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## Preface to the English Edition

Many of us who study and teach "fluid mechanics" have come to think of it as some sort of counterpart, or alternative, to "solid mechanics." Indeed, western university curricula typically address the two subjects with specialized faculty using texts that do little to reveal their common ground. Fluid mechanics to Loitsyanskiy, as his title proclaims, springs naturally from the vast realm of mechanics itself. Thus his technique is to use, over and over again, the general formulations of mechanics as the foundation of theories describing the behaviors of fluids--viscous and inviscid, liquids and gases.

The result may be somewhat daunting to the pragmatic student of fluid mechanics, for the practical results are often achieved by Loitsyanskiy only after substantial mathematics gyrations of the most general kind. Readers should take heart, however, because if the material seems abstract there are often repeated explanations with very helpful nuances. For the fluid mechanics devotee (especially non-Russian readers, I suspect) Loitsyanskiy offers words that are exquisitely chosen; and many new ways of looking at the wonderful world of fluids are waiting for those who persevere. As one of many examples, I recall how airfoil theory is almost completely expounded by Loitsyanskiy without even defining the famous Joukowski transformation.

As the editor of the translation, I must compliment the translators whose work makes it clear that they have been alert to the significance of the document and the danger of losing even the smallest part of its "personality" in translation. I, also, have done my best not to interfere. Occasionally, I have even left some "fuzzy" passages in their as translated form for fear of losing the beauty of the narrative for the sake of technical precision. In these instances, readers will have to reach their own conclusions.

To be asked to edit the English translation of *Mechanics of Liquids and Gases* was, to me, like being invited to a private viewing prior to the unveiling of a great masterpiece. *The Mechanics of Liquids and Gases* is huge--in coverage and in quality--and its availability in English is a great new learning opportunity.

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