The Symbiotic Phenomenon

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The subject of stars showing the symbiotic phenomenon has now reached a certain level of maturity, following observations at different wavelength ranges from X-rays to the radio, as well as recent theoretical developments. Nearly all specialists now agree that they are interacting binaries with a cool giant and a more compact companion. The latter is now thought to accrete material from the giant via Roche lobe overflow or from its wind. This compact component appears to be either a main sequence star or a white dwarf or perhaps, in some cases, a neutron star. Many different physical processes need however to be invoked including the formation of an accretion disk, thermonuclear shell flashes of the white dwarf, the acceleration of cool giant winds and the properties of the chromospheres of cool giants. The subject is therefore far from closed and much exciting work can be done.

The book contains the proceedings of the first international meeting on the subject since 1981. After an introduction to the observations, physical models are described. The latter are then confronted with observations of individual stars, while at the end the evolution of symbiotic stars and the properties of related objects are discussed, before the conclusions of the meeting are drawn.

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