

Editor's Preface

L.A. Galin's book on contact problems is a remarkable work. Actually there are two books: the first, published in 1953 deals with contact problems in the classical theory of elasticity; this is the one that was translated into English in 1961 by Mrs. H. Moss, edited by Professor I.N. Sneddon, and published in spiral binder form by The School of Physical Sciences and Applied Mathematics at North Carolina State College. The second book, published in 1980, included the first, and then had new sections on contact problems for viscoelastic materials, and rough contact problems; this section has not previously been translated into English.

When Academician I.G. Goryacheva asked me to prepare a translation of the 1980 book, I thought that it would be a simple task: I merely had to edit the 1961 Moss translation of the 1953 book, and then get an English translation of the new part. However, when I started on the project I realised that I had to edit not only the text, but also the analysis, of both parts. The first was written in the early 1950s, and there have been many changes in style since then. Much of the analysis would be considered to be clumsy today; there were typographical errors in the 1961 translation, and there were typographical and (usually small) mathematical errors in the analysis that had not corrected from the 1953 original version. Moreover, Galin had used some results originally due to his teacher N.I. Muskhelishvili, without explaining how they were derived. Other parts of the analysis were difficult to follow, and needed supplementary material to be fully understood. The resulting book, given in the following pages, may be called a 'Ciceronian' translation: when Marcus Tullius Cicero (106–65 BC) translated a work of one of the ancient Greek scholars into Latin, he did not slavishly follow the Greek text, but inserted himself and his thoughts into the translation. This is what I have done with Galin's work: I have rearranged the order of the sections, included new explanatory parts, simplified and smoothed the analysis, omitted sections that, over the passage of time, have been found to be incorrect or unnecessary, etc. In essence I have tried to produce a version of the book that Galin could have written if he were alive today, rather than simply a translation of what he actually wrote 45 or 55 years ago.

I am grateful to Professor Goryacheva for providing draft translations of Chapter 6, and for her profile of Professor Galin.

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Contact Problems

The legacy of L.A. Galin

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