

Preface

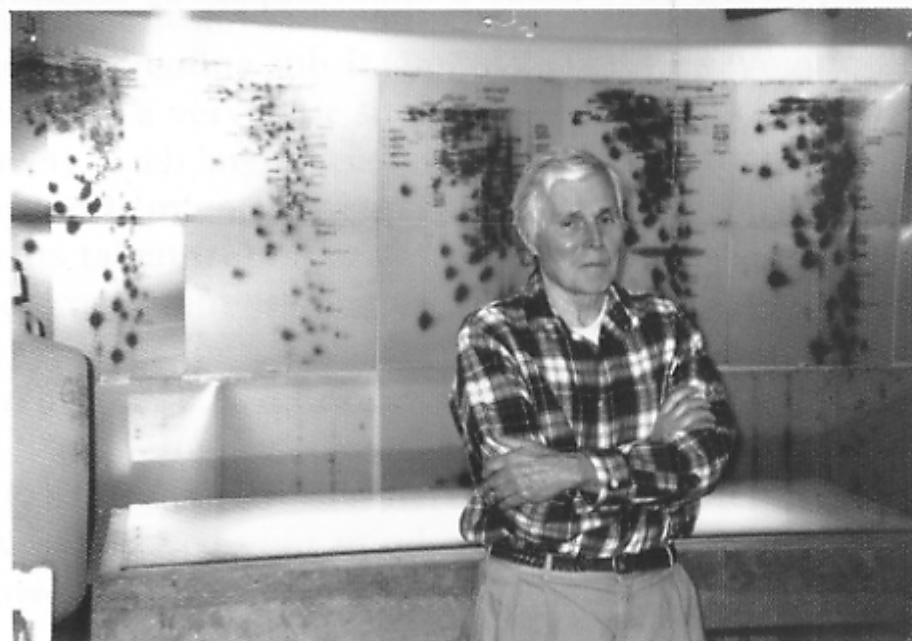
The inspiration for this book came from an international meeting in Hohenkammer Castle, near Munich, entitled "Archaea – The First Generation" held on the 2–4 June 2005. It followed on from earlier Meetings in the Munich area, the first of which, on "Archaeobacteria", was held in June 1981. The earlier meetings monitored the rapid and exciting developments which followed on from the discovery, by Carl Woese and colleagues, of a completely new Domain of life, the Archaea, in 1977 (Photo 1). These new developments rapidly attracted a broad range of microbiologists, molecular biologists, chemists, geologists and paleontologists who created a very stimulating and creative research environment and community.

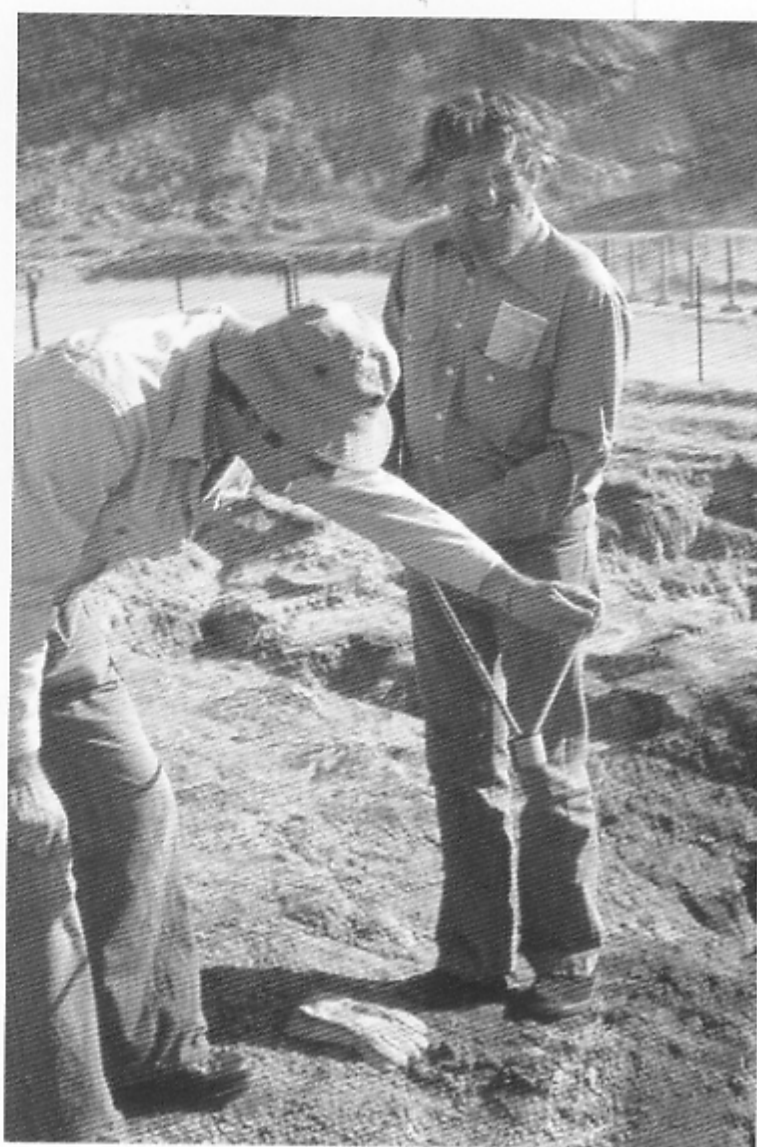
As described in Chapter 1, many of the early results, and ensuing hypotheses, met with a great deal of skepticism from the well established and con-

servative, bacterial and eukaryotic research communities. By 1990, however, the experimental evidence in support of a third Domain was overwhelming and has been strengthened regularly since, especially through analyses of whole genome sequences.

The purpose of the book was to provide a useful reference work for introducing younger scientists, and newcomers, to archaeal research, as well as for researchers who are more established in the field. Some of the chapters provide reviews of the more mature research areas, while newly emerging fields are covered by shorter, more specialized, chapters. Given the rapid developments over the past few years, we could not do justice to all of archaeal research in one book. What we have done is to provide a broad coverage of the research emphasizing the more important and exciting developments that are taking place.

Photo 1 Carl R. Woese in front of Sanger oligonucleotide patterns from archaeal 16S rRNA taped to a back-lit translucent wall. Source: Dave Graham (Univ. of Texas).





Photos 2 and 3 Wolfram Zillig and Karl O. Stetter on hyperthermophile sampling trips in Naples, Italy (1978) and on Iceland (1980): Source: K.O. Stetter.

One of the purposes of the recent meeting was to celebrate two distinguished pioneers of Archaea research. Wolfram Zillig who spent most of his working life at the Max-Planck-Institute for Biochemistry in Martinsried, Germany, and Karl O. Stetter who worked until recently at the University of Regensburg, Germany. They are shown together in Italy on one of many sampling trips in photos 2 and 3. Both have made a major impact by isolating

and characterizing many novel archaeal species and Wolfram Zillig has also pioneered the study of archaeal viruses and plasmids. Their influence extended well beyond their own laboratories to supporting, encouraging and inspiring colleagues, and especially younger scientists, throughout the world. Unfortunately, Wolfram Zillig died of a long-term illness a few days before the Meeting.