LONDON MATHEMATICAL SOCIETY

W. V. D. HODGE MEMORIAL MEETING

(Jointly sponsored by the Edinburgh Mathematical Society, the London Mathematical Society and the University of Cambridge)

11.00 a.m. M. F. ATIYAH (Oxford),
History of Harmonic Integrals.

12.00 noon P. A. GRIFFITHS (Harvard),
Variations on a Theme of Abel.

2.30 p.m. W. SCHMID (Columbia),
Recent Progress in Hodge Theory.

4.15 p.m. I. M. SINGER (M.I.T.),
Applications of Hodge Theory in Differential Geometry.

Friday, 18 June, 1976

Room 3, Mill Lane Lecture Rooms
Cambridge

Coffee (no charge) will be served from 10.15 a.m. in the University Centre. For details of the arrangements for lunch and dinner, please see elsewhere in this Newsletter.

LMS NEWSLETTER

No. 30 *June 1976*

HODGE MEMORIAL MEETING

At this meeting in Cambridge on 18 June, there will be a buffet lunch in the University Centre; the cost will be £2 per person. After the meeting, there will be dinner in the Old Library, Pembroke College, at a cost per person of £3·70 (exclusive of wine).

Would those wishing to attend the lunch or dinner please book by sending a cheque for the appropriate amount, payable to the University of Cambridge, to Professor J. W. S. Cassels, F.R.S., Department of Pure Mathematics, 16 Mill Lane, Cambridge CB2 1SB, to arrive by 14 June at the latest.

J. L. BRITTON

CHANGES IN THE BY-LAWS

The Council of the LMS proposes the following changes in the By-Laws. The first meeting in the next academic year will be a General Meeting of the Society to consider this proposal. The provisional date and place of this meeting are Friday, 15 October, 1976 at Burlington House, London.

I,3. Replace " in October " by " by October ".

I,5. Replace "October" by "September".

II,2. Delete the words after " 30 years ".

III,1. Add at end: " Honorary Members shall be entitled to receive free copies of the Journal, Proceedings and Bulletin of the Society ".

IX,2. Insert: " There shall be a Meetings and Membership Secretary and a Council and General Secretary of the Society ".

X,1. Delete and replace by: " Council may appoint Editors, Secretaries and Assistant Editors (as it deems necessary) for the publications of the Society, all of whom shall be members of the Society. They will take charge of these publications under the direction of Council and of a Publications Officer who shall be a member of Council ".

X,4. Delete " to the Secretaries or to a sub-committee ".

X,5. Delete.

For the convenience of members we give below the full text of these By-Laws as they are at present (i.e., in unchanged form):

1,3. The Council shall hold a meeting in October to consider the subject of the election of the new Council and Officers with a view to recommending a list of names to the Society.

I,5. Any member of the Society may send in to the Council a list of names of those members of the Society whom he considers most fit for election as Members of the Council or as Officers. This list must be sent, duly signed, to one of the Secretaries before noon on 1 October.

II,2. No annual subscription shall be payable by an Ordinary Member who has attained the age of 65 years and who has paid annual subscriptions for not less than 30 years and who shall give notice that he does not require the publications of the Society to be sent to him.

III,1. The Society may from time to time elect mathematicians of distinction of foreign countries to be associated with the Society under the designation of "Honorary Members"; but such Honorary Members shall not be entitled to vote at any meeting of the Society, nor shall they be liable to pay any entrance fee, subscription, or other contribution.

X,1. Council shall appoint an Editor of the *Proceedings* and an Editor of the *Journal* who shall be members of the Council and shall take charge of these publications under the directions of Council. Council may appoint one or more Assistant Editors for either or both of these publications, who shall be members of the Society.

X,4. Any paper submitted to the Society for publication shall be referred to one or more experts who shall report to the Council on its fitness for publication. The decision as to whether a paper should be published is the responsibility of Council, who may delegate this power to the Secretaries or to a subcommittee.

X,5. Every Honorary Member shall be entitled to a copy of each issue of the *Proceedings*, the *Journal*, and the *Journal of Applied Probability*. Every Ordinary Member and Representative whose contribution is not in arrears shall be entitled to a copy of the volume of the *Proceedings* and *Journal* for the calendar year commencing on 1 January of the Session when his membership commences, and of each part

of the *Proceedings* and *Journal* subsequently published while he remains a member. Every Associate Member whose contribution is not in arrears shall be entitled to a copy of the volume of the *Proceedings* or *Journal* for the calendar year commencing on 1 January of the Session when his membership commences, and of each part of the *Proceedings* or *Journal* subsequently published while he remains an Associate member. Members and Associate Members may substitute the *Journal of Applied Probability* for either the *Proceedings* or *Journal*, or may receive it in addition for the payment of an increased subscription. Copies of the Society's publications shall also be sent to such Societies, Public Libraries or other Institutions, Bodies, or Persons, as the Council shall from time to time determine.

Note. During the next session it is hoped to produce a new edition of the " Charter and Statutes and By-Laws of the L.M.S." for all members. J. L. BRITTON

L.M.S. COUNCIL

In order to provide members with more information about the Society's activities it has been decided to include in the *Newsletter* a brief report of decisions taken at Council meetings. At its March meeting Council decided that, from October 1976, London meetings would revert to the traditional and convenient site of Burlington House. Moreover there will be a move towards holding larger but less frequent meetings. In particular an experimental two-day venture is being planned for Birmingham in January 1977. Council has also reactivated the system of having local representatives in each University, in order to provide a more efficient channel of communication to its members. The arrangements are in the hands of Professor Goldie. Finally a new planning committee for the Durham Symposia has been set up, consisting of Professors Halberstam (chairman), Adams, Cohn, Crank, Rogers and Willmore.

M. F. ATIYAH

L.M.S. LOCAL REPRESENTATIVES

A number of local representatives have been appointed to improve communications between the Society and its members, to recruit new members and to strengthen its service to the mathematical community. It is expected that this will enable members to obtain through the *Newsletter* more up-to-date information concerning visits of foreign mathematicians, local and regional meetings, and to bring to the attention of the members in their own departments details of mathematical activities sponsored by the Society.

The list of representatives given below is not yet complete and the undersigned would appreciate hearing from those who wish to be the local representative for an institution not yet included.

Aberdeen	Dr. I. G. Craw
Bath	Dr. R. Mitchell
Belfast	Dr. D. H. Armitage
Birmingham	Dr. A. H. M. Hoare
Bradford	Dr. W. J. Robinson
Bristol	Dr. M. Slater
Cambridge	Dr. J. E. Roseblade
Dundee	Professor W. N. Everitt
Durham	Dr. L. M. Woodward
Edinburgh	Dr. T. H. Lenagan
Exeter	Dr. R. W. K. Odoni
Glasgow	Professor W. D. Munn
Hull	Dr. J. Wallington
Kent	Dr. J. R. Merriman
Lancaster	Mr. G. H. Bailey
Leeds	Dr. J. F. Bowers
Leicester	Dr. J. F. Watters
Liverpool	Dr. P. J. Giblin
London Colleges:	
Bedford	Dr. W. A. Hodges
Birkbeck	Dr. S. M. Ginn
King's	Dr. J. R. Silvester
Queen Elizabeth	Dr. D. A. Brannan
Queen Mary	Dr. C. R. Leedham-Green
Royal Holloway	Dr. G. De Barra
University	Dr. P. McMullen
South Bank Polytechnic	Dr. D. Singmaster
Newcastle upon Tyne	Professor B. E. Johnson
Nottingham	Dr. R. R. Laxton
Oxford	Dr. E. G. Rees
Reading	Professor J. D. M. Wright
St. Andrews	Dr. M. J. Beetham
Salford	Dr. L. R. Fletcher
Sheffield University	Dr. R. Y. Sharp
Sheffield Polytechnic	Dr. H. Porteous
Southampton	Dr. D. Kirby
Stirling	Dr. R. M. F. Moss
Surrey	Dr. A. D. Keedwell
Sussex	Dr. J. W. Hirschfeld
Wales:	
Aberystwyth	Dr. F. W. Long
Cardiff	Dr. C. H. Houghton
Swansea	Dr. H. P. Rogosinski
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York	Dr. J. B. Fountain

A. W. GOLDIE

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This volume provides an easily readable introduction to descriptive topology and set theory, in particular, the theory of analytic spaces and analytic measurable spaces. Special emphasis is placed on recent applications of this theory.
Students in need of an introduction to this important field and graduate students and research workers trying to keep up-to-date with current research will find this book most useful.

Analytic Functions and Manifolds in Infinite Dimensional Spaces

by G. COEURÉ.

Volume 11
1974 iv + 85 pages 85 lit. refs.
Price: US $9.75 / Dfl. 25.00 Paperback

The author develops the theory of analytic continuation for holomorphic mappings defined in locally convex, complex vector spaces. The reader will find the complete proofs with respect to the properties of envelopes related to the holomorphic convexity and spectrum.

Spectral Theory and Asymptotics of Differential Equations

Proceedings of a Conference on Differential Equations, Scheveningen, The Netherlands, 3-7 September, 1973

edited by E. M. DE JAGER.

Volume 13
1974 viii + 210 pages 10 illus. 157 lit. refs.
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The first nine papers in this volume deal with modern developments of the Weyl theory of singular differential operators including differential equations with indefinite weight function, left definite systems of differential equations and questions regarding limit circle-limit point classification. In additon to lectures treating aspects of spectral theory of partial differential operators and of distribution theory, there is also a series of five lectures on asymptotic approximations of solutions of differential equations. The final contributions deal with non-linear equations, matching principles and singular perturbations.

Divisor Theory in Module Categories

by W. V. VASCONCELOS.

Volume 14
1974 ix + 120 pages 41 lit. refs.
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In this book divisor theory is developed for the explicit purpose of assigning ideals with as much information as possible about a given module. Besides a detailed account of the classical Fitting divisor of algebraic K-Theory, a partial stratification of the category of modules provides a variety of other cases of assignments. The book may be used as a sequel to a basic commutative algebra course.

Localization of Nilpotent Groups and Spaces

by P. HILTON, G. MISLIN *and* J. ROITBERG.

Volume 15
1975 x + 156 pages 99 lit. refs.
Price: US $9.50 / Dfl. 28.00 Paperback

The present monograph develops the theory of localization of nilpotent groups and nilpotent spaces, using basic group theory and algebraic topology.
The first chapters of the monograph are devoted to setting up and obtaining the basic results on the localization functor in the two categories in question. A final chapter discusses various applications of the theory, particularly to H-spaces and non-cancellation phenomena.

Volterra Stieltjes-Integral Equations

Functional Analytic Methods; Linear Constraints

by C. S. HÖNIG.

Volume 16
1975 x + 158 pages 20 lit. refs.
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This work deals with the results obtained in a study of linear Volterra Stieltjes-integral equations with linear constraints. As particular instances of such constraints the author has presented the following conditions: initial, boundary, periodicity, discontinuity, multiple point, integral, interface, and conditions at infinite points etc.
The volume should be especially useful for an advanced graduate course in Functional Analytic methods in Differential Equations and Integral Equations.

Hewitt-Nachbin Spaces

by M. D. WEIR.

Volume 17
1975 viii + 270 pages 2 tables over 300 lit. refs.
Price: US $15.50 / Dfl. 40.00 Paperback

Bridging the gap between standard texts in topology and research literature, this monograph provides a unified approach to much of the theory of Hewitt-Nachbin complete (i.e. realcompact) spaces from a topological point of view.
The book is directed at the graduate student who, having completed the standard first course in general topology, wishes to learn more about recent developments, and it is also intended as a reference for those carrying out mathematical research in the field.

Global Theory of a Second Order Linear Ordinary Differential Equation with a Polynomial Coefficient

by Y. SIBUYA.

Volume 18
1975 xvi + 290 pages 63 illus. 50 lit. refs.
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The main purpose of this book is to provide a generalization of Airy's integral and parabolic cylinder functions by means of asymptotic integration of a second order linear ordinary differential equation with a polynomial coefficient. The main problem is to characterize asymptotic solutions at an irregular singular point, and to investigate their dependence on parameters.
The book may be used by mathematicians and graduate students who work with asymptotic methods for differential equations, as well as a text for a graduate course on asymptotic integration of linear ordinary differential equations.

Intensional and Higher-Order Modal Logic

With Applications to Montague Semantics

by D. GALLIN.

Volume 19
1975 xi + 148 pages
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This is the first thorough treatment of the formal logical systems underlying Richard Montague's set-theoretic approach to natural language semantics. In Part I the author gives a complete technical account of Montague's original system. In Part II an alternative system is developed and applied to various topics of mathematical interest, such as the theory of propositional operators and Cohen's independence proofs in set theory.

Vector Measures and Control Systems

by I. KLUVÁNEK *and* G. KNOWLES.

Volume 20
1976 x + 180 pages
Price: US $13.50 / Dfl. 35.00 Paperback

This work is a self-contained systematic exposition of the theory of vector valued measures, of sequences of such measures, and of integration with respect to such measures. It includes an analysis of the properties of the range and its closed convex hull. The treatment is sufficiently general and complete to permit applications to some problems of mathematical physics, theory of moments and especially linear control theory.

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CONGRESS ON MATHEMATICAL EDUCATION

The Third International Congress on Mathematical Education will be held in Karlsruhe on 16-21 August 1976. Main speakers include G. Th. Guilbaud (Paris), P. J. Hilton (Seattle), A. Kirsch (Kassel) and Sir J. Lighthill (Cambridge). Further information from the Secretary, E. F. an Huef, Hertzstr. 16, D75 Karlsruhe, W. Germany.

OXFORD WORD AND DECISION PROBLEM MEETING

A number of overseas mathematicians will visit the University of Oxford during the period from 28 June to 30 July 1976, for a meeting on word and decision problems in algebra and group theory. The principal organisers of the meeting are S. Adjan, W. Boone and G. Higman. The overseas participants are S. Aanderaa, S. Adjan, L. Bokut', W. Boone, F. Cannonito, Y. Ersov, Y. Gurevich, A. Karrass, R. Lyndon, R. McKenzie, A. Macintyre, C. Miller, J. Mennicke, B. Neumann, V. Remeslennikov, G. Sabbagh, G. Sacerdote, P. Schupp, S. Shelah, D. Solitar, R. Thompson, M. Ziegler.

Full participation in the meeting is by invitation and all places are at present filled (though one or two acceptances are still provisional.) However anyone wishing to visit the meeting for a brief period will be welcome. It will be difficult, if not impossible, to provide assistance to visitors as regards finance or accommodation.

Further information from Dr. D. J. Collins, Dept. of Pure Mathematics, Queen Mary College, Mile End Road, London E1 4NS.

GEOMETRY OF THE LAPLACE OPERATOR

The International Centre for Theoretical Physics will organize a short course of expository lectures on geometric aspects of the Laplacian, under the direction of Professor J. Eells (University of Warwick, Coventry) from 27 September to 3 October 1976. The main courses will be given by Professors J. Eells, P. Gilkey (Princeton), R. Hamilton (Cornell), L. Lemaire (Université Libre de Bruxelles) and R. Osserman (Stanford).

The main topics will be " Geometry of the spectrum " and " Existence and qualitative aspects of harmonic maps ". In addition, there will be other lectures by a distinguished international faculty of specialists. Seminars will be conducted during the week, upon demand. These could provide either background or directions for research. No participation grants will be available. Those interested in participating in the Autumn Week should write to the International Centre for Theoretical Physics, P.O. Box 586, I-34100 Trieste, Italy.

UPPSALA 1977 CONFERENCE ON DIFFERENTIAL EQUATIONS

This conference will be held at Uppsala, Sweden from 18 April to 23 April, 1977. The main topic of the conference is the deficiency index problem for Hilbert space operator realizations of symmetric ordinary differential equations. Some 10 plenary speakers have been invited to speak on this topic. In addition, to initiate general discussion among the participants on the relation of the central topic with the wider fields of operator theory and general differential problems, a number of outstanding mathematicians working in these fields have been invited to give talks of their own choice not necessarily connected directly with the index problem.

The invited plenary speakers are: W. A. Coppel (Australia), M. S. P. Eastham (UK), W. N. Everitt (UK), B. Szökefalvi-Nagy (Hungary), J. Weidman (BRD), H. Langer (DDR), A. Devinatz (USA), J. K. Hale (USA), E. A. Coddington (USA), R. Conti (Italy), W. A. Marcenko (USSR), I. S. Rofe-Beketov (USSR), S. G. Krein (USSR), L. S. Pontrjagin (USSR), B. M. Levitan (USSR), C. Olech (Poland). A small contribution to participants living expenses may be available. Further details from Dr. Gunnar Berg, 1977 Conference in Mathematics, University of Uppsala, Box 256, 751 05 Uppsala, Sweden.

Functional Integration and its Applications

Edited by A. M. Arthurs

The papers included in this book were originally presented at an international conference held in London in 1974. They describe some of the most recent advances in the subject, and cover mathematical and computational aspects of functional integration as well as its applications to the various branches of physics including field theory, quantum mechanics, and statistical mechanics. £9

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One of the ways in which topology has influenced other branches of mathematics in the past few decades is by putting the study of continuity and convergence into a general setting. This book introduces metric and topological spaces by describing some of that influence. The aim is to move gradually from familiar real analysis to abstract topological spaces. £5 paper covers £2·50

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