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## Preface

This book was written for the purpose of providing a review of mechanical ice drilling technology, including the design, parameters, and performance of various tools and drills for making holes in snow, firm, and ice. Drilling in glaciers began more than 170 years ago, but incredible progress in the development of ice drilling tools and devices occurred in the period of 1950–1970, when the modern vision of ice drilling technology was developed. The past 20–30 years have seen the expansion of new innovative solutions in ice drilling instrumentation. This seems to be an appropriate time to review older and more recent developments.

My first review of mechanical drilling in ice was published more than 25 years ago as a section of a textbook for students at the St. Petersburg Mining Institute (Bobin et al. 1988). At that time, scientists in the USSR worked under conditions of limited information (even scientific), and all papers regarding different aspects of ice drilling were gleaned. For example, one of the most popular journals among ice-core scientists, the “Journal of Glaciology,” was only available in one Soviet public library, the V.I. Lenin Library in Moscow. During the last decades, I had continued to collect information, which is now much easier as a result of globalization and the availability of Internet resources, and I have moved forward to gain my own experience in ice drilling. This book does not claim to be a complete review of the devices and tools used for mechanical drilling in ice; even though the reference list contains more than 500 sources, there are undoubtedly additional published or unpublished data that could still be found.

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This book is dedicated to the researchers and engineers who stood at the origin of modern ice drilling technology and sadly passed away in the recent past—B.B. Kudryashov, N. Gundestrup, A.V. Krasilev, N.E. Bobin, S. Johnsen, A.M. Shkurko, and B.S. Moiseev. I was very pleased and honored to have the opportunity to work with them and appreciated their salutiferous lessons. I selected the final line of Alfred Tennyson’s poem “Ulysses” as an

epigraph to this book because a hundred years ago it was inscribed on a cross at Observation Hill, Antarctica, to commemorate explorer Robert Scott and his party, and since that time has become a mantra for all polar explorers.

Changchun, China  
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Pavel G. Talalay

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## Reference

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