The author of this book shows that the appropriate mathematical theories to be used in this context are J. Leray's theory of residues, Thom's Isotopy Theorem and the Picard-Lefschetz formulae. This means a lot of algebraic topology, differentiable manifold theory, differential topology, homology of algebraic varieties, and of course, analysis. It is the author's intention to introduce even a "non-mathematical" reader to these theories and to show him their use. By "non-mathematical" reader, he obviously means a theoretical physicist. It is clear to anybody only slightly familiar with the mentioned theories, the author's aims cannot be achieved in a booklet of 140 pages. But the reviewer admits with admiration, that the author has nevertheless done an excellent job. After reading through this book, one certainly has got the "feeling" for the subject. The bibliography at the end makes possible a detailed study. The reviewer believes, therefore, that the book is a guide to exciting parts of modern mathematics useful for physicists and mathematicians at the same time.

Table of contents: I. Differentiable Manifolds. II. Homology and Cohomology on Manifolds. III. Leray's Theory of Residues. IV. Thom's Isotopy Theorem. V. Ramification along Landau Varieties. VI. Analyticity of Integrals depending on Parameters. VII. Ramification of an Integral with a Ramified Integrand. Notes. Sources. Bibliography.

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Formalisme Lagrangien et Lois de Symétrie, par M. Gourdin. Gordon and Breach, Paris, 150 Fifth Avenue, New York, 1968. vii + 99 pages. Cloth: U.S. $10 (prepaid U.S. $8); paper: U.S. $6 (prepaid U.S. $4.80).

This is one of the monographs in the useful new series Cours et Documents de Mathématiques et de Physique, published simultaneously in French and English. It would be more correct to say that this is a series of lecture notes; hence the rather concise and collection-of-formulae aspect of the present book. But, as mentioned in the preface, the series is not meant to replace textbooks; rather its aim is to provide graduate students with scientific information in a rapid and fairly inexpensive way. In this spirit, the author has assembled here the relevant facts about Lagrangian formalism, canonical commutation laws Poincaré group, continuous transformations, parity, charge conjugation, time reflection and strong reflection. The appendix consists of relevant formulae on quantisation of free fields.

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Élasticité Linéaire, par L. Solomon, Masson et Cie., Paris, 1968. xix + 742 pages, 122 fig. 150 F.

In the history of Mathematics and Mechanics, certain books stand out from time to time as monuments of erudition and scholarship, compiling and presenting in a stylish and balanced manner existing knowledge on a certain topic and bringing the reader to the very frontier of learning. The great Cambridge treatises of the late 19th and early 20th Centuries, by Lamb, Love, Jeans, Whittaker and Watson, spring readily to mind. It is now 76 years since the first edition of Love's Mathematical Theory of Elasticity was published, and over 40 years since the fourth and last. It is no exaggeration to say that Élasticité Linéaire, by Monsieur L. Solomon, Maître de Conférences in the University of Bucharest, ranks with such illustrious predecessors and satisfies an urgent need of the present day.