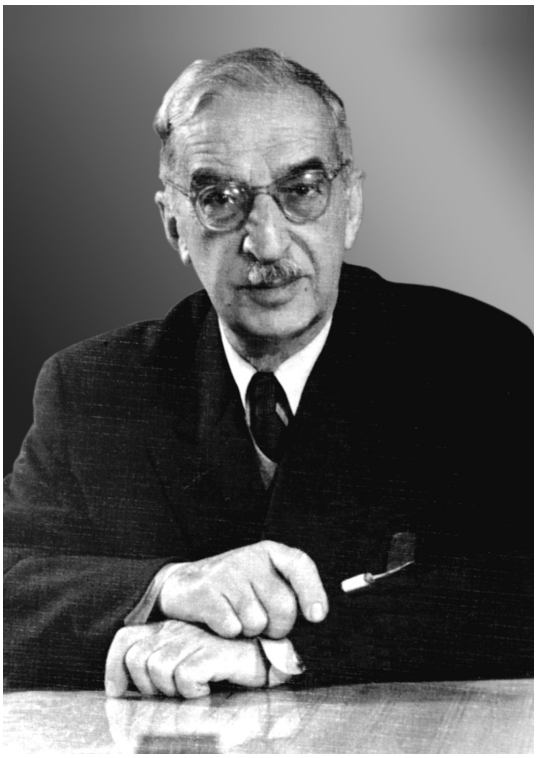
This issue is dedicated
to the memory of Academician Niko Muskhelishvili
on the occasion of his 120th birthday anniversary



16.II.1891 - 16.VII.1976

Issues 155 and 156 are dedicated to the 120th birthday anniversary of the outstanding mathematician and mechanician, Academician Niko Muskhelishvili. His brilliant results in the theory of elasticity and in the problems of mathematical physics are widely known within the international scientific community.

In connection with the problems of the theory of plane elasticity, in the early 40s of the last century, N. Muskhelishvili constructed an elegant theory of the so-called piecewise continuous boundary value problems for analytic functions and of closely related to them singular integral equations. The basis for application of the theory of analytic functions to the plane theory of elasticity is created by the well-known Kolosov–Muskhelishvili formulas expressing stress and displacement components through two functions, analytic in the domain occupied by a body. Using these formulas, the boundary value problems of the plane theory of elasticity are reduced to those of analytic functions. This enables one to employ various methods of the theory of analytic functions for the solution of boundary value problems of the plane theory of elasticity. The well-known monographs devoted to singular integral equations, boundary value problems and their applications to mathematical physics, have played a decisive role for further achievements in the above-mentioned area, particularly, for the formation of the now acknowledged Georgian mathematical school engaged in the plane theory of elasticity, in the theory of boundary value problems of mathematical physics, and related boundary value equations.

Niko Muskhelishvili was one of the founders and the first president (1948-1972) of the Georgian SSR Academy of Sciences (nowadays Georgian National Academy of Sciences). He is a founder of the journal "Trudy Tbilisskogo Matematicheskogo Instituta" – "Travaux de L'Institute Mathematique de Tbilisi", whose continuation is "Proceedings of A. Razmadze Mathematical Institute". High authority of Niko Muskhelishvili owes to a considerable degree to a circumstance that the first volumes of the abovementioned journal involve papers of such world known mathematicians as S. Bergmann, P. Erdös, J. Hadamard, M. Keldysh, E. Landau, Loo-Keng Hua, L. Tonelli, etc.

In all that N. Muskhelishvili did in science and in its organization, he set himself a high standard of excellence, which was recognized by national and international honors of various kinds. His exceptional capacity in hard work enabled him to get effective solutions for quite a number of boundary value problems which were earlier considered as inaccessible.

At present, A. Razmadze Mathematical Institute continues quite intensive and successful investigations of new aspects and new trends in the theory of boundary value problems of analytic functions, as well as their applications in the theory of plane elasticity. The richest scientific heritage of Niko Muskhelishvili remains as the main source of these investigations.