

Part VII

Late Phases of Stellar Evolution

The more advanced the evolution of stars is, the less it is possible to treat it with simple models or even analytic descriptions. Instead, numerical calculations are the only way to follow the evolution. Therefore, in the following chapters, we will rely almost solely, with a few exceptions, on results from models produced in the computer. At the same time, the complications from poorly known physics are becoming more and more important. This is in particular true for the treatment of convection and of mass loss, not to speak of the influence of rotation and additional mixing mechanisms. Unfortunately, the late evolution of stars depend a lot on exactly these physical effects. The following chapters therefore give an overview of our current understanding of stellar evolution after the core helium-burning phase. It is very likely that this will change—hopefully improve—in the future.