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PREFACE

The first six papers in this issue, by Ambach, Berger and others, Boulton and Dobbie, Hutter, Iken and Echelmeyer, and Nye, arise from presentations that were made on 23 November 1990 at the Université Pierre Fourrier in Grenoble at a colloquium held to honour Professor Lliboutry on the occasion of his retirement. Also included is the paper presented by Professor Lliboutry himself.

Professor Lliboutry's contributions to glaciology are immense. The advance of glaciology as a branch of geophysics owes much to his numerous scientific contributions. His now classic two-volume treatise in the French language *Traité de Glaciologie* (1964–1965) that derives from the Spanish precursor *Nieves y glaciares de Chile* (1956) set an early standard for scientific glaciology. His recent book *Very slow flows of solids* (1987) summarized more than 30 years of his research activities in glaciology and other branches of geophysics.

His landmark contributions in our field are undoubtedly the many papers in which he expresses his views on basal sliding, a topic that today is still a controversial issue among the glaciologists of the younger generation. The issues have now become sliding on hard beds versus sliding on soft beds; Lliboutry was the first to differentiate between sliding with and sliding without cavity formation; he saw the importance of the role that water played at the base of temperate glaciers and introduced a model for it almost 30 years ago at a time when viscous sliding without cavity formation had been developed but was still not completely understood. Lliboutry's model was ad hoc, but his later papers on this subject clarified the original idea, filled in details and defended his hard-bed sliding model. Other researchers have also contributed to the subject, all variations on the theme. Today, no one would dare to question the profoundness of the original idea, and everyone acknowledges the advancement that the concept brought to glacier dynamics.

Professor Lliboutry has also contributed in many other ways to glaciology, from mass balance of particular glaciers to visco-plasticity of wet ice, to name only two; and to French glaciology he will be remembered as the founder of the Laboratoire de Glaciologie, now the Laboratoire de Glaciologie et Géophysique de l'Environnement in Grenoble, whose director he was for many years.

K. Hutter

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