

Annual Review 2013

The Harrison
clock in the
City Museum

The photograph on the front cover is
by Dr Jeffrey Darken
©Leeds Museums and Galleries



**Leeds Philosophical
and Literary Society
Annual Report and Review
2013**

The 193rd Annual Report of the Council
at the close of the session 2012-13

*presented to the Annual Meeting held on
4th December 2013*

and

Reviews of events and of grants awarded in 2013

THE LEEDS PHILOSOPHICAL AND LITERARY SOCIETY, founded in 1819, has played an important part in the cultural life of Leeds and the region. In the nineteenth century it was in the forefront of the intellectual life of the city, and established an important museum in its own premises in Park Row. The museum collection became the foundation of today's City Museum when in 1921 the Society transferred the building and its contents to the Corporation of Leeds, at the same time reconstituting itself as a charitable limited company, a status it still enjoys today.

Following bomb damage to the Park Row building in the Second World War, both Museum and Society moved to the City Museum building on The Headrow, where the Society continued to have its offices until the museum closed in 1998. The new Leeds City Museum, which opened in 2008, is now once again the home of the Society's office. In 1936 the Society donated its library to the Brotherton Library of the University of Leeds, where it is available for consultation. Its archives are also housed there.

The official charitable purpose of the Leeds Philosophical and Literary Society is (as newly defined in 1997) "To promote the advancement of science, literature and the arts in the City of Leeds and elsewhere, and to hold, give or provide for meetings, lectures, classes, and entertainments of a scientific, literary or artistic nature". The Society is keenly interested in cultural developments in Leeds and the region, and is constantly looking for new ways to further its aims.

Application forms may be obtained from the Hon Treasurer and are also to be found on the Society's website.

Website: www.leedsphilandlit.org.uk

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**THE LEEDS PHILOSOPHICAL AND LITERARY SOCIETY LIMITED
LEGAL AND ADMINISTRATIVE INFORMATION**

Constitution	Company limited by guarantee. Registered number 177204 Registered charity number 224084
Governing document	Memorandum and articles adopted 2 July 1997.
Members of Council (who are trustees for charity law and directors for company law)	
President	A C T North BSc, PhD, CPhys, FInstP
Vice-president	J M Hill BA, DPhil, D Univ, FEA, FRSA, Hon. ISAS
Treasurer	J R Evans TD, FCA
Secretary	J E Lydon BSc, PhD
Other Council members	R J Bushby BSc, DPhil C M Taylor BSc (Eng), MSc, PhD, DEng , FEng, FIMEchE, FCGI J N Douglas BA, MA P J Evennett BSc, PhD, Hon FRMS C J Hatton BSc, PhD, CPhys, FInstP P N Hirschmann MSc, FDS, FRCR, DDR R Jakeways BSc, PhD, CPhys Councillor E Nash B F Richardson MA, MPhil, FBA M R D Seaward MSc, PhD, DSc, FLS P Wainwright BSc (resigned December 2012)
Registered Office	c/o Leeds City Museum Cookridge Street Leeds LS2 8BH
Website	www.leedsphilandlit.org.uk
Bankers	Lloyds TSB 6/7 Park Row Leeds LS1 1NX
Investment advisors	Investec 2 Gresham Street London EC2V 7QP
Independent Examiner	Katharine Widdowson ACA 406 Otley Road, Leeds LS16 8AD

THE LEEDS PHILOSOPHICAL AND LITERARY SOCIETY

193RD ANNUAL REPORT FOR 2012-2013

The Council presents its report and financial statements for the year ended 30 September 2013. The financial statements comply with current statutory requirements and with the requirements of the Society's memorandum and articles.

CONSTITUTION

The Society is a company limited by guarantee governed by its memorandum and articles of association. Membership is open to anyone on payment of an annual subscription of £18 which is due on 1 October each year. Only those members who have paid or have been elected to Honorary Membership are entitled to vote at the AGM. In the event of the Society being wound up, every person who is a member, or who has been a member within one year, is liable to contribute to the debts and liabilities of the Society a sum not exceeding £10.

STRUCTURE, GOVERNANCE AND MANAGEMENT

The members of the Council are considered to be both directors for Companies Act purposes and trustees for Charities Act purposes. One third of the members of Council retire by rotation at each Annual General Meeting (normally held in December), when appointments or reappointments are made. The Council has powers to co-opt to its membership. Membership of the Council takes into account the need to have members with expertise to cover the variety of activities of the Society. All members of the Society are notified prior to the AGM of the names of the Council members who are due to retire and are invited to submit nominations. The AGM held on 4th December 2013 approved the re-election of Ms Douglas, Dr Evennett, Professor Richardson and Professor Taylor and the election of Mr J R Evans.

The Officers of the Society are elected by and from the members of Council at the first meeting of Council following the Annual General Meeting; at the Council meeting on 10th January 2013, Professor North was re-elected as President, Dr Lydon as Secretary, Mr Evans as Treasurer and Professor Hill as Vice-President, with a view to her election as President after the next AGM.

Council met on six occasions during 2012-2013. Parts of its business were delegated to the following committees: Grants, Events, Publications and Museums, chaired respectively by Dr Hatton, Mrs Wainwright, Mr Hirschmann and Professor North. Following the resignation of Mrs Wainwright, Professor Bushby was appointed as Chairman of the Events Committee. These committees are required to act in accordance with the Society's Aims and Policies, and their recommendations are put to the Council for its approval.

Mr Norman Madill has continued as Assistant Secretary, managing the Society's links with its members, the sale of its publications (in association with Jeremy Mills Publishing Ltd), and other necessary administrative matters.

THE SOCIETY'S AIMS AND ACTIVITIES

General

The Society aims to promote the advancement of science, literature and the arts in the city of Leeds and its immediate area. In furtherance of this aim, which Council believes to be of benefit to the public in this area, the Council's policy has been to disburse its income as follows by:

- providing a programme of free public lectures relevant to the Society's aims
- supporting the work of the City of Leeds Museums & Galleries
- supporting other activities in Leeds of a scientific, literary or artistic nature
- providing grants for purposes of research, publication, or artistic performance
- awarding prizes

Grant-making policy

In making grants to promote the advancement of the Society's aims, the Council places particular emphasis on (but does not limit its grants to) the support of activities which directly benefit the citizens of Leeds or assist those engaged in academic and scholarly activities relating to Leeds and its immediate area. It does not normally give grants in general support of students on taught courses. The value of grants is normally in the range £100 to £2,000, although this limit may be exceeded in special circumstances. The Council is keen to support new endeavours by the award of 'pump-priming' grants.

The Society's archives

The Society's archives are held in the Special Collections section of the Brotherton Library and during the year conservation work has been carried out on the more important documents in the collection, which has now been supplemented by the working papers of Murray Mitchell on the *Building Stone Heritage of Leeds* book published by the Society.

As we have no library of our own we have now given the Leeds Library copies of a number of books that we had received because of the financial support we had given towards their publication.

ACHIEVEMENTS AND PERFORMANCE

During the 2012-2013 session, the Society continued its recent successes in fulfilling its aims as listed above, including a programme of artistic and scientific events for members and non-members as detailed below. During the year the Society lost 16 members through resignation or death and welcomed 12 new members, so that at the end of September 2013 the total number stood at 185.

Events

The regular monthly events covered a wide range of topics as usual and were always well supported both by Society members, guests and members of the public. The Egyptian Pharaohs exhibition in the arena of the City Museum resulted in the Annual Science Fair, normally held in the Spring, being postponed until the Autumn, resulting in two Fairs being held in 2012/2013.

The following events took place:

- Professor Jane Francis *Captain Scott's Triumph – the Glossopteris Fossil*
- 2012 Annual Science Fair in the Leeds City Museum
- Professor Robin Perutz *Solar Energy*
- Mike Hoyland *Pre-Bonfire-Night Spectacular*

- The Priestley Lecture: Michael Harvey, National Media Museum, Bradford *The first moving colour pictures*
- Patrick Eyres *Dan Dare and L Ashwell Wood*
- Annual General Meeting and Dinner, with after-dinner speaker, Nima Poovaya-Smith: *Diamond Chronicles – India and the West*
- Malcolm Lobley *Haiti – heraldry, history and a touch of voodoo*
- Professor John Bradley *Through the cooking glass – flavours and aromas*
- An evening with Mark Hearld
- 2013 Annual Science Fair in the Leeds City Museum
- Michael Ridsdale *The Fountains Abbey Estate*
- Professor Peter Main *Sound*
- Professor Tony North & Dr Arwen Pearson *The Bragg Centenary*
- Summer visit to Lyme Park and the Cooperative Museum in Rochdale
- Natural History-Themed Road Show at the Discovery Centre, *organised with the Leeds City Museum*

In addition, the Society was represented at several events, organised by the University of Leeds, concerned with the centenary of W H and W L Bragg's discovery of the principles of X-ray crystallography. These included the unveiling of a plaque at the house Whin Brow, near Scarborough, where the Braggs first heard of experiments describing the diffraction of X-rays by crystals. The cost of the plaque was met partly by the Society – see Grants section below.

Grants and Prizes

During the year the following grants and prizes were awarded by the Society:

- Brendan McPartlan, £500 to support poets attending 'Wicked Words Showcase' events at Severn Arts Centre in Chapel Allerton.
- Michael Meadowcroft, £750 to support the acquisition of microfilms of the papers of Mary Gawthorpe (1881-1973), Leeds suffragette.
- John Roles on behalf of Leeds Museums and Galleries, £500 towards the purchase of a John Atkinson Grimshaw watercolour, *View of Leeds from Woodhouse Ridge*.
- Professor Derek Scott, £200 towards the permissions charges for illustrations in a forthcoming book, *Music and the Idea of the North*.
- Kerry Harker, £750 to commission an essay and photography on the former Tetley Headquarters Building which has been leased by Project Space Leeds from Spring 2013.
- Dr James Stark on behalf of the young, professional, Leeds-based choir - *Ecclesia*, £400 to support a schools' educational event: *Gabriel Faure – Requiem* at St Aidan's Church, Roundhay.
- Dr Claire Jones, £1000 to enhance the 'virtual home' of the Museum of the History of Science, Technology and Medicine at the University of Leeds.
- Veronica Lovell, \$350 plus charges to enable a hard copy and CDs of Humphry Repton's *Armley House Red Book* to be archived locally in Leeds City Library.
- Dr Jessica Malay, £1000 towards the production costs of an edition of Anne Clifford's *Great Books of Record*.

- Dr Stephen Muir, £1096 towards the accommodation costs of invited speakers attending the international conference *Richard Wagner's Impact on His World and Ours*, to be held in Leeds, 30 May – 2 June 2013.
- Nigel Walsh on behalf of Leeds Art Gallery, £450 towards the acquisition of a portfolio of nine mono prints, *Perse (Ancienne) Dressee (2009)* by the artist Karen Babayan.
- Pascal Ansell, £300 towards the publication of a student-led journal Roundhouse at the University of Leeds.
- Prof Richard Andrews, £750 towards the purchase of a baroque viola for the Leeds Baroque Orchestra.
- Dr Christopher Hammond, £200 towards a Bragg plaque at 'Whin Brow', Cloughton, nr Scarborough.
- Kathleen Evans, £750 to support the Education Programme associated with the fifth Leeds Lieder+ Festival.
- Hazel Costello, £250 towards the cost of staging the Science Fair at the 2013 Otley Science Festival.
- Richard Tinker, £300 towards the printing of fund-raising leaflets associated with the restoration of the Emily Ford Paintings in All Souls' Church Blackman Lane, Leeds.
- Guy Wilson, £225 to provide prizes for the 2013 Leeds Peace Poetry Competition.
- William Rose, £750 to support research into the history of alternative film and video production in connection with the celebration of the centenary of the Hyde Park Picture House in 2014.
- Dr Arwen Pearson, £750 towards the commissioning of a new work by Cheryl Frances-Hoad for the Clothworkers Consort based around the Braggs' work on X-ray crystallography in Leeds.
- Jane Anthony, £750 towards the production costs of *Opera Appetizers* to be performed by Young Opera Venture on tour.
- Irfan Shah, £1500 to support research costs associated with the production of 'The First Film' by Guerilla Films Limited.
- Sandra Carlon, £200 to support a performance of contemporary classical music by the Ligeti Quartet at the White Cloth Gallery, Leeds.
- Prof Greg Radick, £1369.20 to fund Mark Steadman securing and developing the collections of the University of Leeds Zoological Museum.
- Arthur Chadwick Prize: Paul White, BSc in Medical Biochemistry.
- Modern Languages Prize: Lawrence Newberry-Payton, BA in French and Japanese.

Publications

The second edition of *Walks Round Redbrick* by the late Maurice Beresford, revised by Christopher Hammond, was published in 2013 as a joint publication with the Thoresby Society and the University of Leeds.

The Leeds City Museum

As before, we have continued to enjoy a good relationship with the staff of the Museums, to whom we are most grateful for their collaboration. It has been helpful that Mr John Roles, the Head of Leeds Museums and Galleries, has attended a number of Council meetings. Council meetings have continued to be held in the Museum. The Museum's arena again provided a splendid theatre for our 'pre-bonfire night spectacular'.

The Museums Committee, comprising representatives from the Council and the Leeds Museums Service, has met twice in the course of the year and provides a valuable meeting place to discuss collaboration in the planning of events and the best use of grants for supporting the museum.

FINANCIAL REVIEW

The Society's budget aims to fund its events, grants and publications from its income. The Society's financial position has been monitored regularly by the Council and in discussions with representatives of Investec Wealth and Investment, our investment advisers. Dividend income from investments within the financial year amounts to £16,243, a return of 4.0% against 4.3% in the previous year. The market value of the Society's fixed assets investments in this year has risen by 9.2%. The investment advisers continue to work towards achieving the level of income that the Society has previously enjoyed. Our liquid reserves in the Charities Deposit Fund have increased slightly thanks to the small amount of interest that the fund attracts. The overall general unrestricted funding base of the Society has increased by some 7.6% to £426,126.

Reserves policy

The Society's reserves comprise an unrestricted fund derived from past benefactions and its annual subscriptions, including the proceeds from the sale of the Philosophical Hall to Leeds City Council in 1921. The fund has increased in value over the years as income exceeded expenditure. Since the Society adopted its new constitution in 1997, Council's aim in the medium term has been to balance its expenditure and income without depleting the capital value of its investments. The Society's income and expenditure do, however, vary from year to year depending on a number of factors. The Council therefore considers it prudent to hold liquid reserves in the Charities Deposit Fund and current bank account. The policy on reserves is reviewed annually by the Council as part of its annual budget review.

Investment policy

There are no restrictions in the Society's Memorandum and Articles on the Society's power to invest. The Council's investment objectives are to maintain a level of income sufficient to fund the Society's activities, while maintaining the capital value of its invested assets over the long term in line with inflation. To this end, it is the Society's normal practice to reinvest realised gains on its assets. The Council has delegated the management of its investments on a discretionary basis to Investec Wealth and Investment.

Risk management

- 1) Income: The investment managers pursue an active investment policy on the Society's behalf. The arrangements are regularly reviewed by the Trustees.
- 2) Expenditure: Expenditure on *individual* Grants, Publications and Events usually represents a small part of total expenditure and risks are minimised by standard procedures for authorisation of all financial transactions. The potential risks at the Society's events are considered as part of the planning for them, and appropriate steps are taken, including the arrangement of Public Liability insurance as necessary.
- 3) The quality of the Society's Events and Publications and the outcome of Grants that have been awarded are reviewed by the Trustees at their regular meetings so as to ensure that all the Society's activities are of a high standard consonant with its Aims.

The Society has taken advantage of the small companies' exemption in preparing this directors' report.

Approved by the members of the Council on 7 November 2013, and signed on their behalf by
A. C. T. North (President) and J. R. Evans (Treasurer)

**STATEMENT OF FINANCIAL ACTIVITIES
FOR THE YEAR ENDED 30 SEPTEMBER 2013**

	Note	2013		2012	
		£	£	£	£
Incoming resources from generated funds					
<i>Voluntary income:</i>					
Subscriptions and donations			3,930		3,825
<i>Investment income:</i>					
Dividends			16,243		16,009
Interest receivable			192		277
Incoming resources from charitable activities					
Sales of publications	2		40		491
Income from events			3,452		3,660
Total incoming resources			23,857		24,262
Resources Expended					
Costs of generating funds					
Investment management fees			3,786		3,438
Charitable activities					
Costs of publications	2	1,500		443	
Grants payable	3	15,477		11,225	
Other charitable activities	4	2,369		2,108	
Cost of events		3,661		4,110	
			23,007		17,886
Governance costs	5		3,368		4,163
Total resources expended			30,161		25,487
Net (outgoing)/incoming resources before other recognised gains and losses					
			(6,304)		(1,225)
Other recognised gains and losses					
<i>Gains/(losses) on investment assets:</i>					
Realised	6	4,250		2,106	
Unrealised	6	32,343	36,593	32,914	35,020
Net movement in funds			30,289		33,795
Reconciliation of funds					
Fund balance brought forward			395,837		362,042
Fund balance carried forward			426,126		395,837

The Society had no recognised gains or losses other than those shown above.
The notes on pages 12 to 15 form part of these accounts.

BALANCE SHEET
30 SEPTEMBER 2012

	Note	2013		2012	
		£	£	£	£
Fixed assets					
Investments	6		403,141		369,135
Current assets					
Debtors	7	2,192		2,555	
COIF Charities Deposit Account		29,312		29,138	
Bank current account		2,030		6,290	
		<u>33,534</u>		<u>37,983</u>	
Creditors: amounts falling due within one year	8	<u>(10,549)</u>		<u>(11,281)</u>	
Net current assets			<u>22,985</u>		<u>26,702</u>
			<u>426,126</u>		<u>395,837</u>
Funds					
General Fund - unrestricted			<u>426,126</u>		<u>395,837</u>

For the year ended 30 September 2013 the company was entitled to exemption from audit under sections 475 and 477 of the Companies Act 2006.

No member eligible to do so has required the company to obtain an audit of its accounts for the year ended 30 September 2013 in accordance with section 476.

Directors' responsibilities:

- The directors acknowledge their responsibilities for complying with the requirements of the Companies Act 2006 with respect to accounting records and the preparation of accounts.
- These accounts have been prepared in accordance with the special provisions in part 15 of the Companies Act 2006 relating to small companies.

Approved by the Members of Council on 7 November 2013 and signed on their behalf by:

A C T North

President

J R Evans

Treasurer

The notes on pages 12 to 15 form part of these accounts.

**NOTES TO THE ACCOUNTS
FOR THE YEAR ENDED 30 SEPTEMBER 2013**

1 Accounting policies

Basis of accounting

The accounts have been prepared using the historical cost convention except for the inclusion of investments at market value, and in accordance with the Statement of Recommended Practice "Accounting and Reporting by Charities", the Financial Reporting Standard for Smaller Entities and the Companies Act 2006.

Investment income

Investment income is credited when due, together with any corresponding income tax recoverable.

Publication costs

All costs of academic publications are carried forward until publication and written off in that year. No value is assigned to any stocks the Society holds of earlier publications.

Grants payable

Grants payable are voluntary payments to individuals or organisations in furtherance of the Society's objectives. Grants are accounted for when they have been approved by the council and the recipient has been told of that approval.

Governance costs

Governance costs are the costs of administering the charity, including communicating with members.

Fixed assets investments

Fixed assets investments are revalued at market value at the year end. All gains and losses, whether realised or unrealised, are reported on the Statement of Financial Activities.

	2013 £	2012 £
2 Publications		
Income from Society's publication sales	40	491
	<u>40</u>	<u>491</u>
Costs of academic publications:		
Reprinting "Leeds Mummy - Nesyamun" booklet	-	443
	<u>-</u>	<u>443</u>
	<u>-</u>	<u>443</u>
Grants for other organisations to publish		
Thoresby Society - Walks around red brick	1,500	-
	<u>1,500</u>	<u>-</u>
	<u>1,500</u>	<u>-</u>

NOTES TO THE ACCOUNTS (continued)
FOR THE YEAR ENDED 30 SEPTEMBER 2013

	2013 £	2012 £
3 Grants payable		
Projects or organisations (12 grants)	7,375	5,525
Individuals (7 grants)	4,665	1,000
Leeds City Council (3 grants)	1,187	2,200
University of Leeds (2 grants)	1,750	2,000
University of Leeds for prizes	500	500
	<u>15,477</u>	<u>11,225</u>

The grant recipients are listed in the Annual Report for the year.

4 Other charitable activities		
Public lectures and fireworks demonstration	2,135	2,108
Science Fair banner	206	-
Marketing leaflets	28	-
	<u>2,369</u>	<u>2,108</u>

5 Governance costs		
Annual Review 2012	151	208
Stationery	85	95
Telephone & postage	135	879
Insurance	350	350
Sundries	47	31
Accountancy and independent examination	600	600
Assistant secretary's honorarium	2,000	2,000
	<u>3,368</u>	<u>4,163</u>

The costs for stationery, postage and the assistant secretary's honorarium include an element of support costs for grant making and publication sales. This is not material and cannot be easily identified.

No remuneration has been paid to any trustee in the year. No expenses (2012 - £nil) were reimbursed to trustees.

NOTES TO THE ACCOUNTS (continued)
FOR THE YEAR ENDED 30 SEPTEMBER 2013

6 Fixed asset investments

	Listed Investments £	Cash for investment £	Total 2013 £	Total 2012 £
Market value at 1 October 2012	355,352	13,783	369,135	336,972
Disposals at opening market value	(103,519)	-	(103,519)	(69,691)
Cash reinvested	-	11,554	11,554	10,460
Investment management fees	-	(3,695)	(3,695)	(3,370)
Acquisitions at cost	97,323	-	97,323	61,850
Net gains on revaluation	32,343	-	32,343	32,914
Market value at 30 September 2013	381,499	21,642	403,141	369,135
Historical cost at 30 September 2013	334,335	21,642	355,977	373,785
Proceeds of disposal of investments			107,769	71,797
Realised gain			4,250	2,106

Analysis of investments

	Market value	
	2013 £	2012 £
UK equities including unit trusts	157,542	157,131
International equities and property, including unit trusts	141,761	89,795
Gilts, bonds and fixed interest stocks	82,196	108,426
Cash held by investment managers	21,642	13,783
	403,141	369,135

NOTES TO THE ACCOUNTS (continued)
FOR THE YEAR ENDED 30 SEPTEMBER 2013

	2013 £	2012 £
7 Debtors		
Income tax recoverable	27	92
Investment income	1,481	1,314
Sundry debtors and prepayments	684	1,149
	<u>2,192</u>	<u>2,555</u>
	<u><u>2,192</u></u>	<u><u>2,555</u></u>
	2013 £	2012 £
8 Creditors: amounts falling due within one year		
Trade creditors	150	1,290
Grants approved but not yet paid	8,250	7,950
Accrued expenses	2,149	2,041
	<u>10,549</u>	<u>11,281</u>
	<u><u>10,549</u></u>	<u><u>11,281</u></u>



The year's finances at a glance

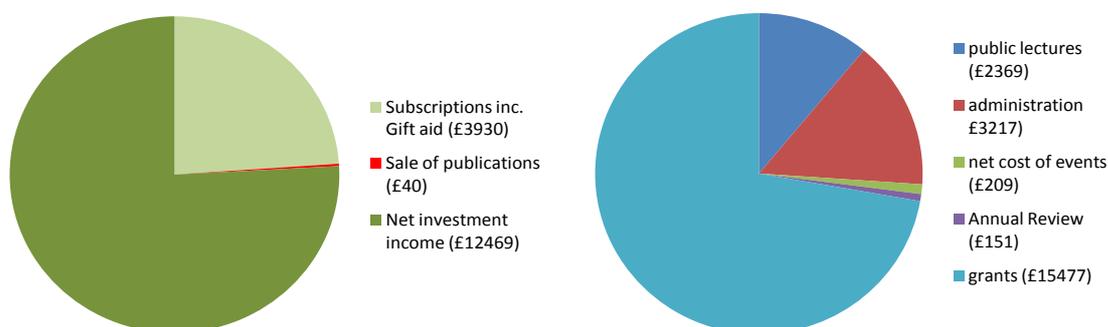
We are required by law to set out our finances in the form given in the preceding pages. It may however be helpful to set the Society's finances during the financial year in a different context. The Society sets a broad budgetary aim of funding its events, grants and publications from income during any financial year. To this end a budget is drawn up and approved by Council to attempt to achieve a balance between income and expenditure, determined on a receipts and payments basis, for the financial year. The pie charts for income and expenditure during the 2012-13 financial year are presented below.

Expenditure on grants in any financial year is not equal to the value of grants awarded in that year, as not all grants awarded are paid during the same year, and payments include those awarded in previous years; payments of substantial grants awarded in previous years is the main factor in the Society's expenditure being significantly greater than its income in 2012-3.

As usual, the difference between events income and expenditure is small, representing hospitality for guests.

Dividends (less management fees) amounted to some 76% of the income and Subscriptions (including gift aid) almost 24%. Grant payments represent 72% of expenditure, the cost of public lectures 11% and administration costs totalling 15% of expenditure include an honorarium, the accountant's fee, stationery, photocopying, telephoning, postage and printing.

John Evans, Hon. Treasurer



Presidents

(since the foundation of the Society)

1820-26	John Marshall	1919-22	Sydney D Kitson, MA, FSA, FRIBA
1826-28	Revd W H Bathurst, MA	1922-24	Arthur J Grant, MA
1828-31	Michael Thomas Sadler, MP	1924-26	Walter Garstang, MA, DSc, FZS
1831-33	William Hey	1926-28	Edwin Hawkesworth
1833-35	James Williamson, MD	1928-30	F W Branson, FIC
1835-37	Revd Joseph Holmes, MA	1930-32	E O Dodgson
1837-40	Revd Richard Winter Hamilton	1932-34	A Gilligan, DSc, FGS
1840-42	Adam Hunter, MD	1934-36	R Whiddington, MA, DSc, FRS
1842-45	John Hope Shaw	1936-39	Hugh R Lupton MC, MA
1845-50	Revd William Sinclair, MA	1939-46	W M Edwards, MC, MA
1850-51	William West, FRS	1946-48	E A Spaul, DSc, PhD
1851-54	Revd Charles Wicksteed, BD	1948-50	W L Andrews
1854-57	John Hope Shaw	1950-52	J N Tetley, DSO, LLD
1857-58	James Garth Marshall, FGS	1952-54	Terry Thomas, MA, LLD, BSc, PhD
1858-59	Revd W F Hook, DD	1954-56	H C Versey, DSc, FGS
1859-61	Revd Alfred Barry, MA	1956-58	H S Vick, JP
1861-63	Thomas Pridgin Teale, FRS	1958-60	H Orton, MA, BLitt
1863-66	Revd Thomas Hincks, BA	1960-62	Sir George Martin, LLD, JP
1866-68	Charles Chadwick, MD	1962-64	E J Wood, MA
1868-72	John Deakin Heaton, MD	1964-66	R D Preston, DSc, FInst P, FRS
1872-74	Revd Canon Woodford, DD	1966-68	J le Patourel, MA, DPhil
1874-76	J I Ikin, FRCS	1968-70	G P Meredith, MSc, MEd, PhD
1876-78	Revd J H McCheane, MA	1970-72	J G Wilson, MA, PhD, FInst P
1878-81	T Clifford Allbutt, MD, FRS	1972-74	J Taylor, MA
1881-83	Revd John Gott, DD	1974-76	H Henson, DSc, PhD, FRES
1883-85	J E Eddison, MD	1976-78	P R J Burch, MA, PhD
1885-86	Edward Atkinson, FLS	1978-81	R Reed, MSc, PhD
1886-89	Thomas Marshall, MA	1981-83	Lord Marshall of Leeds, MA, LIB
1889-92	Thomas Pridgin Teale, MA, FRS	1983-85	B R Hartley, MA, FSA
1892-94	Revd J H D Matthews, MA	1985-87	D Cox, BA, ALA
1894-96	Revd Charles Hargrove, MA	1987-89	B Colville, MB, BS, FRCGP
1896-98	Edmund Wilson, FSA	1989-91	I S Moxon, MA, BA
1898-00	Nathan Bodington, MA, LittD	1991-93	R F M Byrn, MA, PhD
1900-02	J H Wicksteed, President InstME	1993-95	Mrs J E Mortimer, BA
1904-04	Arthur Smithells, BSc, FRS	1995-97	A C Chadwick, BSc, PhD, DSc, CBiol, FIBiol, FRGS
1906-06	J E Eddison, MD	1997-99	O S Pickering, BA, BPhil, PhD, DipLib
1906-09	E Kitson Clark, MA, FSA, MInstCE	1999-03	P J Evennett, BSc, PhD, Hon FRMS
1909-11	Revd J R Wynne-Edwards, MA	2004-07	M R D Seaward, MSc, PhD, DSc, FLS
1911-12	C T Whitmell, MA, BSc, FRAS	2007-10	C J Hatton, BSc, PhD, CPhys, FInstP
1912-14	P F Kendall, MSc, FGS	2010-13	A C T North, BSc, PhD, CPhys, FInstP
1914-17	Revd W H Draper, MA	2013-	Joyce M Hill, BA, DPhil, DUniv, FEA, FRSA
1917-19	James E Bedford, FGS		

Life Members

Byrn, Dr R F M
Day, N
Laurence, Miss M

Moxon, I S
Pantin, Dr H M
Tetley, R J

Subscribing Members, as at 31.12.2013

Adamthwaite, Professor A P	Dalton, Dr S	Henderson, A
Alexander, Professor R McN	Danil, L R	Henderson, Professor P J F
Allen, K	de Pennington, Mrs J	Higgins, Dr J M
Andrews, Professor R A	Devereux, Dr T A	Higgins, Dr S J
Archenhold, W F	Diamond, N	Hill, Professor J M
Arnold, J O	Dodson, Mrs H I	Hindmarch, Professor I
Ash, D	Douglas, Ms J N	Hirschmann, P N
Baker, Dr R A	Dowson, Professor D	Hope, Professor T E J
Barker, Ms J	Drewett, Dr R	Hoyland, M
Bates, J	Drife, Dr D	Jakeways, Dr R
Beddows, Professor C G	Eastabrook, Ms G	James, M
Bellerby, Mrs E	El-Hassani, M R	Jenkins, Professor E W
Bielby, N	Evans, J R	Johnson, Dr C L
Blair, Professor G E	Evennett, Dr P J	Jones, Mrs R L
Blair, Dr M	Eyres, Dr P J	Kaye, R
Boothroyd, K	Farmer, P J	Kellerman, Mrs S
Bower, Dr D I	Finnigan, R E	King, Dr M H
Briggs, M	Fletcher, Mrs C	Kirby, Revd Dr D A
Britten, E A	Fletcher, Dr C R	Knapp, Dr D G
Brown, Mrs C	Forbes, Mrs M	Knowles, R
Buchanan, Mrs M	Forster, G	Lance, Professor C E
Bushby, Professor R J	Gaunt, Dr G	Larkin, B
Butlin, Professor R K	Godfrey, Ms M A	Lawson, P W G
Cecil, Hugh	Gooday, Professor G	Lees, R
Chadwick, Mrs A L	Gosden, Dr M S	Lewis, Dr E L V
Chadwick, P R P	Grady, Dr K	Lockett, Dr A
Chesters, Dr M S	Griffin, Mrs E	Lydon, Dr J E
Childs, Professor W R	Griffiths, Dr W K	Lynch, Ms K
Collins, C J	Hall, Dr K	McCleery, Dr I
Colville, Dr B	Hammond, Dr C	McTurk, Professor R
Conaboy, A	Hann, Professor M A	Madill, N
Cooper, Miss E	Harrison, Mrs H	Maunder, Mrs S
Crosswell, R	Harrison, M R	Meadowcroft, M
Cruse, J	Hatton, Dr C J	Meredith, Professor P
Dagg, Dr M	Hayton, Ms M	Mill, Dr P J

Millner, Dr P A
Monaghan, J J
Morgan, Professor G J
Morgan, J
Morris, A
Muller, A E W
Murphy, K
Nash, Cllr Mrs E A
Newiss, Miss J
Nix, P J
North, Professor A C T
Oakshott, Ms J, MBE
Olakulehin, F
Oughton, J
Parker, Dr K D
Parry, Professor G
Paynton, Ms C
Peacock, Mrs A
Peat, Dr D W
Pickering, Dr O S
Plant, Mrs I
Proctor, Ms J
Rastall, Professor G R
Rawnsley, Dr S J
Reed, Dr E (*dec'd*)
Reynolds, P
Richardson, Professor B F

Robson, Ms R M
Roche, Mrs G M
Rushton, Professor J G
Salinger, Dr D
Sanderson, Dr J
Savage, Professor M D
Seaward, Professor M R D
Secrett, M
Sellen, Dr D B
Sentug, Ms A
Shaw, K
Sherwin, Dr J R
Simms, J
Slomson, Dr A
Smith, Mrs A
Smith, Mrs D
Smith, W
Smithson, R T
Sowrey, Dr J T
Speakman, Dr P T
Stafford, Professor P A
Stephenson, Mrs A
Sunderland, Dr P
Suter, Mrs P A
Sutton, Dr S L
Swire, Ms L M P

Taggart, Ms L
Tannett, P G
Taylor, Professor C M
Taylor, Professor D
Temple, Mrs M
Thomas, M E
Thomas, P
Thornton, Dr D
Turton, Dr A
Unsworth, Dr R
Wainwright, M
Wainwright, Mrs P
Watson, Professor A A
Webster, I C
Welch, Dr R B
West, A
Wells, P
Wesley, Mrs J
Widdowson, Mrs J
Wilson, Miss C A
Winn, P
Wood Robinson, Mrs V
Wright, Dr P G
Wyatt, Dr H V
Yates, B J
Yorke, Ms J



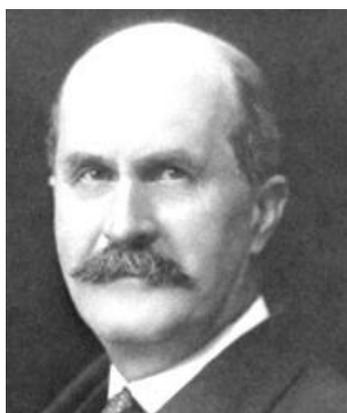
Reports of Events held during 2013

Editor's note: the events described below cover the calendar year 2013 and therefore differ from those listed in the Annual Report section of the Review for the financial year 1 October 2012 to 30 September 2013.

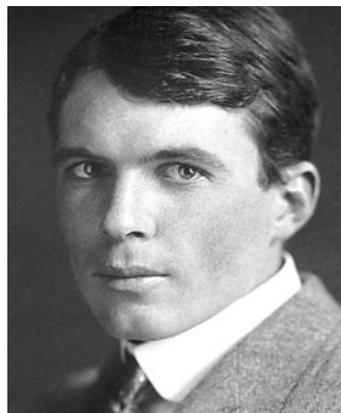
2013 – An important Leeds Centenary

1913 was the year in which Professor William Bragg and his son Lawrence laid the foundations of the scientific discipline of X-ray crystallography, which has led to an understanding of the fundamental structures and properties of molecules. It has been celebrated in Leeds by a series of events led by the University of Leeds and by the Leeds Philosophical and Literary Society. Three of these are described in the following sections.

The Bragg Centenary – Professor A C T North & Dr A R Pearson 20 June 2013



WHB. William Henry Bragg (1862-1942)



WLB. William Lawrence Bragg (1890-1971)

The meeting consisted of two lectures. The first, given by Professor North, entitled *The Braggs and the fruition of molecular biology*, was a chronicle of the lives and work of the Braggs, father and son, including the pioneering work of W T Astbury, one of WHB's former research staff.

After graduating in maths at Cambridge, William Henry Bragg took the chair of maths and physics in the University of Adelaide. There he found himself responsible for all of the maths and physics teaching in the university. With a severe shortage of apparatus for teaching, he apprenticed himself to a firm of instrument makers to build equipment for his classes – a love of good instruments was to be a major factor in his Leeds work. In 1903 he embarked on his first serious independent research, concerning radioactivity, and the properties of α and β particles and γ rays. At this time he was convinced that X-rays were streams of particles (and there was no experimental evidence to make him question this picture). His work was well received in Europe, to the extent that was elected a Fellow of the Royal Society in 1907. He then returned to Britain to the Cavendish chair of Physics at Leeds.

The turning point in his life occurred in 1912 with news from Germany. Max Laue had shone an X-ray beam on to a crystal and obtained a pattern of spots on a photographic film from the scattered rays. Precisely what was happening was unclear and Laue's explanation did not fully explain the appearance of the pattern. WHL had no success with a model involving streams of particles passing through channels in the crystal structure. It was at this point in 1912, that his son, William Lawrence Bragg, who was at that time a research student in his first year at Cambridge, had a flash of insight.

The idea suddenly leapt into my mind that Laue's spots were due to the reflection of X-ray pulses by sheets of atoms.

This was neatly expressed in the form of Bragg's law, (usually expressed in terms of the deceptively simple relationship, $n\lambda = 2d\sin\theta$).

The structures of some simple crystalline solids, NaCl, and KCl, were soon solved. Both were regularly-packed arrays of positive and negative ions, with cubic symmetry. That there were no discrete molecules present caused considerable consternation amongst the more traditional chemists.

In later life, Lawrence Bragg always said that it was the structure of zinc blende (ZnS) that gave him the greatest thrill of his life. In this material, the iron atoms were at fixed positions in the crystal lattice but the positions of the sulphur atoms were not. By a trial and error process the only positions of the sulphur atoms which gave a pattern of strong and weak reflections which agreed with the actual diffraction pattern, were found. This was the first occasion where the positions of atoms had been determined from the relative intensities of the reflections. It marked the very beginning of structure determination by X-ray diffraction. Chemistry was never the same again.

By 1915, with the First World War in a deadly stalemate, both Braggs were heavily involved in military work. WHB had moved to London to be nearer to the centre of the war effort and WLB was on active service developing acoustic ranging for artillery. In 1919, with the war finally over, WLB succeeded Rutherford at Manchester. Meanwhile WHB was building up a team studying the structures of organic compounds at University College London and then at the Royal Institution.

In 1928 WHB proposed that his Research Assistant William Astbury should be appointed in Leeds as lecturer in textile physics. His studies of the diffraction patterns of textile fibres broadened into a wider investigation and for a decade Leeds was the leading centre of research into biological structural materials. Although Astbury had been right in most of his opinions about the way in which *molecular biology* would develop, his attempts to unravel the structures of fibrous proteins met with mixed success. The focus moved back to WLB in Cambridge, where he obtained support from the Medical Research Council, a lasting legacy, not always fully recognised, leading to the establishment of the Laboratory of Molecular Biology in Cambridge. The structures of myoglobin and haemoglobin gave the first glimpse of the hierarchy of levels of structure in globular proteins and molecular details of lysozyme began to confirm and elaborate theories of how enzymes work, which had been previously only been conjecture. And then there was DNA. X-ray diffraction was about to lay bare the secrets of biochemistry in the same way that it done for chemistry two decades earlier.

By the early 1960s, X-ray diffraction had solved some thousands of small molecule structures and had extended its reach to the study of minerals, fibres, proteins and nucleic acids. Collecting the data tended to be lengthy, especially for the sophisticated moving-film cameras of the day. Exposures of tens or hundreds of hours were routine. And, even for relatively small molecules, the processing of the data using the computers available at that time could take hundreds of hours. Moreover, the images were essentially of static structures.

The second lecture by Arwen Pearson gave a picture of the present state of the art and a glimpse of what the future may offer. The last 40 years have shown revolutionary improvements in both the output of potential X-ray sources and in the computing power available. Synchrotrons provide intense X-ray beams, but the speed of data collection has to be balanced against radiation damage to the sample, which may be reduced by cooling the crystals in the presence of cryo-protectants. The use of area detectors enables many X-ray reflections to be recorded simultaneously, powerful

computing algorithms allowing the data to be sorted out. The latest developments, so far available in only a few sites worldwide, are the use of ‘free electron lasers’, which are so powerful that data collection, which once took days, can now be achieved in small fractions of a second, enabling the dynamics of reactions to be followed. Once again things that we could once only imagine, are now becoming a visible reality. As a nice analogy, Arwen used the use of the early cine films of the English photographer Eadweard Muybridge to study the motion of galloping horses.

It was a most inspiring evening with the two complementary lectures forming homage to the Braggs. A century-old vision and its ongoing consequences.

John Lydon

The Birthplace of X-ray Crystallography

5 July 2013

In 1912, William Henry Bragg, Cavendish* Professor of Physics and his family were invited by their close friends, Henry and Rosalie Barran, to join them for their summer holiday at the Barran’s summer residence at Cloughton, a few miles north of Scarborough on the Yorkshire coast (left). (The Barrans were a leading Leeds family; it was Sir John Barran, Henry’s father who secured the great estate which we now know as Roundhay Park for the City of Leeds.) At this time William’s elder son, Lawrence, was an undergraduate at Trinity College, Cambridge where he was attempting without any success, to carry out a research project at the Cavendish* Laboratory under the supervision of Sir J.J. Thomson. In order to escape the frustrations of the Cavendish, he joined his family on their summer holiday. Here his father showed him one of the very first X-ray diffraction photographs (of zinc blende) which had been taken by Max Laue and his colleagues at the University of Munich earlier in the year and which had been sent to Professor Bragg by a former student, Lars Vegard. On seeing the photograph, Lawrence recalls ‘I realised that my golden opportunity for research had come’. The ensuing collaboration between father and son which thus began in August 1912 led to the joint award of the Nobel Prize for Physics in 1915 and the new science of X-ray crystallography – which is of course of such profound importance in the development of the physical and biological sciences.



I was able, with the help of members of the Bragg family, to identify the house as Whin Brow which overlooks the bay towards Scarborough Castle. Hence, with the support of the University, the consent of the present owner of Whin Brow, Dr Jim Brace, a plaque was commissioned with financial support from the Leeds Literary and Philosophical Society (LPLS), the Leeds Materials Engineering Society (LMES) and the Royal Society of Chemistry (RSC).

* The Cavendish Laboratory at Cambridge is named after Henry Cavendish, the reclusive and eccentric scientist who, on his death in 1810, left his fortune to found the laboratory. The Cavendish Chair of Physics at Leeds is named in memory of Lord Frederick Cavendish, first President of the Council of the Yorkshire College who was assassinated in Phoenix Park, Dublin, in 1882.

The plaque unveiling ceremony took place on 5th July 2013 – the centenary year in which the Braggs' earliest joint papers were published by the Royal Society. Those present included several generations of the Bragg and Barran families, Dr Brace, friends and colleagues from Cloughton Village, senior academic members of the University and representatives of the LPLS, LMES and RSC. The Vice-Chancellor, Professor Michael Arthur welcomed the guests and introduced Mr Charles Bragg, grandson of Lawrence who, prior to unveiling the plaque, described the importance of the event which it commemorated and the unique collaboration of his grandfather and great grandfather. The event concluded with a reception at the nearby 'Blacksmiths Arms' in Cloughton.

[The Society gave a grant of £200 towards the cost of the plaque]

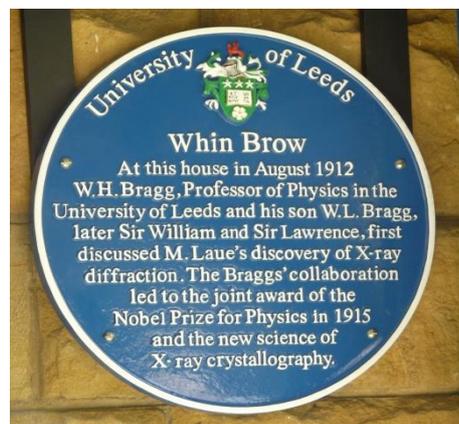
Christopher Hammond

**The University of Leeds Bragg Centenary Lecture
Quasi-Periodic Materials – a Paradigm Shift in Crystallography - Professor Dan Shechtman
21 November 2013**

As the culminating event of its year of celebrating the centenary of the establishment of the subject of X-ray crystallography by W H and W L Bragg, Professor Dan Shechtman had been invited to speak on the subject for which he too had been awarded a Nobel prize. Sir Alan Langlands, Vice-Chancellor of the University of Leeds, introduced the speaker after welcoming the audience, which included invited guests from other universities and research establishments, not least Charles Bragg, W L Bragg's grandson and Research Director of Procter and Gamble.

Even before the Braggs' work, scientists such as Bravais had deduced that the regular shapes of the facets of crystals must be due to regular, geometrical arrangements of the atoms within them. In 1895, Röntgen had discovered X-rays and in 1912 Max Laue and his collaborators had shown that X-rays could be diffracted by crystals. The Braggs' work showed that the symmetry of a crystal is revealed by the symmetrical pattern of the spots in its X-ray diffraction pattern and for 70 years, it was clear that all crystalline materials were made up from atoms and molecules regularly arranged in lattices with exact symmetries. So, as all good crystallographers know, crystals are solids 'composed of atoms arranged in a pattern periodic in 3 dimensions throughout the interior of the crystal'. Consequently, the only regular periodic patterns that can be extended indefinitely in 3 dimensions are restricted to objects having 2-fold, 3-fold, 4-fold or 6-fold symmetry – 5-fold and higher than 6-fold symmetries cannot be accommodated.

Electron microscopes, used commonly to provide direct images of small objects, may also be used to obtain diffraction patterns in which the electrons are scattered in a similar way to X-rays, and it is possible to obtain electron diffraction patterns from objects that are very much smaller than the crystals required for X-ray diffraction experiments (at least, until very recent developments of X-ray sources). It was in 1982 that Shechtman and his colleagues, studying minute crystals of an aluminium/manganese alloy in a transmission electron microscope, saw direct images of regions of the alloy which appeared to have 5-fold symmetry; they then found that the electron diffraction patterns given by those localized regions of the material also clearly showed 5-fold symmetry.



They had discovered Quasi-Periodic Materials – polycrystalline substances containing pentagonal micro-crystals. A paper describing this result was submitted to the Journal of Applied Physics in 1984, but rejected without being shown to referees as ‘being of no interest to physicists’. But it was published in Metallurgical Transactions in 1985. The results were accepted by many scientists, and other researchers started to study similar substances, leading to a rapidly-increasing number of publications in support of Shechtman’s explanation. However, other scientists refused to accept the idea that the materials were really quasi-periodic crystals, but thought they must be artifacts due to some kind of crystal-twinning. Among the most vociferous objectors was the leading American chemist Linus Pauling, who spent the last decade of his life attempting unsuccessfully to disprove the concept of quasi-periodic materials.

Despite the objections, and the lack of support from some of his colleagues, Shechtman had persisted and the reality of quasi-periodic materials had become accepted and was recognized by the award of the Nobel Prize in Chemistry in 2011. Why had they not been observed earlier? Probably because crystals of the sort studied in Shechtman’s initial observations were too small to be used in conventional X-ray crystallography, and, moreover, his experiments required a rare degree of expertise in both electron microscopy and electron diffraction. It was perhaps surprising that crystallographers were so unready to accept the idea, given that the mathematician Roger Penrose had shown that beautiful and apparently symmetrical patterns could be formed in quasi-symmetrical arrangements of tiles incorporating pentagonal shapes as early as 1974.

Shechtman’s lecture was delivered to a large audience that was enthralled by the quality of his illustrations (both pictorial and verbal), his ability to explain difficult concepts and his self-deprecating humour. Specialist scientists and non-scientists alike have said that they had rarely heard such an outstanding lecture, a most fitting contribution to the celebration of the centenary of the Braggs’ work in Leeds that had laid the foundations of X-ray crystallography.

Anthony North

The Harrison Clock in the City Museum



©Leeds Museums and Galleries

In 2012 the society agreed to award a grant of £5,000 to Leeds Museums and Galleries towards the preparation of a new permanent display at Leeds City Museum for John Harrison’s clock, Precision-pendulum clock No.2. The clock was bequeathed to the Museum in the 1970s by a private donor and the new resting place was officially opened on the 23rd January 2014, in the tercentenary year of the Longitude Act.

This handsome long case clock has a background story to make it one of the most significant items in Leeds’ collections. Within it is the start of the answer to the *Longitude Problem*, one of the

greatest scientific challenges of the 18th century. With serious implications, as inability to determine longitude accurately was costing a fortune in lives, ships and cargoes lost, Parliament passed the Longitude Act of 1714. This was, in effect, the world's first government-sponsored research and development project with a cash prize of £20,000, equivalent to £3 million today.

John Harrison, born in Foulby, West Yorkshire, a joiner, self-taught clockmaker and scientist inspired by the challenge, embarked on solving this problem, convinced that precision time-keeping was the route to success. Harrison devised methods to stop his clocks losing time, inventing along the way the bimetallic strip seen today in every household kettle and thermostat. He achieved an unprecedented accuracy of one second a month with this clock making it, in 1727, the most accurate clock in the world. He named it "Precision-pendulum Clock No. 2". The face is signed by James Harrison, John's younger brother and skilled carpenter with whom he worked on several projects. The technology to keep accurate time now mastered, Harrison was equipped to address the next challenge of making a portable version which would keep time whilst at sea. He made further refinements and portable versions until making the sea watch named 'H4', which was eventually recognised as the winning solution to the problem of determining longitude at sea, after years of testing, at one time by one Captain James Cook.

This display development project has ensured that one of the most significant objects in the Leeds collections is not only safely on display, in a fine case, but also is well interpreted, putting it into the context of John Harrison's precision timekeeping research. The intention has always been that this display development plays a part in boosting the science offering to visitors to Leeds City Museum.

The grant of £5,000 from LPLS was put towards the new interpretation including the Audio Visual elements and particularly the fine floor tablet illustrating the compass points, longitude and latitude and of course a bimetallic strip – a work of real craftsmanship by Jack Metcalfe.

The responses from peers, colleagues, and visitors have been favourable. Strong links have been formed with the National Maritime Museum (NMM), with the loan of a copy of the LMG Harrison clock movement, and much advice, and with the Board of Longitude project.

We are grateful to the LPLS for their continued support and enthusiasm for this project and for the contribution both in monetary terms and also for jointly hosting the celebration lecture by Richard Dunn of Royal Museums Greenwich which approximately 175 people attended. The photograph on the front cover of this Annual Review is by Dr Jeffrey Darken, ©Leeds Museums and Galleries.

Camilla Nichol

Putting Harrison in his Place – Dr Richard Dunn (Royal Museums Greenwich)

(Organised jointly with Leeds Museums and Galleries)

23 January 2013

In part to celebrate the tercentenary of the Longitude Act, but mainly to celebrate the official opening of the 'Leeds Clock' display at the museum, this event was held at Leeds City Museum in the Brodrick Hall. A preview of the display (which the Society helped to fund) was accompanied by drinks and canapés and it was enlivened by very informative performances by the Historical Maritime Society of Naval Re-enactors in period costume. Through them we learnt about the navigation and armament of ships of the period as well as the work of the ship's carpenter and surgeon. This was all followed by a welcome from John Roles (Head of Leeds Museums and

Galleries) and by a talk by Dr Richard Dunn (Senior Curator and Head of Science and Technology at the National Maritime Museum, Greenwich) on Harrison and on the significance of the Leeds Clock. About 70 people attended the reception and about twice that number attended the talk

The 'Leeds' Clock, which has been in storage for many years, is a major addition to the displays at the Museum. It is also a significant item in the 'Harrison Story' being one of three land-based timepieces which Harrison

created before his famous series of marine chronometers. It was a period when Harrison was beginning to experiment with innovative solutions to the problems of creating much more accurate clocks: clocks that were unaffected by temperature, humidity and the deterioration of lubricants. In this clock he solved the temperature problem by exploiting a pendulum based on two metals with differing coefficients of expansion (a pendulum whose length was constant at all temperatures) and he solved the lubricant problem by making the moving parts of *lignum vitae*: a material that is self-lubricating. More importantly, it was these clocks that gave Harrison the reputation as an innovative designer, these that gave him powerful contacts in London and that enabled him to establish his marine chronometer project.



Dr Dunn talked us through the story of Harrison's life and the stages through which he developed his land-based and marine chronometers. He was a Yorkshireman who had not been trained as a clock-maker or watch-maker but, perhaps because of this, he was one who time-after-time came up with innovative ideas to solve the problems which he met. However, his problems were not just technical. They were also social and political. Once he began the marine chronometer project he moved to the centre of power, to London, where initially he was successful in getting the backing of both the Royal Society and the Board of Longitude. However, as time went by, the composition of the Board changed. By the end his relationship with the Board had deteriorated very badly. As is well known, he had to struggle right to the end of his life to receive proper recompense for all of his efforts.

Richard Bushby

Other Society Events in 2013

Haiti: heraldry, history and a touch of voodoo – Malcolm Lobleby

17 January 2013

A talk about an island close to the equator seemed to be strangely at odds with a bitterly cold January evening with sub-zero temperatures, snow lying on the ground and patches of freezing fog. However, in spite of the weather a larger audience than we had feared braved the conditions and turned up to hear a fascinating talk about Haiti. Malcolm used the heraldry of the island as a linking theme in the story of its discovery by Columbus, its pillage and exploitation by first the Spanish and then the French, the slave rebellion and the attempts to create a stable state after the French had left. By all accounts, the Spanish found a peaceful civilised people inhabiting the island, ill-equipped to cope with a ruthless European army. An economy based on slave labour was rapidly imposed. The importation of large numbers of African slaves destabilised the situation further. When the French replaced the Spanish as overlords, the situation did not improve. There was a flicker of optimism that the ideals of the French revolution would extend across the Atlantic, but hopes were dashed

with the arrival of a large army sent by Napoleon to maintain the status quo. Following the bitter wars of independence, the French were finally driven out, leaving behind them a more or less total vacuum in place of the island's government and infrastructure.

During the confusion that followed, two separate states developed. In the south, a leveller type of utopian peasant state with a small plot of land for everybody grew up. This proved to be inefficient and unsustainable and foundered. In contrast in the north, the self-appointed king, Henry Christophe, created from scratch a European style monarchy. A hierarchy of aristocrats was formed, involving: four princes, eight dukes, 22 counts, 40 barons, and 14 knights. To identify them to a largely illiterate population, a College of Arms was created to provide armorial bearings. The heraldry of this short-lived kingdom was based on European principles but used considerable inventiveness. The usual mythical beasts and accoutrements of war were mixed with more mundane items, such as a watering-can, a bookcase or a rake – resulting in a unique armorial.

Christophe rapidly became an overbearing tyrant and was eventually deposed by another despot who proved to be little better. It was the all too familiar story to be repeated throughout the subsequent history of this troubled island.

John Lydon

Through the Cooking Glass – the wonderland of flavours and aromas – John Bradley
21 February 2013

John Bradley, now Emeritus Professor of Chemistry at the University of Hull, had had a varied career in academia and industry, complete with a period as restaurant owner and chef. His web-page description of his love of Culinary Chemistry and Molecular Gastronomy had attracted interest from as far afield as Japan – and now, from the size and attention of his audience, from chemists and cooks in Leeds.

Dean William Inge, the 'gloomy dean' of St Paul's, had described all life on earth as *a conjugation of the verb 'to eat'* – the eaters and the eaten – with humans one of the few living beings that are omnivorous. We are attracted to food by four senses: taste, smell (odours and fragrances), sight (colour and shape) and touch (texture), of which John concentrated on the first two. Our taste buds distinguish five sensations: three good (sweet, salty and umami) and two bad (bitter and sour). The receptors in our tongues send signals to the hippocampus region of the brain, some people receiving stronger signals than others. (Apparently, the signals weaken as we get older.) The combination between signals is complex, e.g. miracle fruit are by themselves slightly sweet, but they make the sweet receptors in our tongues respond to sour stimuli.

The overall sensation of flavour arises from the combination of aroma and taste. Aroma molecules are received through our noses and then led to the very complex olfactory epithelium, which contains a range of protein receptor molecules that are sensitive to different odorant substances. Clearly this mechanism is important to us, as 2-3% of the human genome codes for these proteins. Different odorant substances are recognized by different combinations of receptors which signal their presence through the nerves, again to the hippocampus. Such signals can be remembered, with memories aroused many years later. Tastes and odours interact strongly when there is 'consonance' between them, with the thousands of aromas and the five tastes combining in the brain to produce millions of sensations. Such combinations are exploited by chefs to make appetising results that are attractive to look at, good to smell and taste, and good to feel in the mouth. Many herbs and spices

were not known in Europe before the 14th century, coming from the Islamic world where bright colours are also important. Spices include chilli and menthol, which give hot and cold sensations respectively, though they do not actually cause a change in temperature.

In general, aromas are multi-component. Many of the molecules concerned are built up by joining together isoprene units. The results have a handedness, with mirror image molecules having different effects – sometimes the difference is slight, with one form of limonene giving the flavour of oranges and its mirror image of lemons, sometimes rather more drastic, with mirror image molecules giving the flavours of passion fruit and of burning rubber.

John closed with the Christmastide problem of Brussels sprouts; they naturally contain compounds that defend the plant by tasting nasty to herbivores – we don't notice until the compounds are broken down by overlong cooking!

Anthony North

An Evening with Mark Hearld

21 March 2012

Mark Hearld is a highly versatile artist, printmaker and illustrator. He also decorates ceramics, designs block-printed textiles and wallpaper, posters and printed ephemera and merchandise for art gallery shops, and has curated exhibitions. Underlying his work is a love of nature and an enthusiasm for English popular art. He was born in 1974 and grew up in Heslington on the semi-rural fringe of York where he went to the local comprehensive. Four years at Glasgow School of Art were followed by a MA in Natural History Illustration at the Royal College of Art. He returned to York and while making boxes in the manner of Joseph Cornell, suddenly discovered the wit and freshness of collage. In 2002 Alex Godfrey gave him his first show at the Godfrey and Watt Gallery in Harrogate and since then he has, seemingly, not stopped working. In his talk he paid generous tribute to both those artists who have influenced him, such as Picasso (perhaps surprisingly), John Piper, Edward Bawden and Eric Ravilious, and to his present collaborators and supporters, including Emily Sutton, Angie and Simon Lewin, and the poet Peter Scupham. In 2012 he published *Mark Hearld's Work Book* and had a sell-out exhibition at the Yorkshire Sculpture Park for which he made a series of decorated hares cast from a cake mould he had acquired in Berlin while he and Alex Malcolmson made 75 wooden pigeons, each one of which Mark then decorated. For the shop there was a new range of seductive merchandise. He and Alex are now collaborating on their latest venture, making more elaborate 3-D wooden constructions. He is currently designing a range of merchandise for Saltaire based on the alpaca from which Sir Titus Salt made his fortune and next year he will be artist-in-residence at the York Museum. As one member said at the end of his enthralling lecture: I didn't know modern art could be so enjoyable. Examples of his work can be seen at <http://www.godfreyandwatt.co.uk/mark-hearld.html> & <http://www.stjudesprints.co.uk/collections/mark-hearld>

Peter Hirschmann

The history and present state of the Fountains Abbey Estate – Michael Ridsdale

18 April 2013

After a biographical sketch of his background, our speaker, Michael Ridsdale, Head of Landscape at Fountains Abbey / Studley Royal Estate, guided the 50 strong audience through the history of the

estate, which includes a wide variety of man-made and natural features, the magnificent Abbey forming only one element, albeit the best known. He placed in context the changes to the architectural, horticultural and arboricultural landscapes over 900 years for an 822-acre estate designated as a World Heritage Site in 1986 and managed today by The National Trust.

It has proved difficult to select highlights from his long, varied and detailed presentation, which was complemented by a wealth of illustrated material. Of particular note were the aerial photographs, which would be new to most of us; however, these could give little impression of the varied contours of the site and its limestone cliffs which have such an impact on the senses at ground level. The Abbey, situated on the banks of the River Skell, was founded by Cistercian monks in 1132 and is the largest monastic ruin in Europe. It provides a dramatic setting for what is essentially an 18th century landscape garden, bounded at its western edge by a lake and 400-acre deer park. Within the estate's boundaries are to be found water gardens, ornamental temples, follies, herds of deer and of course magnificent vistas.

On a visit there soon after this lecture I viewed its landscape and character in a totally different manner from previous visits, noting in particular the complexity of the site, and realizing the breadth of skills and dedication necessary to maintain, both practically and financially, this internationally important heritage. Fortunately, the estate is ably cared for by 50 regular staff, about 100 seasonal staff and 450 volunteers. We were enthralled by the speaker's knowledge of the subject and by his passionate and personal involvement in its upkeep. All in all, a most enjoyable and satisfying evening, as reflected by the audience's appreciation and questions.

Mark Seaward

Sound: Music and Physics – Peter Main

16 May 2013

We were informed, entertained and reminded of the joys of live lecture demonstrations. Professor Main used as his starting point early notions of harmony attributed to Pythagoras. It was known from ancient times that 'pleasant sounding' combinations of notes corresponded to simple ratios – for example simple ratios in the length of equally tensioned strings - 1:1 for unison; 1:2 for an octave; 3:2 for a perfect fifth; 4:3 for a perfect fourth and so on. From these observations, the notion grew up that these ratios and the seven note scale held the key to understanding the universe. People applied this idea in their understanding of the behaviour of the heavenly bodies, to the divisions of the week, to the best ratios to employ in art and architecture and so on.

It was Newton who, as much as anyone, taught us to think and interpret the universe through mathematics rather than through music but even Newton was strongly influenced by these older ideas. For example he used the seven note musical scale and the frequency ratios involved as the basis of his seven-colour division of the spectrum (red orange yellow green blue indigo violet). Professor Main then went on to argue that even Newton's famous Law of Gravity has 'musical roots'. That both the Law of Gravity and the law governing a vibrating string have the same mathematical form expressing an underlying relationship between force and (distance)². There followed some simple demonstrations of travelling and of stationary waves and in particular illustrations of how frequency and wavelength relate to each other. Most of these relationships are simple and are in accordance with intuition but some can be surprising; particularly in the case of parametric oscillators. This was illustrated first by the effect of the orientation of a driving oscillator

on the wavelength of standing waves in a stretched string and then by a discussion of the method used to drive the swing of the massive incense burner at the cathedral of Santiago de Compostella.

The remainder of the lecture was devoted to an explanation of the physical principles that lie behind the design of the flute and related wind instruments. The ideas of edge tones, and resonance tubes were illustrated coupled to a discussion of why the body of a keyed pipe like a flute must have parallel walls (or be conical). It is this that enables the player to combine lip movement (variation of the edge gap) with a limited number of keys (a limited number of ways of changing the length of the resonant tube) to obtain a range of several octaves.

Throughout, his talk was amply illustrated by demonstrations culminating in the activation of some massive pipes that, when heated and allowed to cool, gave a foghorn like noise that persisted for many minutes after the source of the heat was removed.

Richard Bushby

Summer visit to the Rochdale Pioneers Museum and to Lyme Park

23 July 2013

There had been torrential rain overnight and the day began with floods, thunder and lightning. This meant that one or two members failed to join the coach. This is a pity because the weather improved as the day went on and they missed a great day out. It spanned the spectrum of social experience from the struggles of the poor weavers of Rochdale to the opulence of Lyme Park.

In the morning we visited the Rochdale Pioneers Museum which is built on the site in Toad Lane where the cooperative movement began. Here we had a very lively talk on the origins of the cooperative movement and time to wander round the display. The Rochdale Society of Equitable Pioneers was a group of poor men formed in 1844. Tired of being overcharged and of being sold adulterated foodstuff and shoddy goods, they banded together to open their own store. Critically they learnt the lessons of previous failed attempts at co-operation and based their Society around the (what were to become famous) 'Rochdale Principles'. Over a period of four months they raised one pound per person to get the capital they required. Struggling against opposition and intimidation from existing shopkeepers they eventually found suitable premises in Toad Lane. On December 21, 1844, they opened their store with a very meagre selection of butter, sugar, flour, oatmeal and a few candles. They had to bring these by wheelbarrow from Manchester since no local wholesales man would deal with them. However, once established, the growth of the movement was explosive with 1000 other cooperatives opening with a decade. As the visitors' book showed, within a few decades, their fame was world-wide with people coming from as far afield as New Zealand and Brazil to learn from their model. The range of visitors was also remarkable. For example, within a matter of a few weeks of each other there were visits from Beatrix Potter (author), The Marquis of Ripon (res. Studley Royal) and Friedrich Engels (res. Berlin)!



In the afternoon we visited Lyme Park whose current claim to fame is that of being ‘Pemberley’ for the 1995 BBC adaptation of ‘Pride and Prejudice’. It is a splendid ‘stately home’, at which we could have spent more time and which will be worth revisiting. The land that the house now occupies was granted to Sir Thomas Danyers in 1346 but the land and house passed to the Legh family in 1388 and it remained with the same family until 1949 when it was given to the National Trust. The actual



house was built and developed over a long period of time and it was ‘remodelled’ several times over. Most of the furniture was purchased during the latter part of the 18th century but there are earlier items on show such as the Lyme Park Missal and various mementos that the family had kept connected to Charles I and to his execution. The Lyme Park Missal is the first book to carry Caxton's printer's mark and is the only (nearly) complete copy of the earliest edition. A translation of the marriage service into English has been added by hand and the name of St Thomas Becket and of prayers for the Pope deleted!

Perhaps the best feature of the day was the variety of experience it offered: something to interest everyone.

Richard Bushby

Natural History-themed Roadshow 19 September 2013

This event was organised and run on our behalf by the staff of the Leeds City Museum’s Discovery Centre, where it took place. The idea of the event was two-fold: to give an opportunity for Society members to visit the Discovery Centre, which is housed in a modern purpose-built building in Carlisle Road, near to the Royal Armouries, and to allow members to bring along objects for identification by the Museum’s specialist Curators.

Although the evening was clearly enjoyed by those who came, it unfortunately attracted only about 20 members and guests. Camilla Nichol and Clare Brown and several of their colleagues were on hand to examine the miscellaneous items of jewellery, other ‘objets d’art’ and assorted pieces of rock, to the joy, satisfaction or disappointment of their owners – nobody, as far as we know, found that they had become millionaires overnight through possession of an uninteresting-looking item of unexpected value (if so, they were very quiet about it).

For many people, a highlight of the evening was a guided tour round the Museum’s repository of all the things for which the City Museums have no room to exhibit at any one time. ‘Aladdin’s Cave’ is hardly appropriate for a vast aircraft hangar-like climate-controlled space. Many of the objects are at first sight surprising – washing machines, television sets, perambulators of vintages that the more senior members of the Society could remember as familiar household items – but, as was explained to us, the Museums are responsible for representing the social and industrial history of Leeds, not just natural history. Standing modestly among the stuffed animals and wonderful birds was the Harrison clock, shortly before going on display in the City Museum. Hidden in drawers are the meticulously-arranged collections of insects and beetles, butterflies and moths, component parts of

dodos. Up aloft can be seen beautiful birds, such as albatross, that have not graced the skies above Leeds and lesser ones that are more familiar to us; around the centre of the room on shelves are sculptured heads of past members of the 'great and good' of Leeds, including some of those responsible for founding the Society. The Discovery Centre is open regularly to the public by prior arrangement, but 'our evening' provided a splendid opportunity for Society members to have a close look in the presence of expert guides.

Anthony North

Military Paintings – John Evans

17 October 2013

This talk by John Evans introduced us to a wide range of paintings of military subjects. The speaker is an ex military man and, as we saw later in his talk, no mean painter himself.

He started with some early images dating from Roman times showing the usual bloodthirsty warriors. We also saw a detail from the Bayeux tapestry followed by many and varied paintings from the 17th Century onwards. Military battles and subjects clearly fascinated many painters. Some were of combatants in the course of some well known battle or other, others were of soldiers such as the St. Olave's Volunteers, based in Southwark, who drank a lot and swaggered around showing off to the local maidens but never actually got involved in fighting!

He showed a detail from the Sevastopol panorama/diorama which interested me since I saw the original in Sevastopol and fascinating it is. Well worth a visit if you happen to be in the neighbourhood!

The 1914/18 war put paid to the rather glorifying images of redcoats at play and it became clear that war is not just a jolly game like a rather rough football match in which you might get hurt but a dreadful soul-destroying experience in which terrible things happen. Methods of killing the enemy in large numbers like using mustard gas became more common and we saw a painting of a group of soldiers who had just been through this appalling experience which really brought the obscenity of modern warfare home to us.

One of his own pictures showed a scene from the Gulf war with officers conferring behind a pockmarked wall and one could just imagine their feelings at being in such a situation.

All in all a very interesting and fascinating talk given by a real enthusiast.

Robin Jakeways

The Priestley Lecture

Ben Franklin: Priestley's American counterpart – Dr Peter Maw

19 November 2013

Members of the Society joined with members of the Leeds Library for the annual Priestley lecture held in Mill Hill Chapel. It has to be said that the Chapel is not the most conducive of places for a lecture on a November evening, but Peter Maw's account of the life of Ben Franklin, a friend of Joseph Priestley, lifted the gloom. The emphasis here was on Franklin's contribution to cross-Atlantic culture and in that sense he could be considered to be a bridge between the old and the new.

He was very much a man of the Enlightenment and was described by Emmanuel Kant as a ‘modern Prometheus’. His scientific experiments bore this out and Peter only had time to draw attention to a few of his achievements. One example I had no knowledge of was that Franklin was the first person to chart the Atlantic Gulf Stream.

Franklin’s contribution to social and civic life was legendary. Amongst many of his achievements he was a successful newspaper editor and publisher, the first President of the American Philosophical Society, one of the founders of the University of Pennsylvania, governor of Pennsylvania, ambassador to France and postmaster for the colonies. It was in this latter role that he was instrumental in persuading Parliament to repeal the Stamp Act. He was a political thinker of great importance and could be said to be one of the Founding Fathers of the United States of America.

Franklin and Priestley shared a similar political and social view of the world around them. For example they were both members of the Birmingham Lunar Society. Another interesting link between the two was that Franklin, with a group of friends, founded a subscription library in Pennsylvania. Priestley, of course, was the founder and first secretary of the Leeds Library, and on an occasion in 1771 when the two men met in London they travelled to Leeds and Franklin visited the Library. At that time the Library was housed in ‘the sign of the Dial’ in Lower Briggate, next to the Golden Cock inn. That site is now occupied by Superdrug and in a flight of imagination I can see Franklin and Priestley walking together into the store, to the delight of the throng of customers.

Stuart Rawnsley

**AGM dinner and talk – Operatic experiences: then and now – Anthony Ogus, CBE FBA
4 December 2013**

Anthony Ogus is a distinguished academic lawyer, an Emeritus Professor at both Manchester and Maastricht. He is also possessed by operamania. Having discovered the art-form when still at school, he has now attended 1388 opera performances of 588 operas in 26 different countries by 194 opera companies, and has developed an uncanny knack of being invited to legal conferences in locations convenient for him to attend interesting performances.

In his enlightening talk following the AGM he reviewed some of the changes in standards and style of both performance and production over the past 50 years. Standards of performance have undoubtedly risen with a greater emphasis on ensemble at the expense of the individual artist. Singers are now drawn from many more countries: the contribution from South Korea is particularly noteworthy. With regard to production, when he started, tired productions with under-rehearsed singers were still commonplace. In contrast, we can now see performances where the time and place of the action has been updated, often successfully illuminating the drama. The rise of *regietheater*, particularly in Germany, has proved more controversial. His own preference was for abstract over realistic productions. To find out more about Professor Ogus’ experience of operamania, turn to his recent book *Travels with my Opera Glasses*.

Peter Hirschmann

Reports on Grants received during 2013

9th Leeds Peace Poetry Competition

£225 awarded for the provision of prizes

The 9th competition was run in Spring 2012 rather than Autumn 2011 in order to enable it to link with the Cultural Olympiad. The theme “Truce” was chosen in recognition of the truce that was always declared between the ever-warring Greek City States to enable the Olympic Games to take place and allow athletes to travel and compete in safety. The competition was awarded the official “Inspire Mark” status awarded by the London 2012 Inspire Programme. Lord Coe, Chair of the London Organising Committee of the Olympic Games and Paralympic Games said: “I am proud that with the help of partners such as Leeds Peace Poetry we are delivering our vision to use the power of the Olympic Games and Paralympic Games to boost participation in creative writing and an engagement with peace issues”. This association brought welcome publicity to the competition and one of the winning poems was read at an Olympic Torch relay event at Roundhay Park in June that was attended by many thousands of people. It did not, however, increase the number of entries to the competition, which in fact fell this time, due largely to problems with communications with schools that were an unintended and temporary consequence of the replacement of Education Leeds by Leeds Children's Service. The quality of the entries was, however, of a higher standard than normal, thanks in part to a grant of £500 from the Peace Museum, Bradford, which allowed the running of four poetry-writing workshops based on the competition's theme, given by Khadijah Ibrahim, Michelle Scally-Clarke and Peter Spafford.

The Awards Evening, held at the Banqueting Hall of Leeds Civic Centre, was attended by a capacity audience who were welcomed by the Lord Mayor, Councillor Ann Castle. The chief judge, Rommi Smith officiated and praised the creativity of the entrants. Winning poems were read by their authors and music was provided by the New World Symphony Orchestra. Matt Davison of Leeds University delighted all by bringing along an Olympic torch. Prizes of book tokens funded by the Leeds Philosophical and Literary Society were awarded to the winners and runners up in three age categories, Primary (£30 and £20), Secondary (£30 and £20) and Adult (£75 and £50). A special prize was also awarded to students of the Broomfield South Specialist Inclusive Learning Centre for a group poem. Students of Leeds Trinity University College undertook the short-listing of poems for consideration by the final panel of judges which consisted of the chief judge and John Chijoke.

The competition was organised by a steering group consisting of Bronwyn Brady, Jill Mann, Rehana Minhas and Guy Wilson. It was made possible by a group of partners who gave generously of their resources: Leeds City Council (Library and Information Service, and Children's Service); Leeds Trinity University College; Leeds University; The Peace Museum, Bradford; Together for Peace; and The Yorkshire Evening Post. All this was achieved with the expenditure of £718. 18.

G M Wilson

Post-Medieval Gold Seal Matrix

£200 towards the purchase of the matrix by Leeds City Museums

With the aid of grants from both the Leeds Philosophical and Literary Society and the Friends of Leeds City Museums, we were able to purchase this stunning 17th century gold seal matrix found by a metal detectorist in Allerton Bywater. It was accessioned into the numismatics collection in February 2013 (LEEDM.N.2013.1).

Future Plans: The object is currently housed in Leeds Museum Discovery Centre. It is one of the objects that have been chosen to represent the Discovery Centre collections on the new collections online database, which will go live next year. It will also go on display in The Leeds Story gallery in the City Museum when the displays are next refreshed.

K E Baxter

The Papers of Mary Gawthorpe

£750 towards the purchase of the above papers

LPLS was the primary contributor to the fund for the purchase of Mary Gawthorpe's papers and its grant set the appeal very much on the road and certainly encouraged other organisations and individuals to respond. Those of us involved in Leeds political and feminist history appreciated LPLS support which was important in obtaining the complete set of the Mary Gawthorpe Papers for Leeds and making them available in her home city. It is the only set of these papers available in the UK. They are lodged and available in the Local and Family History department of the public library – the only place in Leeds that as yet has microfilm readers publicly available.

The acquisition of the papers was marked by a “launch” at the central library, co-ordinated by Louise-Ann Hand, on 20 June 2013. I repeated my Leeds Library lecture on Mary Gawthorpe and acknowledged the support of LPLS and the other donors. The papers were demonstrated and there were a number of local history organisations with stalls around the lecture hall. The event was extremely well attended.

The appeal was a success, aided by my negotiating a discount with the commercial company that has microfilmed the papers, for purchasing the complete set! I wrote to LPLS, and the other donors, with a proposal to use the surplus – in total a little over £200 – to produce the catalogue to the papers, plus the excellent introduction to them, in an attractive format for circulation and publicity. I am glad to say that all the donors willingly agreed to this. I have now, finally, obtained consent from Mary Gawthorpe's descendants in New York (the copyright holders) to make public the catalogue in this format.

I believe that this was a very worthwhile project, with a satisfactory outcome, making an important contribution to the study of the suffragette movement and, in particular, the role of a remarkable Leeds woman. LPLS' contribution was vital to achieving this and I am very grateful for its support.

Michael Meadowcroft

John Atkinson Grimshaw's watercolour 'A View of Leeds from Woodhouse Ridge'

£500 towards the acquisition of the painting for Leeds Art Gallery

John Atkinson Grimshaw (1836 – 1893) is one of the best known Leeds artists of the second half of the 19th century. His primary influence was the work of the Pre-Raphaelite Brotherhood and true to the Pre-Raphaelite style Grimshaw created landscapes of accurate colour, lighting, vivid detail and realism. Today Grimshaw is best known for his nocturnes often depicting the docks or river scenes of Liverpool and London. He also painted many pictures of suburban lanes lit by effects of moonlight through branches shining onto cobbled streets lined with stone walls behind which can be seen mysterious mansions. Grimshaw is appreciated today for the poetic and nostalgic mood conveyed in his paintings, a reminder of city life one hundred and forty years ago.



©Leeds Museums and Galleries

This early watercolour, '*A view of Leeds from Woodhouse Ridge*', was painted during 1860s when Grimshaw's career as a painter began to flourish and The Leeds Philosophical and Literary Society first supported him as an artist. It is a view taken from Batty's Wood, Woodhouse, Leeds looking towards St Chad's Church, and was made just a short walk from Grimshaw's home, The Villas, Cliff Road, Leeds. According to Guy Ragland Phillips (Grimshaw's grandson) the figure with black hair in the lower left of the family group is Grimshaw's wife Theodosia. It is thought that this personal watercolour was never exhibited during Grimshaw's life and was kept as a family heirloom until it was sold at the Jeremy Maas, London in 1968; 100 years after Grimshaw completed it.

It is significant for the way it encapsulates the urban experience Grimshaw made the centre of his art. Nature experienced in close proximity to industry. In the middle distance the burgeoning industrial city of Leeds continues to encroach on the countryside and the newly-built mansions of the industrial middle classes are seen nestled closely to the mills that forged the City's wealth.

This work of art inspired great acts of generosity and the Museum was very privileged to receive support towards its purchase from individuals, businesses and both national and local funding bodies. The total cost for this watercolour was £30,187.50. Leeds Museums and Galleries would like to thank all who support this acquisition with particular thanks to The Patricia Hurst Fund, The V&A Purchase Grant Fund, The Art Fund, Leeds Art Fund, Friends of Leeds City Museums and Richard Green Gallery, London.

Special thanks go to the members and board of trustees of The Leeds Philosophical and Literary Society who were one of John Atkinson Grimshaw's first patrons and are today one of his most longstanding supporters.

'Music and the Idea of the North'

£200 towards production costs of the book

Request for support for the editorial production costs involved in putting together a collection of essays under the title "Music and the Idea of the North" was made to LPLS, specifically to help pay for the costs of figures and examples that are not these days covered by publishers. The sum awarded was used to pay for the setting of musical examples. There were five important examples that were set professionally at a cost of £40 each, and this made up the sum of £200 exactly.

Although the bulk of the editorial work on the book was completed a year ago, two contributors were affected by personal circumstances and this caused a delay in production. Therefore, it seems unreasonable to delay the report until the book is actually on the shelves (as was the original intention). The editors are grateful for the financial help provided by LPLS, and wish to thank the Society not only for this, but also for the support given to the Leeds conference on the theme of “Music and the Idea of the North”. It was, of course, that conference which lay behind the desire to compile a collection of essays on this theme.

Derek B Scott

Enhancing the virtual home of the Museum of History of Science, Technology and Medicine at the University of Leeds

£1000 to support the above

With the help of the Grant awarded by The Leeds Philosophy and Literary Society, two members of the student museum taskforce, Kiara White and Laura Sellers, have been able to create a new website for the Museum of History of Science, Technology and Medicine: <http://arts.leeds.ac.uk/museum-of-hstm/>.

The new website is more in keeping with the main University site, improves branding and is easier to navigate. It is also easier for us to keep updated, with new sections for news stories and events. We hope that having a webpage that is better integrated into the University site we will increase awareness of our work amongst staff and students. We have been able to publish volunteer testimonials, which should attract new people to work with us. Furthermore, we have linked the new website with the museum blog and twitter account, which collectively have over 500 followers at present. The new website has given us the opportunity to update information on museum collections and research, including new areas such as the recently catalogued and displayed collections including Psychology, Colour Science and Earth and Environment which previously did not exist in our web presence.

We have also been able to add sections providing information about our educational workshops and public engagement events. Recently these have included the Bragg Centenary Celebrations, Light Night and a series of events linked with Lotherton Hall on Domesticating Electricity. Over the last year and a half the museum has also offered free workshops to local schools to improve history of science education, we have engaged with over 500 local children and hope our improved web presence will increase awareness of this opportunity.

The project has been successful and the main pages have all been created, with further content still being created. Our research pages need to be re-written, which will give the opportunity for museum members to publicise their research. A remaining problem is to improve our searchability through Google, which is being addressed with help from the university’s IT support.

Claire L Jones

Red Book for Armley House - Humphry Repton

\$350 to purchase material for the above

The material comprises: CD, computer files and colour prints page by page of the whole book, including frontispiece and covers, 35 pages in total, all very clean and in prime condition.

Part of my application was the intent of placing copies of the material in the public domain through various library channels. I proceeded to contact a number of sources and experienced a varying degree of success: the University of Leeds Brotherton Collection rejected my offer outright stating that only original material would be considered; the Local History section within Leeds City Libraries complex jumped at the offer and copies have been placed on file for public access; and the Leeds Library also expressed delight at receiving material - this is in the process of being supplied; the Thoresby Society also expressed great interest in receiving material.

I will be delighted to send material to other sources as requested.

Veronica Lovell

International conference ‘Richard Wagner’s Impact on His World and Ours’, May-June 2013

£1096 awarded towards accommodation and travel of invited speakers

Described in *Wagner News* as ‘among the most important gatherings in the Wagner Bicentenary year’, the international conference ‘Richard Wagner’s Impact on His World and Ours’ (30 May–2 June 2013) saw around 80 delegates descend on the School of Music, University of Leeds, for a programme of twenty sessions, three keynote lectures, three interactive performance workshops, two expert panels, a song recital, and two film showings, delivered by 45 speakers from all over the world. Funding from Leeds Philosophical and Literary Society (with other assistance from the Royal Musical Association and The Music and Letters Trust) enabled the event to go ahead successfully. Specifically, the LPLS’s grant meant that we could pay the accommodation and UK travel expenses of world-class invited speakers Barry Millington (The Wagner Journal, UK), Michael Ewans (University of Newcastle, Australia), Heath Lees (Auckland University, New Zealand), and Tony Palmer (independent film director and author). Without this financial backing, we would certainly not have been able to attract such prestigious speakers, nor keep the conference registration fees at a level that could be afforded by scholars and members of the opera-loving public alike. As our most generous sponsor, the LPLS was repeatedly acknowledged and thanked throughout the conference.

The level of engagement from the local community was very pleasing; several people who would not normally attend an academic conference made very welcome additions, and helped enrich the level of audience engagement immeasurably. Again, this would not have been possible without the LPLS’s backing, since the costs of putting on such a large-scale event would otherwise have made delegate fees too high for most people to afford, other than department-funded academics. The involvement of Opera North also undoubtedly helped attract delegates from 14 different countries, making the event a truly international one.

Stephen Muir

Portfolio of nine prints: ‘Perse’ (Ancienne) Dresseé (2009) by Karen Babayan

£450 awarded in support of the acquisition of the prints for Leeds Art Gallery

Leeds Museums & Galleries was pleased to present Karen Babayan’s suite of prints as a new acquisition in a display titled ‘Transforming Topographies’ from January to March 2014. The display drew on drawings and watercolours from the 18th and 19th centuries as well as by other contemporary artists to show how artists today are extending a tradition rooted in the need to identify and represent the self in the world. Topography is about an accurate rendition of the

external world, but it cannot be but from the perspective of an individual point of view, and this display tells how artists sought to put themselves ‘in the picture’ and used topography, imagined or real, to explore personal identity. The display coincides with the presentation of other work by this artist at the Tetley on the 7/8/9 March.

We also look forward to the incorporation in its changing displays programme at Leeds Art Gallery of these mono-prints in the future. There are indications that the Curator of World Cultures is considering the work for inclusion in new displays at the City Museum later in 2014. A changing series of displays in the ‘World View Gallery’ will bring a varying focus to ‘Voices of Asia’, moving across this vast geographical and cultural terrain to give expression to different ways of telling.

Stories, and story-telling lie at the heart of Babayan’s work. She writes of the prints now in the collection: “The stories embedded in the imagery are woven around family photos and recollections that have assumed a mythical quality for me over the years, patiently collected over a lifetime of conversations. The stories occupy a geography of three continents: from Jugha, Dilijan and Yerevan in Armenia; Salmas, Isfahan and Tehran in Iran, that link to Leeds and Appleby, England (where the artist now lives)”. Visually, the imagery of the prints combine re-worked family photos, textual and other more enigmatic elements, against a background drawn from maps, offering to the viewer a set of co-ordinates to memory and history.

Before moving to Leeds with her family, Karen Babayan was brought up in the Armenian community of Tehran in Iran, and now as a visual artist living in Cumbria, she has an ongoing fascination for exploring her family roots and for the insight that they give into a resilient community’s history, expressing it not only through visual media, but also in a recent book, ‘Blood Oranges Dipped in Salt’, which reflects on the history of the Armenians of Iran from the perspective of the author’s own family, a collation of stories, featuring dreams, births, marriages and deaths and the stuff of family life, that bear witness to a minority’s culture longevity. The prints in ‘Perse’ evoke family histories enacted across geographical distance and find parallel with the stories in the book, ‘Blood Oranges Dipped in Salt’; taken together they show an artist experimenting powerfully and successfully with different way of telling, each manifestation offering possible ‘readings’ that relate to the other, and offering a particularly rich resource for interpretation and learning activity that might accompany future displays of this work.

N D Walsh

Roundhouse, Student-Led Journal

£300 awarded towards costs

After a great deal of time and effort – 8 months after our grant application – we finally printed 50 copies of the new issue of our journal. It has been hugely gratifying for all of us, as a process and as an end product.

We are sorry to say that no academic institutions have contacted us in receipt of the journal. Having sent out 20 copies to UK and international institutions, we find our hopes of establishing contact with student-led groups are dampened. We wished to establish a broad network of non-hierarchical and autonomous groups, but it is clear our approach of communication needs reconsidering. Focusing on our website is cheap and relatively straightforward, but we remain convinced of the power and utility of possessing physical copies of our journal.

So far, we have only used a little over half of our grant and we shall write another report once we have spent its entirety. Having overestimated the money required for printing, designing and postage, we have agreed on the following possibilities that our grant would enable us to engage in:

- Building a small library of key critical theory texts.
- Purchasing books for reviewing, to be published on our website (<http://roundhouse.ac.uk>).
- Funding for room hire, with the intention of starting book groups and study sessions.

For a number of reasons we feel the smaller scale projects are more favourable, as opposed to larger and more ambitious ideas like funding a small conference or a new issue of the journal. Any questions or points are very welcome. It goes without saying that we are all immensely grateful for your generosity, and are keen to let you know how Roundhouse fares in the future.

Pascal Ansell

Friends of Leeds Baroque

£750 towards the purchase of a baroque viola

During autumn 2013, the Friends of Leeds Baroque carried out the purchase of a baroque viola. The purchase was made via the Early Music Shop in Saltaire: they offered a number of instruments, and the choice of the one to purchase was made with the help of professional musicians who tried them out. The instrument eventually chosen, together with its case cost £1,775.00. The £750 donated by the Philosophical and Literary Society made it possible to make this acquisition much sooner than would otherwise have been the case; and in fact the Baroque Instrument Fund still retains enough for the purchase of a suitable bow, which still has to be selected and which will cost at least £575.00.

The instrument acquired is now the property of Leeds Baroque Orchestra (**not** of Leeds University); and it will be available for a series of young musicians to borrow, in the process of deciding whether this kind of ‘authentic’ instrument represents the path which they wish to follow in developing their talents.

We are very grateful for the successful outcome of this project, substantially aided by the gift from Leeds Philosophical and Literary Society; and we extend a warm invitation to any Committee member of that Society who wishes to see and hear the viola being played. The first opportunity will be at the next LB concert—the Bach *B Minor Mass* to be performed in the Clothworkers’ Hall on Sunday 2 March 2014.

R A Andrews

Leeds Lieder+ Festival – Education Programme

£750 towards support of projects for people with learning disabilities

The much-appreciated grant was used to support the fifth Leeds Lieder collaborative project with Pyramid of Arts. The creative team comprised Philip Smith, baritone, Jonathan Fisher, piano and Julia Piggott, Creative Director of Pyramid of Arts, working together for the fourth time on this project. Participants were drawn from two Adult Social Care day services for people with learning disabilities and four residential services for people with profound and complex learning needs. A total of 15 adults with learning disabilities aged between 23 and 70, plus 16 accompanying staff

members, attended the project. 7 visitors from Leeds Lieder and other organisations also attended single sessions. An artist from Pyramid of Arts was brought in as trainee facilitator to the project.

The repertoire included songs from Schubert's *Winterreise* and Vaughan Williams's *Songs of Travel*, with additional songs and piano music by Ravel, Debussy and Massenet. All songs were sung in the original language. The programme for each day was presented as a continuous performance, using a range of items to stimulate related sensory responses and provide links and opportunities for the audience to become in the unfolding songs e.g. passing round autumnal fruits and wayside plants to enhance the sense of the countryside in *The Vagabond*.

This year we were lucky to have the opportunity to develop the project beyond the previous four session format. The first sessions were held in August in the Howard Assembly Room, courtesy of the Arts@Leeds scheme to enable its funded arts organisations to work in mainstream arts venues. This exciting venue brought both opportunities and challenges – the wonderful acoustic showed off the artists at their best and enabled our project group to have an introductory experience of Lieder in a venue they would never usually venture into. It was more problematic to create intimacy in such a large space and, as to be expected in such a group, some responses were loud and energetic and would not have been welcomed in a more traditional concert hall setting! As the project progressed, both participants and performers grew in confidence and the quality of listening developed, leading to a highly successful fourth session. In this workshop, the complete repertoire was presented as one continuous performance.

Two follow-up sessions were held in the School of Philosophy, Chapel Allerton in mid-November, providing the participants with the opportunity to revisit the songs some months on. We were particularly interested to observe the levels of recall (if any) amongst people with no verbal Communication who had attended the earlier sessions.

It had become clear by the end of the August sessions that, as an artistic team, Phil, Jon and Julia had reached a level of coherence and confidence that would make it possible to offer the project to a wide range of participants in the future, wherever they might be. So the last two sessions were also used to capture the essence of the project in a short film. Some excellent footage was captured and the film is now nearing completion. Copies will be sent to our funders early in 2014.

We were extremely pleased to see how quickly people re-engaged with the music and the team. This involvement came as a surprise to some of the accompanying workers. The sessions opened their eyes to completely different aspects of their clients' personalities and highlighted how much people responded to and enjoyed this apparently exclusive high art form when it was made accessible to them. Moreover, the quality of the performance drew workers in as equal participants, providing them with an artistic experience of unrivalled intensity and quality that made them question their own preconceptions about classical music in general and Lieder in particular.

Breaking down these barriers is one of the most significant functions of this project. If support workers have never had access to live performance themselves, it will be difficult for them to be open and receptive to the medium of Lieder and other art-song, particularly given the general public perception of this art form as 'not for us'. Unless this is successfully challenged, their clients, especially those without language, have no chance of getting access to live performances in the future.

This highly successful extended project has opened up possibilities for both similar projects as part of major music festivals and for further local projects to familiarise people with all sorts of classical music prior to supporting them to attend mainstream concerts. We are deeply grateful to the Society for their help in making the project possible.

Kathleen Evans

Otley Science Festival Family Science Fair

£250 towards costs of staging science fair

The Family Science Fair 2013 maintained its reputation as the most popular family event held at the Otley Courthouse Arts and Resource Centre each year! At just over 450, the number of visitors was slightly down on the previous year, probably due to the appalling weather in the first few hours of the day. Luckily, it dried up and volunteers from the Institution of Civil Engineers, ably assisted by many children, were able to build a construction in the courtyard as usual. In the Art room, a workshop on origami was held for over 9's, supported by a downstairs stall for younger children, making less complicated mathematical models.

There was a wide variety of excellent stalls run by differing organisations, from local schools to the Institute of Physics.

There were two professional actors, one playing Rosalind Franklin and the other a 16th century cartographer, both with considerable background knowledge and supported by props.

The grant will be used to help pay for the organisation of the day, undertaken by freelance worker, Jane Dale. The Otley Science Festival is very grateful indeed for the help given by the LPLS in staging this event.

Hazel Costello

Young Opera Venture tour of Opera Appetizers

£750 for production costs

Thank you so much for your support of Young Opera Venture. I am writing to update you on our project and am delighted to report that the production was wonderfully received and that we have been invited back to all the venues we visited!

Our young cast performed with great skill, much enthusiasm and good humour and were utterly reliable and professional, adapting to the variety of venues, facilities and acoustics without the slightest grumble. I have had several messages from them saying how much they learnt and how grateful they were for the opportunity.

We did not raise all of the money we had originally targeted and therefore had to scale back our costs accordingly. We were still able to pay our singers a suitable fee (although it was £100 as opposed to the intended £120) and were grateful that they appreciated and were able to work within the constraints upon us.

With the exception of our performance in Halifax, we raised more than was originally projected at the box office. However, the considerable amount received against target in Huddersfield relates to

the fact that we were asked to change our standard Opera Appetizers performance (six singers and a piano) into a full performance with orchestra. This fantastic event incurred costs which were additional to our original budget to you. All of the extra fee from Huddersfield was used up in paying these additional artists' fees and costs.

Our only disappointment was that we had to cancel our performance in Bolton. Three weeks before the performance we discovered that the venue had only sold 5 tickets and as we could not risk making a big loss against our budget, we had to cancel the show. However, fortunately we had previously added an extra date to the tour and performed for a set fee at Cannon Hall in Barnsley and still undertook eight performances, as originally outlined in our application to you.

We have had enquiries from further venues - Scarborough, Leyburn, Fewston, Masham, Tameside, Skipton, Howden, and Middlesbrough - to host Opera Appetizers in May/June 2014 and hope that we will be able to raise the necessary funding to take opera to those places too. We now know that, unlike a full length production with orchestra, Opera Appetizers is much more scalable and therefore easier to finance and perform on a budget than we had first anticipated. There is a demand for this kind of show and we are hopeful that we can continue to perform Opera Appetizers and raise the profile of YOYV in the run up to our next full production and tour of *The Magic Flute* which is set to take place in autumn 2014.

We are also delighted that we have been invited to tour our existing production of *The Marriage of Figaro* again in January, this time visiting Oldham, Hexham and Kendal. Once these performances are concluded we will have visited a total of thirteen venues with Opera Appetizers and eight with *The Marriage of Figaro*.

Thank you once again for the support you have given us. We are very grateful.

Jane Anthony

Yorkshire Live Music Project

£200 towards performance by Ligeti Quartet

The Yorkshire Live Music Project presented The Ligeti Quartet performing a programme of contemporary classical music at The White Cloth Gallery Leeds, November 10, for which £200 was granted from The Leeds Philosophical and Literary Society to help support artists' fees (total £800). The Ligeti Quartet performed the following programme:

Conlon Nancarrow: String Quartet No.3 (1987)

György Ligeti: String Quartet No. 2 (1968)

Laura Bowler: Hay Fever (2012)

Henryk Gorecki: String Quartet No. 2 'Quasi una Fantasia'

Third movement 'Arioso'

John Adams: Fellow Traveller (2007)

Huang, Hai-Huai (arr. Christian Mason): Sai Ma 'Racing Horses' (2012)

The event provided a unique opportunity for Leeds residents of all ages to experience cutting edge new music performed by one of the UK's finest exponents of contemporary classical music, in a venue which has strong links to Leeds' industrial heritage as a major UK textile trade centre. The

event was well attended and appreciated by Leeds based-enthusiasts of new music including some under 18s who were able to use the YLMP Gigs for Kids scheme.

The event benefitted from some duality of purpose, as The Ligeti performed alongside an exhibition of the work by the celebrated photo journalist Tom Stoddard, hosted by The White Cloth gallery.

The event also benefitted from a collaboration with Wakefield College (this organised subsequent to the grant application). Students from Wakefield College working for the Higher National Diploma in Music (Popular Music) and Level 3 Extended Diploma in Creative Media are producing the sound track and video for an exploratory film. YLMP hopes that screening of the film and its availability on You Tube will encourage people to re-examine stereotypes attached to the genres of popular commercial music and classical contemporary music, enabling greater understanding of music making in the 21st century.

The film will be screened at The Mechanics' Theatre, Wood Street, Wakefield as part of the Wakefield Artwalk, <http://artwalk.org.uk/> Wednesday March 26 2014 and will subsequently be launched on You Tube, and the YLMP web-site.

Sandra Carlon

Securing and Developing the Collections of the University of Leeds Zoological Museum

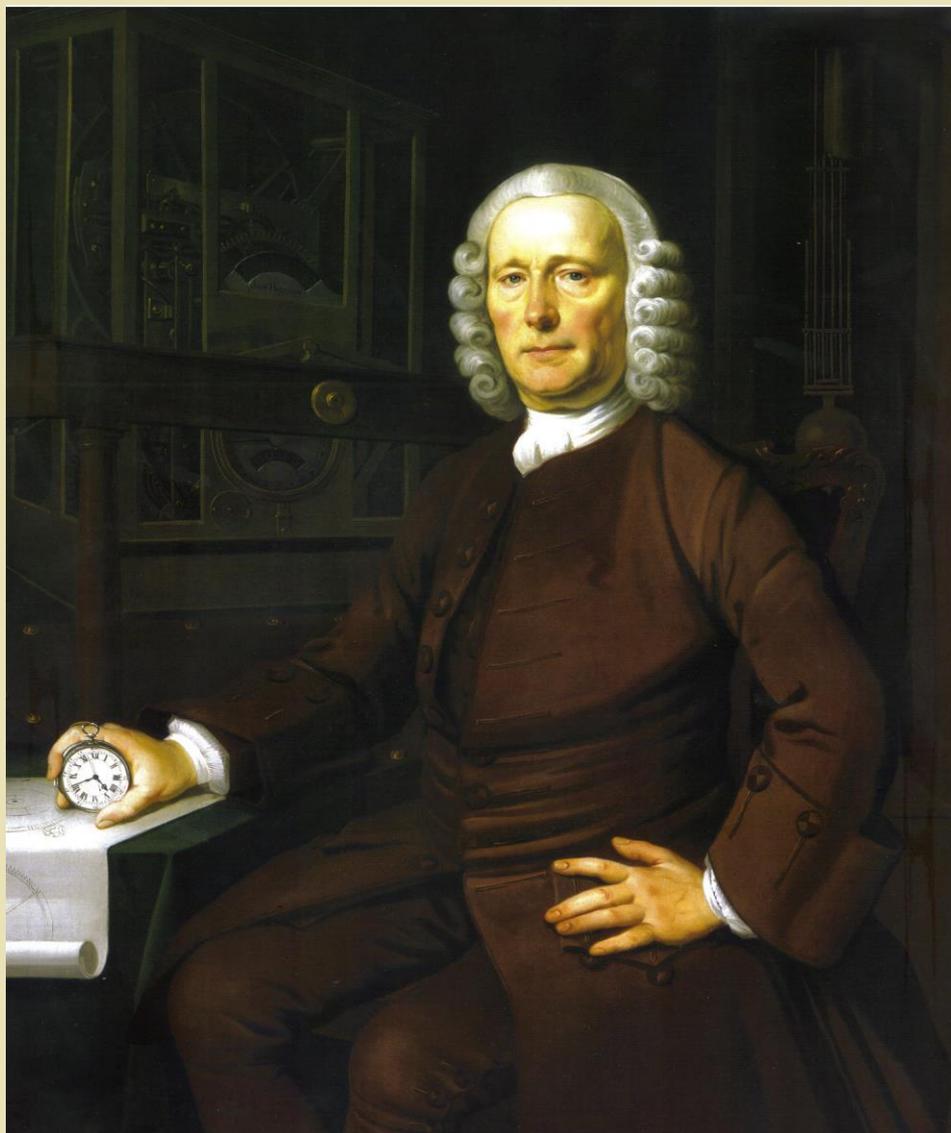
£1369.20 to cover the costs of a postgraduate assistant

Since being awarded the grant from the LPLS, Mark Steadman along with a small team of volunteer students at the University's new Museum of the History of Science, Technology and Medicine ("HSTM Museum") have fully catalogued the zoological collections, documenting especially their historical links to the LPLS and its Museum. Recent changes to the HSTM Museum's website system mean that the database is not yet live on the web, but a full workable database of the collection has been completed and, until it goes live, is available for use offline for researchers.

Thanks to Steadman, the zoological collections went into immediate service as teaching aids, and have been used successfully in undergraduate teaching for two years running. Steadman has gone on to use the material in standalone sessions for secondary, graduate and post-graduate students. For secondary school students, for example, he created a session based on identifying different kinds of skull. This work was done in collaboration with Dr. Claire Jones, the Museum's Director, who continually uses the zoological collection as part of the post-graduate Museum Studies module she now runs. In addition the collection is being visited and used by researchers, including Dr Peter Mill and Dr Sandy Baker, both of whom have used it to augment the research they are involved with at the Leeds City Museum.

Colleagues in the Leeds Centre for History & Philosophy of Science are most grateful to the LPLS for funding Steadman in this way, as the funding enabled him to develop a key HSTM Museum collection where his distinctive expertise was crucial, while at the same time giving him further opportunities to complete his important PhD thesis on the history of the scientific collections of the LPLS.

Gregory Radick



John Harrison

by Thomas King, 1767