CAMBRIDGE PHILOSOPHICAL SOCIETY

STATEMENT OF ACCOUNTS FOR THE YEAR ENDED 31 DECEMBER 1975

GENERAL INCOME AND EXPENDITURE ACCOUNT

Year ended 31. 12. 74		*Income*			£
13,351		Dividends and interest (gross)			14,050
272		Members' subscriptions			331
14		Transfer from Compounders' Fund for life members			17
3		Donations			
172		Sales of *Arcturus Atlas*			36
1		Sales of Society *History*			2
	8,316	Xerox copier: Income		10,197	
		Less: Expenses			
		2,887 Wages	3,481		
		4,999 Meter rent and copy charges	6,016		
(350)	*8,666*	*780* Materials etc.	403*	9,900	297
13,463					14,733
		Expenditure			
	2,538	Executive secretary's salary		2,946	
	799	Printing and stationery		434	
	314	Postages		352	
	291	Audit fee and accountancy charges		385	
	71	Sundry expenses		71	
	39	Insurances		54	
	405	Expenses of meetings including honoraria		417	
	—	Delegates to conferences		50	
		Cost of copies for the Scientific Periodicals Library:			
	630	*Mathematical Proceedings*		1,127	
	407	*Biological Reviews*		469	
	307	Grants for translation service		343	
		Interest credited to:			
	249	Compounders' Fund		275	
	23	Sir Joseph Larmor's Fund		27	
		Transfers to:			
	1,500	Research Studentships Fund		2,000	
	500	Working Parties Fund		500	
	1,000	Travel Grants Fund		1,000	
	27	William Hopkins Prize Fund		27	
	67	William Bate Hardy Prize Fund		66	
	61	Sir Joseph Larmor's Fund		30	
	70	Depreciation of office equipment		71	
9,298					10,644
£4,165		Excess of income over expenditure for the year			£4,089

* After closing stock adjustment of £2,311. Stocks at 1. 1. 75 were not valued.

https://doi.org/10.1017/S0305004100053020 Published online by Cambridge University Press

ACCUMULATED FUND

Year ended 31. 12. 74		£
205,233	Balance 1 January 1975	194,951
4,165	Excess of income over expenditure for the year	4,089
209,398		199,040
14,447	*Less:* Net loss on sale of investments	15,449
£194,951	Balance 31 December 1975	£183,591

PUBLICATION FUND

Mathematical Proceedings (Volumes 77 and 78)

Income

22,006		Sales	23,539
114		Sales of separates	161
1,282		Members' subscriptions	1,299
250		Grant from Cambridge University	250
165		Transfer from Compounders' Fund for life members	174
23,817			25,423

Expenditure

	15,244	Printing	23,522	
	837	Printing of separates	1,239	
	3,660	Commission on sales	3,893	
	1,186	Editorial expenses	1,094	
	1,429	Carriage	1,741	
	22,356		31,489	
		Less:		
	(895)	Cost of unsold copies transferred to Publication Reserve Fund	(1,595)	
	(630)	Cost of copies for the Scientific Periodicals Library transferred to General Income and Expenditure Account	(1,127)	
20,831				28,767
2,986		Net surplus (deficit) for year		(3,344)
216		Fund balance 1 January 1975		3,202
£3,202		Fund balance 31 December 1975		£(142)

Biological Reviews (Volume 50)

Income

12,848	Sales	15,107
423	Sales of separates	140
826	Members' subscriptions	933
250	Grant from Cambridge University	250
33	Transfer from Compounders' Fund for life members	44
14,380		16,474

https://doi.org/10.1017/S0305004100053020 Published online by Cambridge University Press

Year ended 31. 12. 74		*Expenditure*		£
7,850		Printing	8,973	
422		Printing of separates	508	
2,970		Commission on sales	3,352	
535		Editorial expenses	625	
713		Carriage	1,276	
12,490		*Less:*	14,734	
(277)		Cost of unsold copies transferred to Publication Reserve Fund	(296)	
(407)		Cost of copies for the Scientific Periodicals Library transferred to General Income and Expenditure Account	(469)	
11,806				13,969
2,574		Net surplus for year		2,505
15,104		Fund balance 1 January 1975		17,678
£17,678		Fund balance 31 December 1975		£20,183

PUBLICATION RESERVE FUND

Mathematical Proceedings

5,878		Sales		3,370
		Less:		
	1,667	Reprinting back numbers	—	
	895	Cost of unsold copies of Volumes 77 and 78 transferred from Publication Fund	1,595	
	363	Carriage	437	
	304	Clerical fees	185	
	—	West Cambridge Store building costs	336	
3,229				2,553
2,649		Net surplus for year		817
10,662		Fund balance 1 January 1975		13,311
£13,311		Fund balance 31 December 1975		£14,128

Biological Reviews

1,446		Sales		1,326
		Less:		
	277	Cost of unsold copies of Volume 50 transferred from Publication Fund	296	
	81	Carriage	80	
	141	Advertising	—	
	304	Clerical fees	185	
	—	West Cambridge Store building costs	336	
803				897
643		Net surplus for year		429
15,201		Fund balance 1 January 1975		15,844
£15,844		Fund balance 31 December 1975		£16,273

https://doi.org/10.1017/S0305004100053020 Published online by Cambridge University Press

COMPOUNDERS' FUND

Year ended 31. 12. 72				£
4,700		Balance 1 January 1975		4,935
249		Transfer from General Income and Expenditure Account		275
200		Life subscriptions received		399
5,149				5,609
		Less:		
		Transfer to Publication Fund:		
166		*Mathematical Proceedings*	174	
33		*Biological Reviews*	44	
		Transfer to General Income and Expenditure		
15		Account	17	
214				235
£4,935		Balance 31 December 1975		£5,374

RESEARCH STUDENTSHIPS FUND

80		Balance 1 January 1975		11
—		Transfer from Working Parties Fund		239
1,500		Transfer from General Income and Expenditure Account		2,000
1,580				2,250
1,569		*Less:* Research Studentships awarded		2,250
£11		Balance 31 December 1975		£Nil

WORKING PARTIES FUND

808		Balance 1 January 1975		916
500		Transfer from General Income and Expenditure Account		500
1,308				1,416
392		*Less:* Grants for Working Parties	600	
—		Transfer to Research Studentships Fund ...	239	
				839
£916		Balance 31 December 1975		£577

TRAVEL GRANTS FUND

197		Balance 1 January 1975		202
1,000		Transfer from General Income and Expenditure Account		1,000
1,197				1,202
995		*Less:* Travel Grants awarded		1,055
£202		Balance 31 December 1975		£147

https://doi.org/10.1017/S0305004100053020 Published online by Cambridge University Press

WILLIAM HOPKINS PRIZE FUND

Year ended 31. 12. 74		£
—	Balance 1 January 1975	67
40	Interest on £663 Surrey County 6% Redeemable Stock 1978/80	39
27	Transfer from General Income and Expenditure Account	27
£67	Balance 31 December 1975	£133

Note: The Society is Trustee only of the investment held for this Fund.

WILLIAM BATE HARDY PRIZE FUND

67	Balance 1 January 1975	134
67	Transfer from General Income and Expenditure Account	66
£134	Balance 31 December 1975	£200

SIR JOSEPH LARMOR'S FUND

447	Balance 1 January 1975	447
85	Interest and transfer from General Income and Expenditure Account	57
532		504
85	*Less:* Lecture and expenses	56
£447	Balance 31 December 1975	£448

https://doi.org/10.1017/S0305004100053020 Published online by Cambridge University Press

BALANCE SHEET 31 DECEMBER 1975

31. 12. 74			£
		Fixed Assets:	
467		Equipment as at 1 January 1975	397	
—		Additions at cost	76	
			473	
70		*Less:* Depreciation for year	71	
397				402
244,563		Investments at cost		238,705
		(market value 31. 12. 74 £147,173		
		31. 12. 75 £225,423)		
		Current Assets:		
—		Stocks of Xerox materials at cost	2,311	
5,217		Sundry debtors and income tax recoverable ...	3,976	
610		Cash held by stockbrokers	901	
1,930		Cash at bank: Current Account	654	
3,233		Deposit Account	390	
63		Cash and postage stamps in hand	178	
11,053			8,410	
		Less: Current Liabilities		
4,110		Sundry creditors	6,447	
205		Subscriptions received in advance	158	
4,315			6,605	
6,738		Net Current Assets		1,805
£251,698				£240,912
		Financed by:		
194,951		Accumulated Fund		183,591
		Publication Fund:		
3,202		*Mathematical Proceedings*	(142)	
17,678		*Biological Reviews*	20,183	
20,880				20,041
		Publication Reserve Fund:		
13,311		*Mathematical Proceedings*	14,128	
15,844		*Biological Reviews*	16,273	
29,155				30,401
4,935		Compounders' Fund		5,374
11		Research Studentships Fund		—
916		Working Parties Fund		577
202		Travel Grants Fund		147
67		William Hopkins Prize Fund		133
134		William Bate Hardy Prize Fund		200
447		Sir Joseph Larmor's Fund		448
£251,698				£240,912

Note: Unsold copies of publications have not been valued.

AUDITORS' REPORT

We have examined the foregoing Statement of Accounts with the books and vouchers, and in our opinion the same show a true and fair view of the Income and Expenditure of the Society for the year ended 31 December 1975 and of its financial state on that date, to the best of our knowledge and belief.

Cambridge
16 July 1976

PETERS, ELWORTHY & MOORE
Chartered Accountants

https://doi.org/10.1017/S0305004100053020 Published online by Cambridge University Press

SOCIETY FOR INDUSTRIAL AND APPLIED MATHEMATICS

SIAM invites those interested in the application of mathematics to consider membership.

As one concerned with mathematics, a membership in SIAM offers you a broad publications program with a healthy balance of emphasis between abstract and applied mathematics.

SIAM Journal on Applied Mathematics	(8 issues per year)
SIAM Journal on Computing	(Quarterly)
SIAM Journal on Control and Optimization	(6 issues per year)
SIAM Journal on Numerical Analysis	(6 issues per year)
SIAM Journal on Mathematical Analysis	(6 issues per year)
SIAM Review	(Quarterly)
SIAM News	(6 issues per year)

Further information about SIAM, its publications and activities, may be obtained from

Secretary
SIAM
33 South 17th Street
Philadelphia, PA. 19103
U.S.A.

https://doi.org/10.1017/S0305004100053020 Published online by Cambridge University Press

MATHEMATICAL PROCEEDINGS

(formerly Proceedings)

of the

Cambridge Philosophical Society

VOLUME 80

CAMBRIDGE UNIVERSITY PRESS
CAMBRIDGE · LONDON · NEW YORK
1976

https://doi.org/10.1017/S0305004100053020 Published online by Cambridge University Press

PUBLISHED BY
THE SYNDICS OF THE CAMBRIDGE UNIVERSITY PRESS
The Pitt Building, Trumpington Street, Cambridge CB2 1RP
Bentley House, 200 Euston Road, London NW1 2DB
32 East 57th Street, New York, N.Y. 10022

© The Cambridge Philosophical Society 1976

Printed in Great Britain at the University Printing House, Cambridge

https://doi.org/10.1017/S0305004100053020 Published online by Cambridge University Press

INDEX

PAGE

Adams, J. F. and Priddy, S. B. Uniqueness of *BSO* 475

Aderogba, K. On eigenstresses in a semi-infinite solid 555

Atkinson, C. and Reuter, G. E. H. Deterministic epidemic waves 315

Baker, J. W. and Butcher, R. J. The Stone–Čech compactification of a topological semigroup 103

Bala, P. and Carter, R. W. Classes of unipotent elements in simple algebraic groups. II 1

Bennett, J. A. A new derivation of the W.K.B. solution for the coupled equations of radio waves in a plane stratified ionosphere 527

Biggs, N. L. On the duality of interaction models 429

Bollobás, B. and Erdös, P. Cliques in random graphs 419

Brewster, B. and Ottaway, M. The supersolvable residual of an $\mathscr{L}_1$-group . . 447

Brown, G. and Hewitt, E. Continuous singular measures equivalent to their convolution squares 249

Burgess, D. C. J. and Fitzpatrick, M. Syntopogenous preordered spaces . . . 71

Butcher, R. J. and Baker, J. W. The Stone–Čech compactification of a topological semigroup 103

Carter, R. W. and Bala, P. Classes of unipotent elements in simple algebraic groups. II 1

Chiswell, I. M. Abstract length functions in groups 451

Collins, C. B. Complex potential equations. I. A technique for solution . . . 165

Collins, C. B. Complex potential equations. II. An application to general relativity . 349

Edge, W. L. Non-singular models of specialised Weddle surfaces 399

Eggleston, H. G. Valentine convexity in n dimensions 223

Erdös, P. and Bollobás, B. Cliques in random graphs 419

Erdös, P., Milner, E. C. and Rado, R. Families of sets whose pairwise intersections have prescribed cardinals or order types 215

Fitzpatrick, M. and Burgess, D. C. J. Syntopogenous preordered spaces . . . 71

Freedman, D. An empirical form of the square root law and the central limit theorem 287

Gibson, C. G. Regularity of the Segre stratification 91

Goldie, A. Azumaya algebras and rings with polynomial identity (Addendum) . . 383

Green, M. D. Maximal one-sided ideals in Banach algebras 109

Griffiths, H. B. The case of the jumping critical point 511

Hacon, D. Iterated torus knots 57

Hawkes, T. O. A Fitting class construction 437

Haydon, R. G. Some more characterizations of Banach spaces containing l_1 . . 269

Hewitt, E. and Brown, G. Continuous singular measures equivalent to their convolution squares 249

https://doi.org/10.1017/S0305004100053020 Published online by Cambridge University Press

PAGE

Hilton, P. and Stammbach, U. On group actions on groups and associated series . 43

Jackson, D. M. Laguerre polynomials and derangements 213

Joseph, A. A wild automorphism of $Usl(2)$ 61

Judd, B. R. Modifications of Coulombic interactions by polarizable atoms . . . 535

Kelly, F. P. Stochastic models with electrical analogues 145

Kelly, F. P. The departure process from a queueing system 283

Köllerström, J. Stochastic bounds for the single-server queue 521

Kunen, K. Some points in βN 385

Laffey, T. J. The number of solutions of $x^p = 1$ in a finite group 229

McSherry, D. M. G. A general theory of separation regularity, and connectedness properties 81

Milner, E. C., Rado, R. and Erdös, P. Families of sets whose pairwise intersections have prescribed cardinals or order types 215

Moran, P. A. P. Global stability of genetic systems governed by mutation and selection 331

Nakai, M. and Sario, L. Harmonic functions on a Riemannian ball 277

Ottaway, M. and Brewster, B. The supersolvable residual of an $\mathscr{L}_1$-group . . 447

Papangelou, F. Point processes on spaces of flats and other homogeneous spaces . 297

Parry, G. P. On the elasticity of monatomic crystals 189

Plymen, R. J. Spinors in Hilbert space 337

Priddy, S. B. and Adams, J. F. Uniqueness of BSO 475

Rado, R., Erdös, P. and Milner, E. C. Families of sets whose pairwise intersections have prescribed cardinals or order types 215

Reuter, G. E. H. and Atkinson, C. Deterministic epidemic waves 315

Riley, N. Oblique slot blowing into a supersonic laminar boundary layer . . . 541

Ronca, G. New exact results for the defective square lattice 365

Rutter, J. W. Associative h-spaces and algebras 67

Sario, L. and Nakai, M. Harmonic functions on a Riemannian ball 277

Schechter, M. Discreteness of the singular spectrum for Schrödinger operators . . 121

Silverman, B. W. On a Gaussian process related to multivariate probability density estimation 135

Smith, J. D. H. Finite distributive quasigroups 37

Smith, R. A. Inclusion conditions for Hurwitzian and Schur sets in $\mathbb{C}^{n+1}$ . . . 113

Stammbach, U. and Hilton, P. On group actions on groups and associated series . 43

Thyagaraja, A. Prototurbulent motions in dissipative model systems 153

Tonge, A. M. Banach algebras and absolutely summing operators 465

Trotman, D. J. A. Geometric versions of Whitney regularity 99

Van der Poorten, A. J. On Baker's inequality for linear forms in logarithms . . 233

Wilson, J. S. On characteristically simple groups 19

Woolley, M. L. On Killing vectors and invariance transformations of the Einstein–Maxwell equations 357

https://doi.org/10.1017/S0305004100053020 Published online by Cambridge University Press

THE PREPARATION OF MANUSCRIPTS

The attention of authors is particularly directed to the following requests.

1. Papers should be typed, double-spaced, on one side of white paper (of which A4, 8¼ by 11¼ inches, is a suitable size). The pages must be numbered. Margins of 1½ inches should be left at the side, top and bottom of each page. The copy sent must be clear.

A cover page should give the title, the author's name and institution, with the address at which mail is to be sent to him.

The title, while brief, must be informative (e.g. *A new proof of the prime-number theorem*, whereas *Some applications of a theorem of G. H. Hardy* would be useless).

The first paragraph or two should form a summary of the main theme of the paper, providing an abstract intelligible to mathematicians.

For a typescript to be accepted for publication, it must accord with the standard requirements of publishers, and be presented in a form in which the author's intentions regarding symbols etc. are clear to a printer (who is not a mathematician).

The following notes are intended to help the author in preparing his manuscript. New authors may well enlist the help of a senior colleague, both as to the substance of their work and the details of setting it out correctly and attractively.

2. *Notation*

Notation should be chosen carefully so that mathematical operations are expressed with all possible neatness, to lighten the task of the compositor and reduce the chance of error.

For instance, n_k (n sub k) is common usage, but avoid if possible using c sub n sub k. Fractions are generally best expressed by a solidus. Complicated exponentials like

$$\exp\{z^2 \sin\theta/(1+y^2)\}$$

should be shown in this and no other way.

In the manuscript, italics, small capitals and capitals are specified by single, double and triple underlining. Bold-faced type is shown by wavy underlining; wavy will be printed **wavy**.

It helps if displayed equations or statements which will be quoted later are numbered in order on the right of their line. They can then be referred to by, for example, 'from (7)'.

The author must enable the printer (if necessary by pencilled notes in the margin) to distinguish between similar symbols such as o, O, o, O, 0; x, X, $\times$; ϕ, Φ, $\varnothing$; l, 1; ϵ, $\in$; κ, k.

Greek letters can be denoted by Gk in the margin.

If an author wishes to mark the end of the proof of a theorem, the sign | or $\dashv$ may be used.

Footnotes should be avoided.

3. *Diagrams*

It is extremely helpful if diagrams are drawn in indian ink on white card, faintly blue or green-lined graph paper, or tracing cloth or paper. *Symbols, legends and captions should be given on a transparent overlay.* Each text figure must be numbered as Figure 1, Figure 2, ... and its intended position clearly indicated in the manuscript:

Figure 1 here

The author must pencil his name on all separate sheets of diagrams.

A figure is expensive to reproduce and should be included only when the subject matter demands it, or when it greatly clarifies the exposition.

The Society recognizes that some authors do not have the facilities for producing drawings of a sufficiently high standard to be reproduced directly and it is therefore willing to have such diagrams re-drawn, provided they are reasonably clear.

4. *Tables*

Tables should be numbered (above the table) and set out on separate sheets. Indicate the position of each in the text as for figures:

Table 3 here

5. *References*

References should be collected at the end of the paper numbered in alphabetical order of the authors' names. A reference to a book should give the title, in italics, and then in Roman type the publisher's name and the place and year of publication:

(4) JEFFREYS, H. *The earth*, 5th edition, University Press, Cambridge, 1970.

A reference to a paper should give in italics the title of the periodical, the number of the volume and year, and the beginning and end pages of the paper. Titles should be abbreviated as in Mathematical Reviews:

(6) LITTLEWOOD, J. E. The 'pits effect' for functions in the unit circle. *J. Analyse Math.* **23** (1970), 237–268.

https://doi.org/10.1017/S0305004100053020 Published online by Cambridge University Press

Mathematical Proceedings of the Cambridge Philosophical Society

MPCPCO 80 (Pt 3) 385–576 (1976) 0305–0041 November 1976

CONTENTS

	PAGE
KUNEN, K. Some points in βN	385
EDGE, W. L. Non-singular models of specialized Weddle surfaces	399
BOLLOBÁS B. and ERDÖS, P. Cliques in random graphs	419
BIGGS, N. L. On the duality of interaction models	429
HAWKES, T. O. A Fitting class construction	437
BREWSTER, B. and OTTAWAY, M. The supersolvable residual of an $\mathscr{L}_1$-group	447
CHISWELL, I. M. Abstract length functions in groups	451
TONGE, A. M. Banach algebras and absolutely summing operators	465
ADAMS, J. F. and PRIDDY, S. B. Uniqueness of *BSO*	475
GRIFFITHS, H. B. The case of the jumping critical point	511
KÖLLERSTRÖM, J. Stochastic bounds for the single-server queue	521
BENNETT, J. A. A new derivation of the W.K.B. solution for the coupled equations of radio waves in the ionosphere	527
JUDD, B. R. Modifications of Coulombic interactions by polarizable atoms	535
RILEY, N. Oblique slot blowing into a supersonic laminar boundary layer	541
ADEROGBA, K. On eigenstresses in a semi-infinite solid	555
PROCEEDINGS 1975–76	563
ACCOUNTS FOR THE YEAR ENDED 31 DECEMBER 1975	571

© The Cambridge Philosophical Society 1976

CAMBRIDGE UNIVERSITY PRESS

BENTLEY HOUSE, 200 EUSTON ROAD, LONDON NW1 2DB

32 EAST 57TH STREET, NEW YORK, N.Y. 10022

Price £6.40 *net* (*U.S.A. and Canada US* $18.00)

Subscription price £16.00 *per volume* (£32.00 *per annum*) *net post free*

(*US* $45.00 *per volume* (*US* $90.00 *per annum*) *in U.S.A. and Canada*)

Printed in Great Britain at the University Printing House, Cambridge

https://doi.org/10.1017/S0305004100053020 Published online by Cambridge University Press