These are clearly the outstanding topics of interest in binary star research today.

The section on RS Canum Venaticorum stars is also stimulating—again perhaps because ideas about star spot models and data are ready for critical comparison. The study of these stars is still in the stage of rapid data accumulation, from x-ray, radio, and high-quality optical observations, and we should expect more exciting developments over the next few years.

A section on contact binaries is somewhat dull by comparison but contains an excellent overview of theory by Shu and a discussion of some exciting new data possibilities by Anderson *et al.* The cataclysmic variables clearly suffer from the proximity in time of IAU colloquium 53, on white dwarfs and variable degenerate stars, but I found the two papers on this subject by Mitrofanov stimulating reading. Other sections tend to be filled with short papers of limited interest, but there are some highlights: good discussions of polarimetric measurements by McLean, Aspin *et al.*, and Simmons *et al.*, of Wolf-Rayet star light-curve analysis by Smith and Theokas, and of Wolf-Rayet star evolution by Vanbeveren and de Loore. Both Andersen *et al.* and Kitamura present sound ideas about fundamental research on binary stars for the 1980's, and Plavec presents his exciting International Ultraviolet Explorer data on a new class of mass-transfer systems, W Serpentis stars. Finally, there are a good brief overview of x-ray binaries by Crampton, an interesting presentation on the symbiotic AG Pegasi by Keyes and Plavec, and an interesting discussion of binaries in globular clusters by Webbink.

The editors are to be thanked for the useful subject and star indexes at the back. The book is reproduced from typescript, and typing errors are fairly numerous; my favorite is the "monotoneous" function on p. 77.

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Vulpes vulpes

The Red Fox. Symposium on Behaviour and Ecology. Saarbrücken, Germany, Jan. 1979. ERIK ZIMEN, Ed. Junk, The Hague, 1980 (U.S. distributor, Kluwer Boston, Hingham, Mass.). vi, 286 pp., illus. $73.50. Biogeographica, vol. 18.

Red fox populations in Europe have increased an estimated two- to fourfold since the beginning of this century. The causal factor seems to be primarily a reduction in hunting accompanied by changing land-use practices. The population increase has been most noticeable since World War II and has been paralleled by repeated epidemics of sylvatic rabies. From 1972 through 1976 in 11 Central European countries 63,672 cases of rabies in animals were reported, 82 percent of them being in wildlife. Red foxes accounted for almost 75 percent of all wildlife cases. Studies of rabies epidemiology indicate that only foxes maintain the chain of infection.

Because of the magnitude of the fox-rabies problem, the World Health Organization and the U.N. Food and Agriculture Organization have supported and coordinated a research program on wildlife rabies in Europe for the past ten years. Emphasis has been placed on understanding the epidemiology of rabies, especially as influenced by population ecology and behavior of foxes. It is accounts of these studies on population ecology and behavior that constitute the most interesting sections of this symposium volume.

In addition to an introduction and concluding remarks the book contains a chapter on habitat requirements, one on distribution and history of the fox in Europe, three on food habits, three on population dynamics and ecology, four on behavior, two on relations with other species, and four on rabies. The authors include some of the leading fox researchers in Europe. The chapters on social behavior and population regulation alone make the book worthwhile. MacDonald's behavioral studies represent truly