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**LONDON MATHEMATICAL
SOCIETY**

**THE WHITEHEAD
LECTURE**

Professor J. F. Adams, F.R.S.

**ALGEBRAIC TOPOLOGY: ITS GEOMETRIC
ROOTS AND FUTURE PROSPECTS**

FRIDAY, 28th JUNE, 1974, at 3.30 p.m.

**ST. CATHERINE'S COLLEGE,
OXFORD**

Tea will be served at 4.30 p.m.

It is hoped to show some mathematical films at 5 p.m.

LMS NEWSLETTER

June 1974

THE WHITEHEAD LECTURES

A number of friends and former pupils of the late Professor J. H. C. Whitehead, F.R.S., have recently set up a London Mathematical Society Whitehead Fund to be maintained as a permanent memorial to him; a number of the institutions with which he was associated at the various stages of his career have also made most generous contributions. It is the intention of Council that the Fund shall be used to provide for a Whitehead Lecture, to be given once every two years. Henry Whitehead will always be remembered for his basic contributions to geometric and algebraic topology, and for the part he played in encouraging the growth of Oxford

as a centre of mathematical research. He played a major part in the founding of the British Mathematical Colloquium, and he did much to contribute new strength and vigour to the London Mathematical Society, of which he was President in 1953. It is therefore entirely appropriate that the first Whitehead Lecture should take place in Oxford and that its title should be "Algebraic Topology: its geometric roots and future prospects". As announced elsewhere, the lecture will be delivered by Professor J. F. Adams, F.R.S., in St. Catherine's College, Oxford at 3.30 p.m. on Friday, June 28th, 1974.

D. G. KENDALL

REFERENCES FOR RECENT LECTURES

(March 1974) Professor A. FRÖHLICH:

(1) "Artin Root Numbers and Normal Integral Bases for Quaternion Fields". *Invent. Math.* 17, 143-166 (1972).

(2) (with J. Queyrut) "On the Functional Equation of the Artin L-function for Characters of Real Representations". *Inv. Math.* 20 (1973), 125-138.

(3) "Module Invariants and Root Numbers for Quaternion Fields of Degree 4r". To appear in *Proc. Camb. Phil. Soc.*

(April 1974) Professor W. PARRY:

(1) W. Parry and P. Walters, Endomorphisms of a Lebesgue space, *B.A.M.S.* 78 (1972).

(2) R. Fellgett and W. Parry, Endomorphisms of a Lebesgue space II (to appear).

(3) R. F. Williams, Classification of subshifts of finite type, *Ann. Math.* 98 (1973).

LECTURE NOTE SERIES

The next six volumes to be published in this series will be as follows:

Volume 14. Abelian Varieties, by H. P. F. Swinnerton-Dyer, F.R.S.

Volume 15. Introduction to Topological Groups, by P. J. Higgins.

Volume 16. Essays on Topological Manifolds, Smoothings and Triangulations, by R. C. Kirby and L. C. Siebenmann.

Volume 17. Differentiable Germs and Catastrophes, by Theodor Bröcker and L. C. Lander.

Volume 18. A Geometric Approach to Homology Theory, by S. Buoncrisiano, C. P. Rourke and B. J. Sanderson.

Volume 19. Graph Theory, Designs and Coding Theory, by P. J. Cameron and J. H. van Lint.

Further details of these, and subsequent volumes, will be announced in the *Newsletter*. Members are particularly requested *not* to place orders for these volumes until publication dates have been announced.

G. C. SHEPHARD.

HONORARY MEMBERS

At the May meeting of the Society, Professor Jerzy Neyman and Professor Igor Rostislavovič Šafarevič were elected

to Honorary Membership.

J. L. BRITTON.

NEW A.M.S. PUBLICATIONS

AUTHOR INDEX OF MATHEMATICAL REVIEWS, 1965-1972

(Volumes 29-44)

List price \$200; institutional A.M.S. member \$150; individual member \$100; reviewer's price \$50; ISBN 0-8218-0027-2. (To order, please specify MREVIN/65/72).

This index has been prepared directly from the working files of *Mathematical Reviews* and lists all the reviews in Volumes 29 through 44 of *Mathematical Reviews*, which were published from 1965 through 1972. In many respects it is similar to the earlier cumulative indexes of *Mathematical Reviews*, namely the 20 Year Author Index of *Mathematical Reviews*, 1960-1964 (Volumes 21-28), published by the American Mathematical Society, Providence, R.I., in 1961 and 1966, respectively. However, there have been a number of improvements.

The index is in four volumes (3,025 pages) and covers about 127,000 reviews (by way of comparison, note that the four volumes in the two earlier cumulative indexes covered 25 years and listed about 156,000 reviews). The total number of entries is about 200,000, including multiple entries and cross-references as explained below. Although no compilation of this kind can be free of error, a specific check has been made to ensure that every review in *Mathematical Reviews* during the period in question has been accounted for.

The bulk of the index is an alphabetic listing by author. Items having several authors are listed in full under each author. All items by a given author are listed under a so-called "primary" name and cross-references to the primary form are given from any other forms of the

author's name that have been used in items reviewed in Volumes 29 through 44 of *Mathematical Reviews*. The entries under a given heading are listed in order to nominal publication dates. If a reviewed item is clearly connected with a person who is not its author (e.g., an editor) then a cross-reference is given from the name of that person to the full entry.

Collections, proceedings and other similar publications that may have editors but do not have specific authors are given alphabetically by title in a separate list (corresponding to the keyword index in the monthly issues of *Mathematical Reviews*) following the list of authors. Such items are usually listed under several headings, with cross-references, for ease of identification.

TRANSLATIONS OF MATHEMATICAL MONOGRAPHS

Volume 41: Convolution equations and projection methods for their solution, I. C. Gohberg and I. A. Fel'dman; 262 pp.; list price \$27; A.M.S. member price \$20.25; ISBN 0-8218-1591-1. (To order, please specify MMONO/41.)

Volume 42: Direct and inverse embedding theorem, L. D. Kudrjavcev; 205 pp.; list price \$22.40; A.M.S. member price \$16.80; ISBN 0-8218-1592-X. (To order, please specify MMONO/42.)

PROCEEDINGS OF THE STEKLOV INSTITUTE OF MATHEMATICS

No. 114: Some questions in constructive functional analysis, Fan Din'-Zieu; 238 pp.; list price \$33.90; A.M.S. member price \$25.43; ISBN 0-8218-3014-7. (To order, please specify STEKLO/114.)

PERSONAL ITEM

After the International Congress in Vancouver I am thinking of going on a nine day sightseeing tour (by car), visiting in particular Olympic, Mount Rainier, and Crater Lake National Parks in Northwestern United States. Would colleagues

interested in teaming up with me for such a tour, please contact me at Department of Mathematics, Imperial College, South Kensington, London S.W.7 (01-589 5111).

THOMAS KOVARI.

REGIONAL CONFERENCE SERIES IN MATHEMATICS

No. 18. Avner Friedman: *Differential Games*

These are expository lectures given during the Summer 1973 Conference at the University of Rhode Island, a survey based on Friedman's 1971 book *Differential Games* and on more recent work by Friedman, R. J. Elliott, and N. J. Kalton. The fundamental concepts of value, strategy, saddle point, etc., are defined, and the existence theory is developed. The connection with the Hamilton-Jacobi equations is also described. List price \$4; ISBN 0-8218-1668-3; CBMS/18; 72 pp.

No. 19. Béla Sz. Nagy: *Unitary Dilations of Hilbert Space Operators and Related Topics*

This paper organizes and expounds lectures delivered in June 1971 at the University of New Hampshire. The subject is taken from the theory of unitary dilations of contraction operators and of the theory of functional models of such operators. The fundamental result in this area, namely the existence and uniqueness of the minimal unitary dilation for a contraction, was proved by the author in 1953, and was the starting point of various far reaching investigations of the structure and properties of Hilbert space operators. Most of the investigations in this direction were made by the author in close and lasting collaboration with Ciprian Foias. List price \$4; ISBN 0-8218-1669-1; CBMS/19; 58 pages.

No. 20. Hyman Bass: *Introduction to Some Methods of Algebraic K-theory*

This series of lectures given at Colorado State University in August of 1973 is addressed to an audience not presumed to be familiar with the subject. It begins with a theorem whose proof invokes several basic techniques of algebraic K-theory.

THEOREM 0. Let R be either \mathbb{Z} or $F_q(t)$ where t is an indeterminate. Let $A = R(t_1, \dots, t_d)$, a polynomial ring in $d-1$ variables over R (where $d \geq 1$). Then $GL_n(A)$ is a finitely generated group for all $n \geq d+2$.

The lectures then evolve as an elaboration of the ideas introduced in the proof. They can serve as a historical motivation for the study of important work on higher K-theory by Quillen, Karoubi, Gersten, Bass, and others. List price \$4.40; ISBN 0-8218-1670-5; CBMS/20; 67 pp.

No. 21. Wilhelm Stoll: *Holomorphic Functions of Finite Order in Several Complex Variables*

In this expository paper one fundamental aspect of the theory, the construction of holomorphic functions with growth estimates to given zero sets, was selected as the central topic of the survey. In addition the two main theorems of value distribution are stated for a meromorphic map of a hermitian vector space into a complex projective space because of the fundamental importance of these theorems. (In preparation.)

The other Monographs in this Series are:
No. List price

- 1 Irving Kaplansky: *Algebraic and analytic aspects of operator algebras* \$2.20
- 2 Gilbert Baumslag: *Lecture notes on nilpotent groups* \$3.10
- 3 Lawrence Markus: *Lectures in differentiable dynamics* \$2.70
- 4 H. S. M. Coxeter: *Twisted honeycombs* \$2.70
- 5 George W. Whitehead: *Recent advances in homotopy theory* \$3.20
- 6 Walter Rudin: *Lectures on the edge-of-the-wedge theorem* \$2.40
- 7 Yozo Matsushima: *Holomorphic vector fields on compact Kähler manifolds* \$2.50
- 8 Peter Hilton: *Lectures in homological algebra* \$3.20
- 9 I. N. Herstein: *Notes from a ring theory conference* \$2.60
- 10 Branko Grünbaum: *Arrangements and Spreads* \$4.50
- 11 Irving Glicksberg: *Recent results on function algebras* \$3.50
- 12 Barbara L. Osofsky: *Homological dimensions of modules* \$4.40
- 13 Michael Rabin: *Automata on infinite objects and Church's problem* \$3.30
- 14 Sigurdur Helgason: *Analysis on Lie groups and homogeneous spaces* \$4.00
- 15 R. G. Douglas: *Banach algebra techniques in the theory of Toeplitz operators* \$3.80
- 16 Joseph L. Taylor: *Measure algebras* \$4.70
- 17 Louis Nirenberg: *Lectures on linear partial differential equations* \$4.00

D. A. BRANNAN.