

## OBITUARY

### PROFESSOR JEAN MANDEL (1907–1982)

Professor Jean Mandel of the Ecole Polytechnique and the Ecole des Mines, Paris, accidentally passed away on 19 July 1982. He enjoyed good health and was fully active until the time of his death: he had just completed the correction of a manuscript submitted for publication.

The work of Jean Mandel aimed at providing a better understanding of behaviour of materials, giving exact solutions or practical means of solving engineering problems. His works can be grouped into five main topics.

(1) Mathematical theory of plasticity, with solutions for two and three dimensional problems, plastic waves, relations between macro-plastic strain and micro-slips in crystals, limit analysis with applications to soil mechanics and to friction analysis.

(2) Study of heterogeneous media, with applications to polycrystals, to the consolidation of porous soil, and to the fluid flow in soil.

(3) Viscoelasticity with solutions based on the theory of elasticity.

(4) Viscoplasticity using a physical and mathematical approach which contains the theory of plasticity. Finite transformation in plasticity and viscoplasticity. Theory of director frame.

(5) Solving miscellaneous problems in thermodynamics, plastic instability, vibrations, equilibrium of the undergrounds, dimensional analysis.

The works of Professor Jean Mandel covered a broad spectrum of engineering mechanics. His research activity in Solid Mechanics continues on the lines he has indicated by the "Laboratoire de Mécanique des Solides" which he founded in 1961. His original idea was to bring together people from different public services, the industry, as well as French and sometimes foreign universities, to do together fundamental and practical research, theoretical and experimental work. Today in this Laboratory sixty people work on visco-elasticity, viscoplasticity, thermoplasticity, fracture mechanics, soil and rock mechanics.