

History of Geomorphology and Quaternary Geology

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History of Geomorphology and Quaternary Geology

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Preface

Many of [my students] will study rock strata on the banks and valleys of our rivers, in order to satisfy various economic needs.

(Roman Symonowicz. Report . . . to the Council of Vilnius University 30 April 1804)

The Baltic States – Lithuania, Latvia and Estonia – form a region that experienced substantial glaciation during the Pleistocene which left a cover of up to 160 m of glacial sediments and reached a thicknesses of up to 310 m in buried palaeovalleys. The subsequent deglaciation and development of river networks during the Holocene gave rise to the relief that we see today, producing particularly interesting geomorphological features. Given this environment, the International Commission on the History of Geological Sciences (INHIGEO) chose the theme ‘History of Quaternary Geology and Geomorphology’ for its annual conference, held in the Baltic States in 2006.

It was the first time that the Commission had met in this region of eastern Europe. The main part of the meeting took place in Vilnius – the ancient and beautiful capital of Lithuania – and was followed by a field excursion through all three Baltic States. The presentation of the papers in Vilnius and the discussions during the field excursion allowed participants to examine the geological and geomorphological phenomena of the three countries, and their relationship to human history.

The Quaternary Period is no exception to the idea that different conditions prevailed at different times in different parts of the world, leading to variations in the geological record, as was stated by Leopold von Buch in the early nineteenth century. Thus, for example, when, 16–10 ka ago, ice sheets covered northern Europe, the Tamala Limestone, containing marine fossils, was being deposited in warm shallow seas in the region of Western Australia. With the amelioration of climate following the ‘Ice Ages’, and the land elevation of Scandinavia, the present relief and river networks

of the Baltic States were formed. All round the world, rising sea levels produced changes in coastlines and estuaries.

The conference papers considered the histories of Quaternary geology and geomorphology in different parts of the world, with emphasis on the pioneers of these branches of geoscience in central and eastern Europe. It helped participants to improve their understanding of how Quaternary and land-surfaces research originated and has subsequently been developed, as well as understanding the numerous particular problems associated with Quaternary geology, compared with other parts of the stratigraphic column.

The conference also provided a valuable opportunity for participants from countries other than those of eastern Europe to get to know something of the history, geology and culture of a region that has been part of European civilization for about a thousand years. It also offered a chance for Lithuania and her sister states to open their doors to the world and display the geohistorical work that has been going on there for some considerable time, rather little noticed by outsiders.

I am convinced that the conference generated useful information on the themes discussed, which will serve it as a worthy Special Publication of the Geological Society of London, providing valuable insights into the histories of geomorphology and Quaternary geology in many parts of the world. This volume should be of value to all those interested in these two important branches of Earth science.

Let me wish this edition good fortune to survive in the Recent Era.

Algimantas Grigelis
Convener, INHIGEO Conference Vilnius 2006
1 July 2007