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In Volume 2 of *Introduction to Stellar Astrophysics* we will discuss the internal structure and the evolution of stars. Many astronomers feel that stellar structure and evolution is now completely understood and that further studies will not contribute essential knowledge. It is felt that much more is to be gained by the study of extragalactic objects, particularly the study of cosmology. So why write this series of textbooks on stellar astrophysics?

We would like to emphasize that 97 per cent of the hydrogen matter in our Galaxy and in most other galaxies is in stars. Unless we understand thoroughly the light emission of the stars, we will not understand their contribution to the observed light from the galaxies. We cannot correctly interpret the light we receive from external galaxies. Without this knowledge our cosmological deductions will be without a solid foundation and might well be wrong. The ages currently derived for globular clusters are larger than the age of the universe derived from cosmological expansion. Which is wrong, the Hubble constant or the ages of the globular clusters? We only want to point out that there are still open problems which might well indicate that we are still missing some important physical processes in our stellar evolution theory. It is important to emphasize these problems so that we keep thinking about them instead of ignoring them. We might waste a lot of effort and money if we build a cosmological structure on uncertain foundations.

The light we receive from external galaxies has contributions from stars of all ages and masses and possibly very different chemical abundances. We need to study and understand all these different kinds of stars if we want to understand external galaxies.

We feel that we need a short and comprehensive summary of our knowledge about stellar evolution. Much new insight has been gained in the past few decades. In addition, we want to point out that there are still many interesting open questions in the field of stellar structure and