

INTRODUCTION

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What we needed was a book stating the 'status quo' in Denmark regarding the stratigraphic knowledge of the boundary. This would hopefully act as a basis of facts at the symposium itself to keep the model-makers earthbound as they constructed variously ambitious hypotheses to explain the terminal Cretaceous events. When we issued invitations to 'the locals' for short papers summarizing their results concerning the boundary, we comforted ourselves that we might receive a grudging, 50% response from a lot of 'very busy people'. Instead, we received great enthusiasm for the project and a total response from all concerned. Furthermore, the manuscripts, far from repeating 'the old stuff' already published, were full of new material, showing that the old boundary still acts as an arena of seething research activity.

Each paper has been reviewed internally by at least two other authors. However, no attempt has been made to produce uniformity of scope, treatment or approach. Studies of very diverse assemblages, for instance, cover only the boundary layers, whereas other cases of a broader nature cover larger parts of the Maastrichtian and Danian.

Some papers, also, have their own locality maps, while others do not. We have retained the individual maps for easy reference, but have also collected all localities together onto a single map (Fig. 1), which will serve to cover the whole book.

If we were to pick out a few highlights from the following work, these would include cases where our conventional ideas are being shown to be wrong. Facies maps for the Danian, for example, indicate a gradual transgression over the Danish Basin followed by a short regression, in contrast to the usually assumed general regression. The attempt to compare all boundary sections in Denmark has clearly shown that the hiatus is smallest in northern Jylland, where both the Maastrichtian top and Danian base are most complete; this emerges nicely from foraminiferal, dinoflagellate and coccolith stratigraphy. Even the abrupt biological break is failing to stand up to close scrutiny within some animal groups. Corals and bivalves, for example, have 'Tertiary' genera in the topmost Maastrichtian. Indeed, in the bivalves it can now be shown that old taxa disappear while new ones survive, just as in normal evolutionary turnover.

We have not attempted to draw conclusions from the papers presented here; that is the business of the symposium itself. One large question is left entirely open: the positions of the boundaries of the Danian subdivisions. Each author has his lower, middle and upper Danian or lower and upper Danian, and not general acceptance has been reached over the actual placing of the boundaries. We hope that the publication of this book will play a role in stimulating discussion of this problem.

Fig. 1. Locality map. Aalborg 13; Aggersborggaard 10; Bjerre 2; Boesdal 43; Bulbjerg 3; Copenhagen (TUBA 13) 35; 'Dania' 24; 'Danmark 15; Daubjerg 27; Eerslev 9; Ellidshøj 20; Falsterbo 56; Fakse 39; Fjerritslev 11; Flødal 19, Frejlev 17; Gedser 48; Gudumholm 21; Hanstholm 1; Hasselø 47; Herlufsholm 45; Hillerslev 6; Hobro 25; Højerup 42; Höllviken 55; Horsens No. 1 32; Hov 7; Hvalløse 28; Hvide Klint 49; Hvidskud 52; Karlby Klint 30; Karlstrup 37; Kerteminde 33; Kjølby Gaard 4; Klagshamn 57; Klintholm 34; Kulsti Rende 41; Landskrona 53; Legind 8; Lellinge 38; Limhamn 54; Møns Klint 50; Nørholm 16; Nørre Uttrup 12; Nøvling No. 1 31; Nye Kløv 5; Rold 22; Rønde No. 1 29; Rørdal 14; Saltholm 13 36; Spentrup 26; Spjellerup 44; Stevns Klint 40; St. Stejlebjerg 51; Taars 46; Vive 23; Vokslev 18.

