Œuvres Complètes

1984. 3 portraits. Environ 4750 pages. (En quatre volumes, non livrable séparément) Relié DM 295, –

Paris: Éditions du Centre National de la Recherche Scientifique

ISBN 3-540-13629-0

The Complete Works of Elie Cartan, originally published in 1952, were out of print for several years but have now been reissued as a 4-volume set.

Elie Cartan's work is, by virtue of its depth, its variety and its great originality, increasingly being recognised as a turning point in the evolutionary history of geometry, and its far-reaching consequences are not yet completely explored. Many contemporary geometers still draw their inspiration from reading Cartan's work.

Many of the concepts Elie Cartan introduced have spread their impact to other areas of mathematics. The geometry of bundles, for instance, has established itself as a classical topic, especially since the development of Gauge Theory in theoretical physics has made it the framework for the study of particle interactions. The role played by transformation groups in the understanding of geometric problems has been confirmed. Many aspects of Riemannian geometry have also penetrated areas such as topology and group theory. The current interest in non-linear pde's is drawing attention back to Cartan's development of the subject.

The three parts of the Complete Works correspond to three different subject areas: I. Lie groups, II. algebra, differential systems and the equivalence problem, III. geometry and other topics. They collect together all his research articles, but not monographs or correspondence. However they do also include a report on his work written by Elie Cartan himself in relation with his candidacy to the French Academy of Sciences. This new edition also features the Obituaries for Elie Cartan written by S. S. Chern and C. Chevalley for the American Mathematical Society, and by H. Whitehead for the Royal Society.



Springer-Verlag Berlin Heidelberg New York Tokyo

Tiergartenstr. 17, D-6900 Heidelberg 1, 175 Fifth Ave., New York, NY 10010, USA, 37-3, Hongo 3-chome, Bunkyo-ku, Tokyo 113, Japan

For mathematicians with style

Intelligencer The Mathematical

Editor-in-Chief: John Ewing, Mathematisches Institut der Georg-August-Universität, Bunsenstrasse 3-5, D-3400 Göttingen, FRG

European Editor: Ian Stewart, Mathematics Institute, University of Warwick, Coventry CV4 7AL, England

Book Review Editor: Gary Cornell, Department of Mathematics, University of Connecticut, Storrs, CT 06268, USA (together with Ian Stewart)

The Mathematical Intelligencer is the magazine with style for mathematicians with style. Its lively and informal articles interest readers on different levels and often discuss a past fad or current rage, people or theorems, philosophy or history. Readers particularly enjoy the Intelligencer's fresh approach to mathematics as a homogeneous subject and use it as a forum for ideas that often don't quite fit into other mathematical journals.

Forthcoming Articles to Appear in Vol. 7, 1985

Denis Guedji: An interview with Claude Chevalley Norbert Shappacher: The Max-Planck-Institute in Bonn:

Historical perspectives

Rene Thom: Virtues and dangers of interdisciplinary research Jeremy Gray: Who would have won the fields medal 100 years ago?

Ch. Pommerenke: The Bieberbach conjecture

Ronnie Wells: Nonlinear field equations and Twistor theory

Caroline Series: The geometry of Markhov numbers

Steven Strogatz: Yeast oscillations and the Non-retraction theorem

P.R. Drake: Progress in the philosophy of mathematics Roger Heath-Brown: The first case of Fermat's last theorem



Springer-Verlag Berlin Heidelberg New York Tokyo

Subscription Information:

ISSN 0343-6993 Title No. 283 1985, Vol. 7 (4 issues): DM 62,-; plus carriage charges

Sample copies available from: Springer-Verlag Heidelberg, Tiergartenstr. 17, D-6900 Heidelberg 1, FRG

C. H. Wilcox

Scattering Theory for Diffraction Gratings

1984. 4 figures. IX, 163 pages. (Applied Mathematical Sciences, Volume 46) DM 48,-; approx. US \$ 17.90. ISBN 3-540-90924-9

Contents: Introduction. - Physical Theory. - Mathematical Theory. - References. - Index.

Dynamics and Processes

Proceedings of the Third Encounter in Mathematics and Physics, held in Bielefeld, Germany, November 30 — December 4, 1981

Editors: P. Blanchard, L. Streit

1983. IX, 213 pages (11 pages in German / 47 pages in French) (Lecture Notes in Mathematics, Volume 1031) DM 28,-; approx. US \$ 10.50. ISBN 3-540-12705-4

The 3rd Bielefeld Encounter in Mathematics and Physics devoted itself to the contact points between mathematics and physics research in France and Germany. The resulting proceedings volume, consisting of original research papers as well as survey articles, presents the "state of the art" with emphasis on the current rapid and closely interrelated development of such topics as C* algebras, the algebraic formulation of quantum dynamics — scattering theories, classical dynamics, stochastic processes — applications in hydrodynamics and quantum field theory, and cosmological model building.

The Mathematics and Physics of Disordered Media:

Percolation, Random Walk, Modeling, and Simulation

Proceedings of a Workshop held at the IMA, University of Minnesota, Minneapolis, February $13-19,\,1983$

Editors: B. D. Hughes, B. W. Ninham

1983. VII, 431 pages. (Lecture Notes in Mathematics, Volume 1035) DM 49,-; approx. US \$ 18.30. ISBN 3-540-12707-0

From the Contents: B. D. Hughes, S. Prager: Random processes and random systems: an introduction. — E. W. Montroll, M. F. Shlesinger: On the wedding of certain dynamical processes in disordered complex Materials to the theory of stable (Levy) distribution functions. — J. M. Hammersley, G. Mazzarino: Markov fields, correlated percolation, and the Ising Model. — G. C. Papanicolaou: Diffusions and random walks in random media. — G. Stell: Models of disordered media: some new results including some new connections between composite-media, fluid states, and random-flight theories. — S. Redner: Recent progress and current puzzles in percolation. — J. C. Wierman: Critical probabilities in percolation models. — S. G. Whittington: Branched polymers, polymer gels, and percolation theory.

Linear and Complex Analysis Problem Book

199 Research Problems

Editors: V. P. Havin, S. V. Hruščev, N. K. Nikol'skii Scientific Secretary to the Editorial Board: V. I. Vasyunin

1984. XVIII, 721 pages (13 pages in German, 2 pages in French) (Lecture Notes in Mathematics, Volume 1043) DM 68,-; approx. US \$ 25.40. ISBN 3-540-12869-7

Contents: Problems: Analysis in Function Spaces. Banach Algebras. Probabilistic Problems. Operator Theory. Hankel and Toeplitz Operators. Singular Integrals, BMO, HP. Spectral Analysis and Synthesis. Approximation and Capacities. Uniqueness, Moments, Normality. Interpolation, Bases, Multipliers. Entire and Subharmonic Functions. C". Miscellaneous Problems. — Solutions. — Subject Index. — Author Index. — Standard Notation.

A. Schoenflies

Krystallsysteme und Krystallstructur

Reprint der Erstauflage Verlag von B. G. Teubner, Leipzig 1891 1984. 73 Figuren. (4) XII, 639 Setten. Gebunden DM 108,—; approx. US \$ 40.30 ISBN 3-540-12942-1 Nachdruck mit Genehmigung des Verlags B G. Teubner, Stuttgart

Krystallsysteme und Krystallstructur ist ein Klassiker in der Geschichte der mathematischen Krystallographie. Es enthält die erste vollständige Klassifikation der empirisch auftretenden Krystalle nach ihren Symmetrieeigenschaften; dieser Ansatz, der auf Schoenflies, Fedorov et al. zurückgeht, ist dann grundlegend für die Entwicklung der mathematischen Krystallographie geworden und auch heute noch von Bedeutung.



Springer-Verlag Berlin Heidelberg New York Tokyo

Tiergartenstr. 17, D-6900 Heidelberg 1 175 Fifth Ave., New York, NY 10010, USA 37-3, Hongo 3-chome, Bunkyo-ku, Tokyo 113, Japan

Mathematical Physics

Chief Editor A. Jaffe, Cambridge, MA

Editorial Board H. Araki, Kyoto

M. E. Fisher, Ithaca, NY

J. Fröhlich, Zürich

R. Haag, Hamburg

S. Hawking, Cambridge

O. Lanford, Bures-sur-Yvette

J. L. Lebowitz, New Brunswick, NJ

G. Mack, Hamburg

J. Mather, Princeton, NJ

L. Nirenberg, New York, NY

K. Osterwalder, Zürich

G. Parisi, Roma

B. Simon, Pasadena, CA

Ya. G. Sinai, Moscow

T. Spencer, New York, NY

S.-T. Yau, La Jolla, CA

Advisory Board

M. F. Atiyah, Oxford

A. Connes, Bures-sur-Yvette

F. Hirzenbruch, Bonn

G. 't Hooft, Utrecht

R. Schrieffer, Santa Barbara, CA

I. Singer, Cambridge, MA

C. N. Yang, Stony Brook, NY

Responsible for Advertisements

Springer-Verlag Printers Printed in Germany E. Lückermann, M. Stresow, Kurfürstendamm 237, D-1000 Berlin Telephone: (0 30) 8 82 10 31, Telex 01-85 411 Berlin Heidelberg New York Tokyo Brühlsche Universitätsdruckerei, Giessen © Springer-Verlag Berlin Heidelberg 1985 Springer-Verlag GmbH & Co KG 1000 Berlin 33