

BIBLIOGRAPHY

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BOOKS

- ❖ **‘LEO and the Managers’**; J.R.M. Simmons, Macdonald, London, 1962.
The paperless office concept of the Lyons Comptroller, whose support was vital to the LEO project
- ❖ **Management of change. The role of Information’** ; J.R.M. Simmons, Gee & Co, 1970
Gee & Co., London.
- ❖ **LEO, the First Business Computer**; P. Bird, Hasler Publishing, 1994.
Peter Bird joined Lyons when, as he says, ‘the pioneering years of computing were no more than folk history.’ Nonetheless, through his ‘talking with old-timers’ and delving through the Lyons archives, he has made an important contribution to the LEO story. Of particular value are the appendices which, inter alia, give details of the instruction codes, speeds, capacities and deliveries of the different models.
- ❖ **The First Food Empire: A History of J. Lyons and Company**, Peter Birds account of the history of J. Lyons including a reference to the LEO initiative, Phillmore, 2000.
- ❖ **User Driven Innovation: The world’s first business computer** , (eds.) D.T. Caminer, J.B.B. Aris, P.M.R. Hermon, F.F. Land, McGraw Hill, Maidenhead, 1996.
A first-hand account written by thirteen of the early users who developed the disciplines of systems engineering and put LEO to work on economic, time-dependent business applications, starting in 1951. Included is an edited version of the seminal report of the two Lyons executives who, after a tour of the early computer activity in the United States in 1947, recommended that Lyons acquire a computer of their own. Also included is a Science Museum interview with John Simmons.
- ❖ **LEO, the Incredible Story of the World’s First Business Computer**, (eds.) D.T. Caminer, J.B.B. Aris, P.M.R. Hermon, F.F. Land, McGraw Hill, New York, 1998
The revised United States edition of User-Driven Innovation, a Chinese edition was published in 2000.

Extracts from Reviews

Professor Dick Nolan of the Harvard University Business School writes in his introduction to the book:

"This story has the best qualities of a Harvard Business School case study: it is an important event in the history of the business.

It is a study about extraordinary people ... As confident executives they look outside their company, in other countries, at universities to discover new ways of doing things and fresh ideas. In their bold actions, trust shows through as a foundation in implementing their vision. Young people are given free reign and do not disappoint. A resulting exciting, challenging ‘can-do’ culture is heard in the words of the people who were there."

Dr Terry Gourvish, Director Business History Unit, LSE, in LSE Business History Newssheet,

"This is a major contribution to the history of computing and computers in the UK. A full scale case study of LEO computers, written by members of the team who experienced all its trials and tribulations, it provides a fascinating insight into the development by J. Lyons & Co. of the first business computer in the UK."

Neil Fitzgerald, editor of CA magazine, in The Scotsman, Business section. .

"Can-do culture, empowerment, user-driven innovation, business process re-engineering, flat organisations, quality, short lines of communications and decision making. We are led to believe that these are radical, modern ideas. However, a book that has come into my hands shows that they were being successfully harnessed almost half a century ago, to create the most significant event ever in business management.

The editors ... tell the story of how they and others built and put to work the world's first business computer. This did not happen in California's Silicon Valley, but at Cadby Hall, the ... west London premises of Lyons.

An important facet was that they felt they should always take a strategic view of the whole function to be computerised and make recommendations for improvements before going to work."

Dr John Pinkerton, review in ICL Technical Journal

"Telling the story of how the foundations of data processing were laid from 1949 onwards has evidently been a labour of love.

This is a work of scholarship but eminently readable nevertheless. It will be seen as a major contribution to the history of business computing; it is strongly recommended for anyone already working in or studying to enter the field of IT."

Michael Braithwaite, Deloitte, Touche, European Journal of Information Systems.

"I commend this book to a wide audience. To the general reader it stands as a very well written and exciting account of technological innovation. To the business school student it presents a remarkable story of technological success that, as a commercial venture was flawed, perhaps by factors beyond the control of the players."

Professor George Mitchell, review published Journal of Operational Research Society..

"This fascinating book tells the life story of LEO. Rather over a third of the book is the historical record, carefully researched and engagingly written up by Caminer. The rest is largely personal memoirs of those involved in the early days, including accounts of several innovative applications. The whole is rounded off by an evaluation by Aris. The book's value is enhanced by the style of writing. Those who worked in LEO, especially in its earlier days, including many of the book's authors, exercised an influence on the development of business computing in the UK quite disproportionate to their numbers.

I found this book a good read and one which excited several strands of thought. Although its main market will be among scholars and students of IT and business studies, it deserves a wide readership in the OR community."

John Perkins, National Computer Centre Newsletter,

"The book is a fascinating adventure story in which the dynamics of an extraordinary group of people made the seemingly impossible happen."

Professor John Ward in the Journal of Strategic Information Systems.

"The story of that first business computer: Leo - Lyons Electronic Office - is told in this book. Whilst it is history, reflection on what was achieved and not achieved and why still has many lessons of relevance to the successful use of IT today - we seem to be learning painfully and slowly!

... a review by John Aris of what of what he calls the 'LEO approach' - an integrated combination of technology innovation, application and consultancy designed to enable significant business improvements from computer use in a range of situation. Many of these applications would be called 'business process redesign' in the 1990s!

The wide range of contributors provide many different perspectives on what happened and views on why things evolved the way they did. It is a set of memoirs - often very personal ones - of a time when Britain could be said to have led the world in the application of this new technology.

... it is a book that we should all be grateful the authors took the time and trouble to get together and write. It is a story of extraordinary achievements , by a talented team..."

I. A. Lovelock in Management Accounting.

"This book is a first-hand account of how this astounding innovation came about. It is a flesh and blood, warts and all story related by the participants, brimming over with the same enthusiasm that enabled the unlikeliest of organisations to lead the way into the future that we are all familiar with today.

It concludes with different strands coming together to provide the essence of the LEO credo of comprehensive, integrated, secure, action stimulated implementations.

Professor T. Brady, Brighton University

"As well as being a fascinating piece of historical writing the book provides food for thought in the supposedly computer literate world of the 21st Century. Spectacular computer disasters such as the London Stock Exchange's Taurus system have left us with rather jaundiced perceptions about computer projects . Why were Lyons better at implementing computer systems?

One major factor was that before automating business processes the Lyons team ensured that they were well understood and ready for computerisation. Long before the prospect of computers came along, Lyons had established a systems research office with the brief to constantly search out how improvements might be made to the business by changing processes."

❖ **A Computer Called LEO**; Georgina Ferry, Fourth Estate, London, 2003.

'LEO and its creators deserve their place in history not because of what it was, but because of what it did. For LEO was the first computer in the world to be harnessed to the task of running a business.

A paperback edition was published in 2005, by Harper Perennial

❖ **An ICL anthology**, edited by Hamish Carmichael; Chapter 6, LEO, pp. 91-94, Laidlaw Hicks Publishers, Surbiton, 1996.

Chapter 6 presents a anthology of quotations about LEO, mainly from LEO personnel.

❖ **Electronic Brains: stories from the dawn of the Computer age** by Mike Hally, Granta Publications, London, 2003

The book is based on 4 BBC radio programmes produced by Mike Hally. Despite its populist title, it is a very readable and informative account of some early computer ventures in the USA, UK, Soviet Union and Australia. Chapter 5 is an account of the LEO story.

❖ **Computers, Managers and Society**, Michael Rose, Pelican, 1969.

The author notes LEO amongst the pioneers and provides a brief account of the LEO story.

❖ **A History of Modern Computing** (2nd edition) by Paul E Ceruzzi,

MIT Press, reports on the role played by Lyons and LEO in the development of business computing.

❖ **From ENIAC to UNIVAC: Appraisal of the Eckert-Mauchly Computers Hardcover** – Digital Press, March 16, 1981 by Nancy B. Stern.

Pages 148 -151 report on the precedence of the LEO initiative in the development of business computing.

❖ **Early British Computers: The Story of Vintage Computers and The People Who Built Them**;

Simon H. Lavington, (Manchester University Press, 1980)

at <http://ed-thelen.org/comp-hist/EarlyBritish.html#TOC>

Chapter 13, pages 68-77, gives a brief history of LEO and English Electric including a timeline.

❖ **Alan Turing and his Contemporaries**, Simon Lavington (Ed.) British Computer Society (2012),

111 pages, summarises the background to all the early British stored-program projects from 1945 – 1951

❖ **Reflections on the History of Computing: Preserving Memories and Sharing Stories**; Arthur Tatnall (ed.), in Series: IFIP Advances in Information and Communications Technology, Vol. 387, Springer, Nov. 2012. Chapter 2, Frank Land, Remembering LEO, pp. 22-42

❖ **Cambridge Computing - The First 75 Years**; Haroon Ahmed, TMI Publishers, April 2013.

❖ **ICL A Business and Technical History**; Campbell-Kelly, M., Clarendon Press, Oxford.(1989)

The history of ICL is synonymous with the history of the British computer industry. ICL was formed by a series of mergers in response to the increasing market dominance of the large American corporations, particularly IBM. The struggles between these two giants and the inherent problems and implications of competing with US multi-nationals are examined in detail in Campbell Kelly's wide ranging study. At the time of writing in the late 1980s, the author was given unrestricted access to ICL archives and his lucid account of the company, its set-backs and successes makes for a compelling and informative read. This book, which was Winner of the Wadsworth Prize for Business History (1989), will be of great interest to anyone involved in business or the computing industry.

❖ **The History of Computing: An Encyclopaedia of People and Machines that made Computer History**, Mark Greenia, (2003), Lexikon Services,

<http://www.computermuseum.li/Testpage/0000WELCOME.htm>

A useful and comprehensive chronology of computer history including recognition of Lyons and LEO plus pictures and descriptions of the LEO initiatives.

The LEO section can be found on <http://www.computermuseum.li/Testpage/LEO-Computers.htm> Note: a photo of LEO II/1 is wrongly labelled LEO 1, and the link to the LEO Computers Society website does not work.

❖ **The Technical and Social History of Software Engineering**, Capers Jones (2014), Addison-Wesley.

Capers Jones's book is a monumental history of computers and computing with a prime focus on 'software engineering'. Jones has an introductory chapter which deals with the pre-history from the beginning of civilisation to 1930, then chapters dealing with each decade up to 2013. His chapter on the 1950s includes the LEO story, brief (pages 85, 86, in a 452 page book), but giving some weight to the place of LEO in computing history.

❖ **ICL Mainframe Computers** Books LLC, (2011) 19 pages

This pamphlet gives a brief description of a number of UK designed and manufactured computers including the LEO range, pages 18 and 19. All the texts are lifted from Wikipedia entries and include some errors made in these entries.

❖ **Managed Print Services: High-impact Technology - What You Need to Know ...**Kevin Roebuck (2011), Tebbo. The book is a type of encyclopaedia including a wide range of technology topics each supplemented by a rich set of references. A short, well sourced, chapter on LEO, page 50-56, is included.

❖ **Meilensteine der Rechentechnik (Milestones in Computer History)**, Bruderer, H., (2015), 820 pages, De Gruyter Oldenbourg, Berlin/Boston,. The book written in German has a number of references to LEO throughout the book. The author is a Swiss academic.

❖ **BCS – Celebrating 50 years**, Kavanagh, J., (2007), British Computer Society, 82 pages. Chapter **Birth of an Industry and the BCS** features Maurice Wilkes, photo of LEO I and potted history of LEO.

❖ **The Electronic Office**, (1956) – a collection of articles assembled by the Liverpool and Merseyside Branch of the Office Management Association following their conference in April. Includes articles by David Caminer and Oliver Standingford. Bound copy held by Hilary Caminer.

❖ **Beautiful Idiots and Brilliant Lunatics: A sideways look at twentieth century London**, (2015), Rob Baker, Amberley Publishing Limited. Chapter 22 includes the story of Lyons and its place in London, and notes its role in the development of LEO and business computing. See https://books.google.co.uk/books?id=yOwgCwAAQBAJ&pg=PT300&lpg=PT300&dq=How+Lyons+Produced+the+Worlds+First+Large+Business+Computer&source=bl&ots=8MWwgk_uLN&sig=ucgm-M47SKOlozeLgYGfI6TU_MA&hl=en&sa=X&ved=0ahUKewjcmumWyK_MAhWFOyYKHSu9DHCQ6AEIYD_AJ#v=onepage&q=How%20Lyons%20Produced%20the%20Worlds%20First%20Large%20Business%20Computer&f=false

❖ **A Brief History of Computing**, (2012). O'Regan, G., 2nd ed. London: Springer. Chapter 3, Early Computers 11 provides a brief account of EDSAC and LEO.

❖ **Programmed Inequality: How Britain Discarded Women Technologists and Lost its Edge in Computing**, Hicks, Marie, MIT Press, published January, 2017. Marie Hicks, an American Academic, has produced a well researched and in many ways fascination account of the British Computer Industry

from its birth at the beginning of World War 1 code-breaking at Bletchley Park to the demise of ICL in the mid 1970s. As such it includes many references to LEO including reports of interviews with LEO employees. However the focus is on British Government computing, and in particular on the making of staffing policy in the Civil Service. Whilst the account is often interesting and provides an insight into the social history of the Civil Service as it enters the Information Age its basic hypothesis embodied in the title of the book is at best dubious. mariehicks.net

- ❖ **LEO remembered: by the people who worked on the** collection of reminiscences, testifying to a sense of collective endeavour among the LEO community” (Georgina Ferry).
- ❖ **Innovating for Failure. Government Policy and the Early British Computer Industry.** John Hendry. MIT Press, Cambridge, MA, 1990. xx, 240 pp. Hendry analyses the failure of the British Computer Industry in spite of the efforts of the NRDC to rationalise the industry. <https://www.amazon.co.uk/Innovating-Failure-Government-Computer-Computing/dp/0262081873>

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Intended for the Lyons' Management only a small number were printed. The original version was about 75 pages, though later versions were much longer. Copies are held in the John Simmons Archive at Warwick University Modern Records Centre Showcase: Pioneers: Innovators in Science and Technology and can be downloaded from:
<http://contentdm.warwick.ac.uk/cdm/ref/collection/leo/id/263>
<http://www2.warwick.ac.uk/services/library/mrc/explorefurther/images/pioneers/> files as item [MSS.363/S4/12](http://archives.li.man.ac.uk/ead/html/gb133nahc-leo-p1.shtml) and at the University of Manchester John Rylands Library, <http://archives.li.man.ac.uk/ead/html/gb133nahc-leo-p1.shtml>, filed as item C130. Appendix 13 in Peter Bird's book [LEO: The First Business Computer](#) is extracted from the guide.
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- Baskerville, R., **The LEO principle: perspectives on 50 years of business computing**, pp 255-263
- Caminer, D.T., **LEO and the Computer Revolution**, pp 265-284
- Cox, G., **Business computing 2001-the state of the art**, pp 285-294
- Mowery, D., **50 Years of business computing: LEO to Linux**, pp 295-308
- Yapp, C., **Conference sponsors' panel: what have we learnt in 50 years?** pp 309-320
- Shirley, S., **Panel: social and economic consequences of business computing and public policy**, pp 321-330
- Ashworth, J.M., **Knowledge and digital information**, pp 331-337
- Hudson, R., **Panel: crystal ball, 2001-2051**, pp 339-353
- Ein-Dor, P., **The world and business computing in 2051: from LEO to RUR?** pp 357-371
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http://softbox.co.uk/pub/Of_Bunkers_Bytes_and_Cakes_Web.pdf
An abridged version is printed in March 2014 issue of Cyber Talk Magazine, Issue 4.
- Williams, J.E., (1967), **The Brains Behind The Buttons**, Coventry Standard, P. 21, January 5th. The article refers to LEO/28 sold to Coventry Corporation.
- Williams, R., (1976), **Early Computers in Europe**, AFIPS National Computer Conference and Exposition, June, Proceedings, pages 21-29, New York. <http://dl.acm.org/citation.cfm?doid=1499799.1499804> and to download paper
<https://www.computer.org/csdl/proceedings/afips/1976/5084/00/50840021.pdf> The paper includes a long section on the Lyons/LEO story. From the abstract "the paper also includes a detailed description of the birth and foundation of the most successful first British commercial computer company-Leo Computers Limited, and this gives an insight into the thinking which lay behind British early computer development".
- Woods. M.J., (2002), **History of the Kidsgrove Works**,
<http://www.members.optusnet.com.au/jaxbar/kidsgroveworkspt1.pdf> A detailed account of the Kidsgrove works including its role with English Electric LEO Marconi (EELM) and the part Kidsgrove played in the evolution of the UK computer industry.
- **British Journal of Administrative Management** (1991), 75th Anniversary Issue:
<http://archives.li.man.ac.uk/ead/html/gb133nahc-leo-p1.shtml>

The contents include:

Simmons, the visionary, April 1991

O&M and Simmons, November 1991

ARCHIVES – LEO DOCUMENTS AND ARTEFACTS

The following weblinks provide search facilities covering most of the UK's and Ireland's official archives: <http://discovery.nationalarchives.gov.uk/>
and <http://copac.jisc.ac.uk/>

- **British Library**, holds various LEO related items in its archives. Including oral Histories. See [http://explore.bl.uk/primo_library/libweb/action/search.do?dscnt=1&tab=website_tab&dstmp=1440155304244&vl\(freeText0\)=LEO%20Computers&fn=search&vid=BLVU1&mode=Basic&fromLogin=true](http://explore.bl.uk/primo_library/libweb/action/search.do?dscnt=1&tab=website_tab&dstmp=1440155304244&vl(freeText0)=LEO%20Computers&fn=search&vid=BLVU1&mode=Basic&fromLogin=true)
- **National Archive for the History of Computing**, Manchester, **LEO Computers**, <https://www.jiscmail.ac.uk/cgi-bin/webadmin?A2=history-of-computing-uk;ca4a4c3.0012> provides a listing of documents held by the library.
<http://www.chstm.man.ac.uk/nahc/contents/leo.htm>
<http://archives.li.man.ac.uk/ead/html/gb133nahc-leo-p1.shtml>
As part of the library's special collections, the Archive is located in the main building of John Rylands University Library of Manchester, <http://rylibweb.man.ac.uk/> Burlington Street (building 18 in the campus map <http://www.man.ac.uk/about/campus.html>).
- **The Computer Conservation Society** has collected technical and other background Information about all early UK computers including LEO. It holds monthly meetings at the Science Museum at which various aspects of its activities are presented. See <http://www.ourcomputerheritage.org/CCSprop6.pdf> <http://www.ourcomputerheritage.org/> and <http://www.ourcomputerheritage.org/acknowledgements.pdf> A website is devoted to the UK Computer Heritage and includes information about the origins of LEO and summaries of the LEO range. <http://www.ourcomputerheritage.org/maincomp.htm>
The LEO record is incomplete and further technical information would be welcomed by the CCS. The CCS also maintains an index of documents relating to LEO including a complete listing of the **Pinkerton** papers held at the Science Museum <http://sw.ccs.bcs.org/iclarch/arch01.html> and 65 technical drawings including two patent applications <http://sw.ccs.bcs.org/iclarch/arch06.html>
- **The Computer History Society** has established an archive search facility of computing history websites. The link to the search facility is <http://ithistory.org/archiveit/archiveit-search.php>. Searching LEO+computers brings up <http://ithistory.org/archiveit/search2-realist-navtest.php?q=LEO%2BComputers&i=1827&p=0&submit=Search> with many LEO entries.
- **University of Warwick, Modern Records Centre**, [Contact Details](#) | [Location](#)
John Simmons Papers (1924-1994) Ref: GB 152 GB 152 MSS.363 , <http://archiveshub.ac.uk/data/gb152363>. See John Simmons Archive at Warwick University Modern Records Centre Showcase: Pioneers: Innovators in Science and Technology <http://www2.warwick.ac.uk/services/library/mrc/explorefurther/images/pioneers/> for a number of items on LEO, now digitised, see www.warwick.ac.uk/services/library/mrc/explorefurther/digital/leo
- **Institution of Engineering and Technology (IET)**. Established annual [Pinkerton Lecture](#) at the behest of LEO Computers Society to honour the achievements of John Pinkerton. The lecture series commenced in 2000. Until 2011 the lectures were held at Faraday House, London. Since that date they have been given in India by the Indian branch of the IET in Bangalore The IET write about the lectures as in <http://conferences.theiet.org/pinkerton/history/index.cfm>
 - **IET Pinkerton Lectures, Faraday House London**
 - 2000** Inaugural John Pinkerton Lecture Sir Maurice Wilkes AT&T Research Laboratories
 - 2001** LEO and the Computer Revolution David Caminer OBE
 - 2002** Seizing the Moment: The Far Reaching Effects of Broadband on Economy and Society David Cleevely Analysis Group

If any reader knows of any other reference please let Frank Land know at f.land@lse.ac.uk

2004 Intellectual Property, Entrepreneurs and Company successes Hermann Hauser
Director, Amadeus Capital Partners Ltd [IET.tv footage](#)

2005 ICT Use in Rural India: Innovations Bridge the Digital Chasm Professor Subhas
Bhatnagar Indian Institute of Management, Ahmedabad [IET.tv footage](#)

2006 e-Science and Cyberinfrastructure Professor Tony Hey
VP Scientific Computing, Microsoft, USA [IET.tv footage](#)

2007 Invention to Phenomenon (Sensation?) Sir Tim Berners-Lee
Director of the World Wide Web Consortium

2008 Web 2.0 (Social Media to Inspire Change) Alex Balfour [IET.tv footage](#)

2009 IT: Is it on the money? John Carey, Former Head of Business, Strategy & IT and interim
CTO, Lloyds TSB [IET.tv footage](#)

2010 The relentless march of the microchip Steve Furber [IET.tv footage](#)

**2011 Internet for all - is the real barrier to reaching this vision: demand, awareness, usability
or access technology?** Dr Mike Short [IET.tv footage](#)

➤ **IET Pinkerton Lectures Bangalore, India**

2012 Connecting Computers with the human brain Prof. Kevin Warwick (University of Reading)
<http://conferences.theiet.org/pinkerton/>

2013 Can India create a global powerhouse? Sir Robin Saxby, Ex Founding CEO and Chairman
ARM Holdings plc

<https://enathisky.org/techie/techie-magazine-2010/79-news/1794-report-on-iet-pinkerton-lecture>

2014 Internet of Things Jim Mornish, Founder and Chief Research Officer, Machina Research

<https://www.facebook.com/media/set/?set=a.967205353308482.1073741831.586954168000271&type=3>

2015 'Re-imagining society through the Internet of Everything'. Dr Robert Pepper,
Vice President - Global Technology Policy, Cisco <http://events.theiet.in/Pinkerton2015/>

- **Frank Skinner's website:** <http://www.ampneycrucis.f9.co.uk/PARK/LEO.htm>
- **Marconi** maintain a Marconi History website which includes a section devoted to LEO Computers and is regularly updated with news from the LEO Computers Society. Access is restricted to password holders including Frank Land. [marconiincomputersandautomation](#)
- **Centre for Computing History:** www.ComputingHistory.org.uk A collection of sounds made by LEO III has been borrowed by Jason Fitzpatrick from LEO Computers website for display at the Museum on You Tube can be heard at https://youtu.be/6vfa_RC_y1M
- **Andrew Wylie** – Mister Transistor – collects and records information about early transistor computers, including LEO III – see <http://homepages.nildram.co.uk/~wylie/trancomp/LEO3.htm>
- **Bill Forfar:** Reminiscences at www.groveblue.co.uk/wf.pdf
- **London Metropolitan Archive, (LMA),** holds material relating to J. Lyons and Company archived under:
GB 0074 ACC/3527 See http://search.lma.gov.uk/LMA_DOC/ACC_3527.PDF Note: The material, including references to the LEO initiative are held in boxes in their original format (not digitized). Selected material will be made available to searchers and can be photographed provided it is required for genuine research and not commercial reasons. LMA charges £5 per document copied. Neville Lyons neville.lyons@btinternet.com, friend of the LEO Computers Society) has photographic copies of much of the material related to Lyons. LMA hold the copyright for the archive. Catalogue numbers for LEO related materials copied by Neville Lyons are:

[ACC/3527/026](#)

If any reader knows of any other reference please let Frank Land know at f.land@lse.ac.uk

Cadby Hall Visitors Book, Princess Elizabeth signature.

[ACC/3527/311](#)

Lyons Office Journals covering profiles of TR Thompson, EH Lenaerts and Visit of Princess Elizabeth to Cadby Hall.

[ACC/3527/439](#)

Chairmen's Statements extracts mentioning LEO 1954 and 1965

[ACC/3527/246](#)

Lyons Mail 1992 extract re LEO.

- The **I love ICL Website** <http://www.vintage-icl-computers.com/icl3a> holds a collection of documents including LEO III Intercode and CLEO training manuals. These include the following: LEO III Paperwork at:
<http://www.vintage-icl-computers.com/icl2n>
LEO 326 11 Mag Tape boards at:
<http://www.vintage-icl-computers.com/icl44fc>
LEO III 3 Boards at:
<http://www.vintage-icl-computers.com/icl41>
LEO III 1 Tape , 10 LEO II/III Tapes and 1 Tape front at:
<http://www.vintage-icl-computers.com/icl42>
LEO III Panel at:
<http://www.vintage-icl-computers.com/icl42a>
LEO II Machine Plaque at:
<http://www.vintage-icl-computers.com/icl42b>
The site is maintained by Pete Woledge a member of the LEO Computers Society, tabbs@fireflyuk.net Picture of KDF9 at Hartree House and 1947 book by Hartree can be found at www.vintage-icl-computers.com/icl2acs
- **LEO II at Stewart and Lloyds, Corby Heritage Centre:** Exhibition of LEO memorabilia and the story of the first LEO delivered to a customer held at Corby in July/August 2015. Exhibition entitled Corby & Electronic Brain <http://www.northantstelegraph.co.uk/news/top-stories/discover-corby-s-computing-heritage-with-new-exhibition-1-6866793>
- **University of Stafford** April 14th 2016, Inaugural Lecture: Fifty Glorious Years Staffordshire's Role in the Development of Computing. The Lecture, by Professor Alan Eardley, includes references to English Electric, LEO, Kidsgrove. Photos of LEO and extracts from an interview of Frank Land by Alan Eardley.
- **University of Melbourne Archive:** holds collection of Shell Oil Australia Archive, including material relating to the purchase and use of LEO III in Australia
- **Vintage ICL Computers:** includes photographs of large range of computers which made up the ICL group, including some photos of LEO items. See <http://www.vintage-icl-computers.com/icl42> and <http://www.vintage-icl-computers.com/icl42a>. For further information contact Peter Woledge tabbs-firefly@outlook.com and <http://www.vintage-icl-computers.com>
- **Museums** A listing of which UK museums hold LEO Artefacts can be found at <https://docs.google.com/viewer?a=v&q=cache:PDji3gRefxAJ:www.ourcomputerheritage.org/where%2520to%2520see%2520bits%2520rev.pdf+National+Museum+of+Computing,+Bletchley+LEO&hl=en&gl=uk&pid=bl&srcid=ADGEEShQHZUJK9fLlszQDnyUPVCJHyggZYpZb17rxGSn0sTpHzT-N67c2U8mKwcbndQJCYwUFqjwsZiadPNLwnm9aP2qsDnH8Dyp-JNgYByD7TCatAti0ny37VO2xsBmiE97dQEWtB1N&sig=AHIEtbRt65LTg4sDLd2BvqImwO9oAxlUNA>
- **Birmingham Museum** J. Lyons donated some LEO I items to the Museum in 1965. Documentation relating to the donation is held by Peter Byford of the LEO Computers Society.
- **Computer History Museum, Silicon Valley.**

If any reader knows of any other reference please let Frank Land know at f.land@lse.ac.uk

<http://www.computerhistory.org/revolution/> The Museum holds and displays a number of LEO II relics including part of LEO II/3 the Corby Stewarts & Loyds Machine, and various LEO books and documents. Its record of holdings with photos is well organised and can be found on <http://www.computerhistory.org/revolution/early-computer-companies/5/110/468>
http://www.computerhistory.org/search/?q=LEO+Computers&site=chm_collection&client=chm_collection&output=xml_no_dtd&submit.x=2&submit.y=2 The Museum also holds a marketing film made for LEO and donated to the Museum by John Pinkerton. Museum Information about the film can be found at <http://www.computerhistory.org/collections/catalog/102705993> and <http://www.computerhistory.org/revolution/early-computer-companies/5/110/2260> More information about the LEO II/3 at Corby including Newspaper articles can be found at - <http://www.computerhistory.org/collections/catalog/102721101>

- **Science Museum, London.** The Museum opened a new Gallery **The Information Age**, which features amongst other exhibits tracing the evolution of the information age, a special section devoted to LEO, including recordings of a teashop manageress reflecting on the changes the Teashop Job (L3) made to her life. The new Gallery is sponsored by a number of members of the IT industry and organized and managed by Dr Tilly Blyth of the Science Museum.
See also http://objectwiki.sciencemuseum.org.uk/wiki/Leo_II.html
A Video showing pictures of LEO and interviews can be seen at https://dl.dropboxusercontent.com/u/73189/Work/Atacama/Science%20Museum/LYONS_23.01.15.zip
A listing of LEO documents held in the Science Museum Library can be found at [http://imp-primo.hosted.exlibrisgroup.com/primo_library/libweb/action/display.do?tabs=detailsTab&ct=display&fn=search&doc=44IMP_ALMA_DS2139217540001591&indx=1&recIds=44IMP_ALMA_DS2139217540001591&recIdxs=0&elementId=0&renderMode=poppedOut&displayMode=full&frbrVersion=&dscnt=0&frbg=&scp.scps=scope%3A%2844IMP%29&tab=local&dstmp=1428759473512&srt=rank&mode=Basic&&um=true&tb=t&v!\(freeText0\)=LEO%20Computers&vid=ICL_VU1](http://imp-primo.hosted.exlibrisgroup.com/primo_library/libweb/action/display.do?tabs=detailsTab&ct=display&fn=search&doc=44IMP_ALMA_DS2139217540001591&indx=1&recIds=44IMP_ALMA_DS2139217540001591&recIdxs=0&elementId=0&renderMode=poppedOut&displayMode=full&frbrVersion=&dscnt=0&frbg=&scp.scps=scope%3A%2844IMP%29&tab=local&dstmp=1428759473512&srt=rank&mode=Basic&&um=true&tb=t&v!(freeText0)=LEO%20Computers&vid=ICL_VU1)
- **The National Museum of Computer History, (TNMOC), Bletchley.** LEO hardware items at TNMOC are listed at Hardware May 2010.pdf (3MB) and flowcharts of LEO I microinstructions at <http://leo.settle.dtdns.net/LeoCode/MicroProgs.htm> Information about LEO with photos on <http://www.tnmoc.org/40/section.aspx/24> . Trustee of Museum and Secretary of Computer Conservation Society is Kevin Murrell, kevin.murrell@tnmoc.org
- **National Museums Scotland, Edinburgh.** The Museum has LEOIII/33 (Phoenix Insurance), as well as three LEO III circuit boards, one of which is on display, and three circuit boards from from LEO IIs. The Senior Curator of Modern Science and Computing is Dr Tacye Phillipson, : t.phillipson@nms.ac.uk Website: <http://www.nms.ac.uk/>
- **Museum of London, London.** The Museum has parts of LEO III/45 ((Webb Durlacher Mordant) including the console on display <http://www.museumoflondon.org.uk/Collections-Research/Collections-online/object.aspx?objectID=object-49407&start=1&rows=1> Website: <http://www.museumoflondon.org.uk/> See also activity sheet for school children: www.museumoflondon.org.uk/.../KS3_Communication_and_technology_world_city_activity_sheets.doc
- **Museum Victoria, Melbourne, Australia.** Has a small collection of LEO III parts , including a storage unit, and holds an account of LEO in Australia See <http://collections.museumvictoria.com.au/articles/12682>
- **The Staffordshire University Computing Futures Museum LEO Page**, a comprehensive account of Lyons and the birth and development of LEO. <http://www.fcet.staffs.ac.uk/jdw1/sucfm/leo.htm>
- **The Jim Austin Computer Collection** is a preservation of over 500 machines from small micros to mainframes and super computers. Some of the items can be seen on the web site <http://www.computermuseum.org.uk/> . The Collection acquired some LEO III items in July 2012 Visitors are welcome on request.

If any reader knows of any other reference please let Frank Land know at f.land@lse.ac.uk

- **The Shady Old Lady's Guide to London**
<http://www.shadyoldlady.com/location.php?loc=617> notes the site of the First Business Computer at Cadby Hall with a short piece about the origins of LEO
- **Heinz Nixdorf Museum (HNF)**, Paderborn Germany. Claims to be the largest Computer Museum in the world. But currently its only LEO holding is the Caminer *et al* LEO book in the Museum Library. Its Director, Dr Jochen Viehoff is keen to establish a LEO presence to show the LEO role in the history of computing. <http://www.hnf.de/en/home.html>
- **The Museum of Communication**, Berlin unites past and present of communication in its permanent exhibition: therefore it illustrates the origins, the development, and the future perspectives of the information society. Appealing rotating exhibitions cast light on different aspects of communication. Visit us via <http://en.mfk-berlin.de/> The permanent exhibition features a cabinet that shows the history of digitalization. Within this cabinet information about and pictures of the early LEO-Computers are presented
- **Charles Babbage Institute and University of Minnesota Libraries Digital Conservatory**, provides links to any LEO material held in the Library including the Pinkerton Oral History. See [http://conservancy.umn.edu/handle/11299/59493/browse?type=subject&value=LEO+\(Computer\)](http://conservancy.umn.edu/handle/11299/59493/browse?type=subject&value=LEO+(Computer))
- **Neville Lyons** – descendent of the original Joe Lyons is giving a series of public lectures on the History of the Lyons Company and on LEO Computers. Information about the next two lectures can be found for 8th June 2016 at <https://www.eventbrite.co.uk/e/the-joe-lyons-story-food-for-thought-tickets-24424562524> and for 22nd June 2016 at <https://www.eventbrite.co.uk/e/the-story-of-leo-lyons-electronic-office-the-worlds-very-first-business-computer-tickets-24424811268>

Private Holdings

Many individuals, dead and alive; members of the LEO Computers Society or ex LEO employees, have private collections of LEO artifacts, documents and photographs, some of which are of historical importance. They include:

David Caminer private archive, collected by Ray Hennessy

John Aris private archive, collected by Ray Hennessy

Colin Tully private archive

Frank Land private archive

Ernest Lenaerts 100 notebooks, quarto, compiled in manuscript, dating from 1949 to the early 1950s. The notebooks have been donated to the LEO Computers Society by Paul and David Lenaerts, Ernest's sons, and have been scanned into digital format by Bill

Purvis, a member of the Computer Conservation society rebuilding EDSAC.

They can be viewed at <http://www.billp.org/LEO>"

Wally Dutton Wally's daughter Andrea has donated her father's collection of LEO memorabilia including published papers dating back to 1954, newspaper articles and photographs

There are many other private hoards and the LEO Computers Society would welcome information about such holdings.

OBITUARIES and BIOGRAPHIES

Ernest Joseph Kaye 1922-2012

Ben Rooney in Wall Street Journal <http://blogs.wsj.com/tech-europe/2012/05/07/u-k-computer-pioneer-dies/>

Daily Telegraph 10th May 2012 <http://www.telegraph.co.uk/news/obituaries/9255130/Ernest-Kaye.html>

From BBC's Jamillah Knowles on the Next Web

<http://thenextweb.com/uk/2012/05/07/business-computing-pioneer-ernest-kaye-dies-aged-89/>

From Frank Land in Guardian Online 14th May 2012

<http://m.guardian.co.uk/technology/2012/may/14/ernest-kaye?cat=technology&type=article>

<http://www.youtube.com/watch?v=GE6TX70A3Rc>

If any reader knows of any other reference please let Frank Land know at f.land@lse.ac.uk

<http://blogs.wsj.com/tech-europe/2011/11/14/worlds-first-business-computer-celebrates-60th-anniversary/>

<https://plus.google.com/106615548454096392167/posts/4v94i6yGPst#106615548454096392167/posts/4v94i6yGPst>

http://www.bbc.co.uk/blogs/outriders/2011/11/leo_making_history.shtml

George Manley 1938-2011

http://centaurs-rfc.org/html/web_news_29.html

<http://www.leo-computers.org.uk/images/GeorgeManleyObit.pdf>

Gordon Foulger 1942-2011

<http://www.gordonfoulger.co.uk/obituary.php>

Sir Maurice Wilkes 1913-2010

Maurice Wilkes, played a leading role in the design of the Cambridge University EDSAC Computer in the late 1940s and in return for some funding for that project from J. Lyons & Co, allowed the Lyons team to use the EDSAC design as the basis for LEO I, cooperating with the LEO team and helping in the selection of J. Pinkerton as the chief LEO Engineer. He will be remembered as a good friend of LEO.

http://en.wikipedia.org/wiki/Maurice_Wilkes

<http://www.guardian.co.uk/technology/2010/nov/30/sir-maurice-wilkes-obituary>

<http://www.telegraph.co.uk/news/obituaries/technology-obituaries/8171435/Professor-Sir-Maurice-Wilkes.html>

John Aris 1934-2010

<http://www.guardian.co.uk/technology/2010/aug/26/john-aris-obituary>

<http://www.vukutu.com/blog/2010/08/a-computer-pioneer/>

<http://www.cs.man.ac.uk/CCS/res/res52.htm#i>

Mavis Hinds 1929-2009

Mavis Hinds working for the Meteorological Office used LEO I for weather forecasting – the earliest use of computers for modelling the weather in the early 1950s.

<http://onlinelibrary.wiley.com/doi/10.1002/wea.502/abstract>

David Caminer 1913-2008

Obituaries and Tributes

Financial Times (Alan Cane)

Switched .com (Will Safer)

The Independent (Martin Campbell-Kelly)

Booksellers Association (Martyn Daniels)

The Daily Telegraph

IT History Society

The Times

Scotts news.blogspot.com

The Guardian (Frank Land)

BBC Radio 4 'Last Word'

The Jewish Chronicle

Computing (Iain Thomson)

The Richmond and Twickenham Times

Twinings Tea

The Liverpool Daily Post

Centaurs Rugby Club

The New York Times (Douglas Martin)

Electronicsinfoline.com

The Atlanta Journal Constitution

Computeach

The Chronicle Herald, Halifax, Nova Scotia

Computing- Letters to the Editor (R.Sarson)

The Day, Connecticut

Wikipedia

The LEO Society website (Frank Land)

The Test Bed- Personal Computer World

VnUNET.com (Iain Thomson, San Francisco)

Fujitsu - ICL pensioners (Frank Land)

If any reader knows of any other reference please let Frank Land know at f.land@lse.ac.uk

Star Tribune, Minneapolis-St Paul

Funeral piece (Hilary Caminer)

Chicago Tribune

Ameblo, Japan

The Eponymous Pickle (Franz Dill)

Guardian Blogs

Gadsden Times

<http://www.telegraph.co.uk/news/obituaries/2188963/David-Camner.html>

http://en.wikipedia.org/wiki/David_Camner

http://uk.fujitsu.com/pensioner/topics/obituaries/david_camner/

<http://www.nytimes.com/2008/06/29/technology/29camner.html>

<http://www.liverpooldailypost.co.uk/views/obituaries/2008/06/26/david-camner-64375-21152334/>

<http://boingboing.net/2008/06/29/computer-pioneer-and.html>

<http://www.guardian.co.uk/technology/2008/jul/11/1>

<http://www.nytimes.com/2008/06/29/technology/29camner.html>

Colin Tully 1936-2007

<http://www.bcs.org/content/conWebDoc/16757>

<http://comjnl.oxfordjournals.org/content/52/3/388.short>

<http://www.leo-computers.org.uk/images/colintullytribute.pdf>

John Gosden 1930-2003

<http://www.leo-computers.org.uk/gosdenobit.html>

http://www.cs.manchester.ac.uk/other/CCS/res/res33.htm#\staff2\l_users\LANDF\Leo\Gosden obit in Independent.htm

<http://ithistory.org/memoriain/memoriain-detail.php?recordID=80>

Leo Fantl 1924-2000

http://www.thocp.net/biographies/fantl_leo.html

<http://www.smartcomputing.com/editorial/dictionary/detail.asp?guid=&searchtype=1&DicID=18016&RefType=Encyclopedia>

Anthony Salmon 1916-2000

<http://www.kzwp.com/lyons.pensioners/obituary2S.htm> (page 1)

John Pinkerton 1919-1997

<http://www.independent.co.uk/news/obituaries/obituary-john-pinkerton-1144708.html?pageToolsFontSize=200%25>

<http://www.cs.man.ac.uk/CCS/res/res19.htm#g>

http://ieeexplore.ieee.org/xpl/freeabs_all.jsp?arnumber=707576

<http://conservancy.umn.edu/bitstream/handle/11299/107600/oh149jmp.pdf?sequence=1&isAllowed=y>

<https://www.cliftoncollege.com/external/clifton-memories/john-pinkerton-and-the-first-business-computer/>

Ernest Lenearts 1910-1997

<http://www.cs.man.ac.uk/CCS/res/res17.htm#g>

Dan Broido 1903-1990

<http://www.kzwp.com/lyons.pensioners/obituary2B.htm> (page 1)

John Simmons 1902-1985

<http://www.oldbrightonians.com/notable-obs/business/john-simmons-bc.-1916.html>

<http://www.oxforddnb.com/view/printable/57059>

<http://www.oldbrightonians.com/notable-obs/business/john-simmons-bc.-1916.html>

Oliver Standingford 1912-1980, Senior Lyons Manager who at the behest of John Simmons, visited the USA with T.R. Thompson. They jointly wrote the report which was instrumental in the initiative which led to Lyons building the LEO computer. <http://www.kzwp.com/lyons.pensioners/obituary2S2.htm>

Thomas Raymond Thompson – TRT 1907-1976. The Lyons Mail published an appreciation of TRT in its April 1976 issue. This can be found in the Warwick University Simmons archive filed as 383-S4-14-2-9.jpg. TRT was one of the giants of the LEO enterprise.

<http://www.kzwp.com/lyons.pensioners/obituary2T.htm>

<http://www.oxforddnb.com/view/article/101160>

The Lyons Journal published a *personality profile* of T.R. Thompson in August 1961. A copy of the profile can be found in the London Metropolitan Museums Archive (LMA) as part of its collection of J. Lyons & Co. papers. It has been copied by Neville Lyons and is available from him.

Peter Wood – 1918-2013, who has died at the age of 95, was given a good send-off in June, well attended by family, old boys and members of his bowls club. Peter was very modest about his war, but it was revealed that he was evacuated from Dunkirk, trained as a commando, fought in India on the North-West Frontier, was captured by the Japanese – and escaped! He ended the war as a 27-year-old Lt-Colonel, still in the Far East. An England-schools rugby international, he became a pillar of the Association, and a leading member of both the cricket and rugby clubs. He was Ground Secretary for many years, and a vice-President of the Association and those clubs. After the war he was responsible for the first commercial computer in the country, the LEO I, as DP Manager for the Lyons Organisation.

George F Stevens – 1911-2002, senior Lyons manager who took responsibility for the running of the Lyons LEO Computers when LEO Computers Limited merged with English Electric. He subsequently oversaw the switch by Lyons to IBM computers.

<http://www.kzwp.com/lyons.pensioners/obituary2S2.htm>

Donald Moore – 1920-2013, started his career in computing by setting up and managing the Army Payroll Centre with an IBM 705, subsequently took over the Shell-Mex & BP LEO III computer Centre at Hemel Hempstead. Obituary: <http://announcements.telegraph.co.uk/deaths/169330/moore>

Antony (Tony) Bernard Barnes – 1926-2000. Tony Barnes joined Lyons as a Management Trainee after graduating in 1947 working in the Statistical Office. He transferred to the LEO programming team in November 1950 where his talents were quickly recognised. In 1955 he accompanied Thomas Thompson to the USA on a six-week tour, visiting several computer manufacturers and users. In January 1956 he became the Administrative Manager of the Design and Development Section of Leo Computers Limited and in June 1959 the Production Director, reporting directly to Anthony Salmon, the main Lyons Board Director responsible for the whole LEO project. He left Leo Computers Limited shortly after the merger with English Electric.

Robin Stanley-Jones – Died 2013, joined as a technician around 1961 and worked at Minerva Rd; did 24/7 shifts on III/1 at Hartree House; then went with LEO III/8 to Australia (Tubemakers of Australia) (1963?). He returned to Minerva Road in 1967 (where he met his wife) and worked in development until the company became ICL. He remained in IT, mostly with Digital Equipment, until his retirement.

Derek Hemy 1920 –2000, Joined Lyons as Management Trainee 1939. Did war service in Royal Corps of Signals. Returned to Lyons in 1946 in Systems Analysis Office under David Caminer. Selected as first LEO programmer, a role in which his performance was outstanding. Left LEO in 1955 to senior role in EMI's venture into computing with the EMIDEC. Transferred to ICL when they took over EMI computing and later became computer consultant for Unilever. More biographical details in Bird, P. J. LEO: The First Business Computer, pp 204- 205

George A. Hayter – Died April 2015 in Northern Cyprus. Joined LEO about 1964/5, on systems and sales, at Allied Suppliers, started at Hartree House, then Computer House and Stag Place. Subsequently worked at BOAC under Peter Hermon, then headed the Stock Exchange computer transformation, before setting up his own consultancy for the financial sector.

Mike Webb – Died November 2015 at his home in Anglesey. Joined LEO as a mathematician and operational research specialist. After leaving LEO became an academic, first with the LSE and subsequently as head of business studies at Manchester Metropolitan University.

George Booth – Died 19th September 1959, aged 90, Company Secretary and Director of J. Lyons, made the case to the Lyons Board for the company to commit itself to build a business computer and to collaborate with Cambridge University with its EDSAC project by providing some funding for the project in exchange for help in setting up the LEO project. His support was crucial in getting the support of his fellow board members; Earlier responsible for recruiting John Simmons as someone to study and improve the efficiency of Lyons.. Obituary written by Isidore Gluckstein in Lyons Mail October 1959.

Jackie Caminer – died January 2017 aged 94, wife of David Caminer. Her daughter Hilary Caminer writes: `My mother, Jackie, died this morning peacefully at home aged 94. Without her, my father's LEO work would have been much harder for him - they were heroes and heroines those LEO partners.

She had a fine career in her own right as a teacher - teaching not only here but in Brussels and Luxembourg when my father was installing computers for the EU. She was also an ardent campaigner on adult education and on local issues as well as a fine dancer, artist and craftswoman. She missed my father terribly and counted many of his LEO colleagues as personal friends.

Doug Comish writes: I was very sorry to hear that your mother had died. She was a quite remarkable character with many accomplishments and a most wonderful wife for David.

She was a super support for him during an exciting and important career.

When you look back at what was achieved with LEO it was remarkable. It was a privilege to work with that outstanding team of people from all disciplines—from application designers, programmers ,operators, design, development, and production engineers and marketeers. The manner in which they all pulled together and overcame problems was probably unique.

Your father played the major role but Jackie was a great support. You can be very proud of them.

Bob Gibson – born 1927, died August 2016. He trained as electronic engineer as part of National Service. After working as an electronic research engineer in Civil Service, recruited by LEO as trainee maintenance engineer. Took responsibility for training customer engineers and rose to oversee all LEO training as well as managing engineering maintenance services, and personnel. Briefly left LEO to become a management consultant but returned to become head of customer support services for EELM. Completed career with ICL as manager Large Projects before setting up his own consultancy. Retired 1988 and published book on Project Management. Gained a reputation as a safe pair of hands for complex and difficult assignments. One of the stalwarts whose contribution played a key role in the success of LEO.

Others whose deaths have been noted

Wally Dutton

Wallace Weaving

John Merton Baker

Norman Bishop

John Coombs

Mavis Everitt (nee Tin(d)ale)

Mike Gomm (Australia)

Fred Owen

Gerry Randall

Jamie Anderson

Geoffrey Barnsley

Ray Bradshaw

Geoff Christopher

Colin Davis

Bob Elmer

Alan Evans

David Garood

John Hemstead

Trevor Hughes

Ron Hurst

Michael Knowles

If any reader knows of any other reference please let Frank Land know at f.land@lse.ac.uk

David Litten
Eve Manley
George Manley
Ken MacLachlan
Frank Moran
Bruce Parkin
Geoff Parry
Mike Roberts
Brian Rogers
John Rookes
Ted Rowley
Frank Thorne
John Tomlinson
Frank Walker
Reg Miller
Ann Sayce
Ernie Doors
Jo Davies

Robert E Peel: He was an intrinsic part of the Master Routine team with such luminaries as Adrian Rymell, Colin Tully, Nigel Dolby, Sheila Milne and I'm sure a few others whose names I have forgotten. The Intercode Translator team interacted closely with the Master programmers and I remember Bob as a thoroughly pleasant and competent member of that illustrious team. I think he worked on the Allocator/Loader routine which had to take the translator output and do something sensible with it. I remember nothing but the great professional relationship we had with him.

Keith Davies
Bob Melling
Geoff Rowett
Ross Macadam

Anatol Zak, LEO III engineer, 1934-2015 See

<https://www.dropbox.com/home/Leo%20Interviews?preview=Anatol+Zak+Biographical+Notes.doc>
for brief bio.

Bernard Pierce, died April 2016

Jim Feeney, Died April 2016, aged 72 after a short illness

Sean Ferguson

Bob Knight, Died May 2016

David Musson, Died May 2016

Sam Mitra, joined J Lyons as electronic engineer, LEO 1953, died 1985

Mrs Pam Procopiou, died April 2016, Hartree House Receptionist

Ray Hennessy, Programmer, consultant, LEO Computers Society stalwart and Committee Member, spent 32 years at LEO before retirement. Born 1934 died 15th November 2016. Oral History edited transcript <https://www.dropbox.com/home/Leo%20Interviews?preview=Ray+Hennessy+Interview+edited+transcript%5D.doc> Obituary by John Daines Dropbox <https://www.dropbox.com/home/LEO%20Oral%20History%20project?preview=Ray+Hennessy+Obituary+John+Daines.doc>

Dave Rowberry, Software Programmer, later member of Animals group, died 2003

Geoff Cooper, Design Engineer, died 4th January 2017

Peter O'Keeffe, died February 2017

Alan Lake, died May 8th 2017

Anne Smeering, died 2012

Note: Would anybody who has further information about people on the list including dates of birth and death, when at LEO or its clients, position or role, links to obituaries, pictures [please send them to Frank Land f.land@lse.ac.uk]

Brief biographical sketches of a number of Lyons and LEO people can be found in **LEO, the First Business Computer**; P. Bird, Hasler Publishing, 1994, pages 200-212.

The following people – in alphabetical order - are noted:

Tony Barnes, Daniel Broido, David Caminer, Mary Coombs, Leo Fantl, Isidore Gluckstein, Montague Gluckstein, Samuel Gluckstein, John Gosden, John Grover, Derek Hemy, Ernest Kaye, Frank Land, Ernest Lenaerts, Joseph Lyons, John Pinkerton, Anthony Salmon, Ray Shaw, John Simmons, Oliver Standingford, Thomas Raymond Thompson, David Wheeler, Maurice Wilkes, Peter Wood

ORAL AND NARRATIVE HISTORIES

❖ **John Pinkerton (1)**

Interviewee: John M.M. Pinkerton 1919 - 1997

Interviewer: John Pinkerton, self interview

Date of Interview: 23.08.1988

Role in LEO: Chief Engineer

Joined LEO: 1948

Abstract: Pinkerton begins by discussing his education and wartime work in radar technology in England. He then describes his movement into the computer industry after World War II and his work on the LEO I and LEO II computers. In this context he discusses the British computer firms J. Lyons and Company, Leo Computers, English Electric Co., and International Computers Ltd.

Repository: Charles Babbage Institute, University of Minnesota, Minneapolis

Transcript: 54 pages

Copyright: Charles Babbage Institute

Download: <http://conservancy.umn.edu/bitstream/handle/11299/107600/oh149jmp.pdf?sequence=1&isAllowed=y>

❖ **John Pinkerton (2)**

Interviewee: John M.M. Pinkerton 1919-1997

Interviewer: Chris Evans

Date of Interview: 1975

Role in LEO: Chief Engineer

Joined LEO: 1948

Abstract: John Pinkerton joined Lyons as chief engineer at the very beginning of the LEO initiative and led the engineering side until the merger with English Electric. He held senior engineering appointments within the merged companies until his retirement. Much of the success of the LEO enterprise lay in his genius for bringing innovative ideas to practical fruition – one of the true heroes of the information age.

Repository: London Science Museum

Audio Recording: Tape 6 in Christopher Evans's 'Pioneers of Computing'

Transcript: Evans, Chris, (1983) **Pioneers of Computing**, IEEE Annals of the History of Computing, Vol. 5, No 1, pp 64-72, January-March.

Copyright: Audio, London Science Museum, Transcript, IEEE

❖ **Interviewee: Mary Coombs (née Blood) 1** **DOB:** 1929

Interviewer: Thomas Lean, British Library

Date of Interview: 2010 **Reference:** C1379/16 **Role in LEO:** Programmer

Joined LEO: 1953

Role in LEO: Programmer

Abstract: This is a full oral history of the life of Mary Coombs as part of the British Libraries Oral History series on the life of selected British Computer scientists.

Repository: British Library, National Life Stories, an oral history of British Science

Type of recorder: Marantz PMD661 on secure digital (Sessions 1-4) Marantz PMD660 on compact flash (Sessions 5-9) Recording format : Wav 24 bit 48 kHz (sessions 1-4) WAV 16 bit 48 kHz (sessions 5-9) Total no. of tracks 9 Stereo Total Duration 07 hours:14 minutes:40 seconds

Transcript: <http://sounds.bl.uk/related-content/TRANSCRIPTS/021T-C1379X0016XX-0000A0.pdf>

Copyright/Clearance: Open except for 00:56:57 – 00:59:15 of track 7 and 00:21:51 - 00:22:49 of track 9; these sections are closed for 30 years until June 2041.

❖ **Interviewee:** Mary Coombs (née Blood) 2 **DOB:** 1929

Interviewer: Google

Date of Interview: 21.11.2011

Role in LEO: Programmer,

Joined LEO: 1953

Abstract: Google interviewed and filmed a number of old LEO employees including Mary Coombs as part of the celebration at the Science Museum of the 60th anniversary of the roll out of the first business application on the LEO I computer. Narrated by Georgina Ferry/

Repository:

Interview Text

Type of recorder:

Film: <https://www.youtube.com/watch?v=Lrn24SdW64I>

Copyright: Google. Free to view.

❖ **Interviewee:** Frank Land (1) **DOB:** 24.10.1928

Interviewer: Thomas Lean, British Library

Date of Interview: 2010 **Reference:** C1379/17

Role in LEO: Programmer, Systems Analyst, Marketing, Consultant

Joined LEO: 1953

Abstract: This is a full oral history of the life of Frank Land as part of the British Libraries Oral History series on the life of selected British Computer scientists.

Repository: British Library, National Life Stories, an Oral History of British Science

Type of recorder: Marantz PMD661 on secure digital Recording format : WAV 24 bit 48 kHz Total no. of tracks 18 Stereo Total Duration: 15 hours:06 minutes:31 seconds

Transcript: <http://sounds.bl.uk/related-content/TRANSCRIPTS/021T-C1379X0017XX-0000A0.pdf>

Copyright/Clearance: No restrictions except for the following sections: track 1 [between 35:38 – 35:58, and 40:36 – 41:26], track 4 [between 31:46 – 34:56], track 8 [between 13:04 – 13:15 and 47:20 – 49:19], track 9 [between 18:21 – 18:41, 20:20 –

20:21, 01:02:54 – 01:03:31 and 01:08:31 – 01:09:46] and track 13 [between

18:10 – 19:11] which are closed for 30 years (until March 2041)

❖ **Interviewee:** Frank Land (2) **DOB:** 24.10.1928

Interviewer: Google

Date of Interview: 21.11.2011

Role in LEO: Programmer, Systems Analyst, Marketing, Consultant

Joined LEO: 1953

Abstract: Google interviewed and filmed a number of old LEO employees including Frank Land as part of the celebration at the Science Museum of the 60th anniversary of the roll out of the first business application on the LEO I computer. Narrated by Georgina Ferry/

Repository: **Interview Text:** Dropbox LEO Interviews

<https://www.dropbox.com/home/Leo%20Interviews?preview=Google+Frank+Land++Interview+1st+November+2011.doc>

Type of recorder:

Film: <https://www.youtube.com/watch?v=Lrn24SdW64I>

Copyright: Google Free to view.

❖ **Interviewee:** Frank Land (3) **DOB:** 24.10.1928

Interviewer: Professor Alan Eardley

Date of Interview: 21.02.2016

Role in LEO: Programmer, Systems Analyst, Marketing, Consultant

Joined LEO: 1953

Abstract: Professor Alan Eardley interviewed and filmed Frank Land as part of his collection of material on the history of computing for his inaugural lecture at Stafford University, April 14th 2016.

Repository: Pre-Interview response to interview questions: Dropbox LEO Interviews
<https://www.dropbox.com/home/LEO%20Oral%20History%20project/LEOSoc%20Oral%20History%20file%20uploads?preview=Frank+Land+edited+P2+by+Tony+%26+Mike.doc>

Interview and Video: Editing in process

Copyright: Alan Eardley

Restrictions: Interview and video will be available to members of LEO Computer Society

❖ **Interviewee: Ralph Land..(1)**

DOB: 24.10.1928

Interviewer: Martin Garthwaite as part of LEO Computer Society's Oral History Project

Date of Interview: 31st October 2011

Role in LEO: Bureau Manager, Export Manager

Joined LEO: 1954

Abstract: Ralph joined the Lyons Teashop Division in 1953 as management accountant for the Teashops and transferred to LEO in 1954. He rose to manager of the LEO City Office followed by spells in promoting LEO exports in Paris and Dusseldorf before heading the LEO/English Electric team working in Eastern Europe including Soviet Russia. His subsequent career until retirement was with Rank-Xerox and Rolls Royce working on exports to Eastern Europe.

Text: Edited by Ralph Land and Hilary Caminer

Repository:

<https://www.dropbox.com/home/LEO%20Oral%20History%20project/LEOSoc%20Oral%20History%20file%20uploads?preview=Ralph+Land+edited+P2.docx>

Recording:

Copyright: Leo Computers Society.

Restrictions:

❖ **Interviewee: Ralph Land (2)**

DOB: 24.10.1928

Interviewer: Google

Date of Interview: 21.11.2 011

Role in LEO: Bureau Manager, Export Manager

Joined LEO: 1954

Abstract: Google interviewed and filmed a number of old LEO employees including Ralph Land as part of the celebration at the Science Museum of the 60th anniversary of the roll out of the first business application on the LEO I computer. Narrated by Georgina Ferry/

Repository: Interview Text: to be completed

Type of recorder:

Film: <https://www.youtube.com/watch?v=Lrn24SdW64I>

Copyright: Google Free to view.

❖ **Interviewee: Ernest Kaye**

DOB: 1922-2012

Interviewer: Google

Date of Interview: 21.11.2011

Role in LEO: Design Engineer, head of engineering procurement

Joined LEO: 1949

Abstract: Google interviewed and filmed a number of old LEO employees including Ernest Kaye as part of the celebration at the Science Museum of the 60th anniversary of the roll out of the first business application on the LEO I computer. Narrated by Georgina Ferry.

Repository:

Interview Text:

Type of recorder:

Film: <https://www.youtube.com/watch?v=Lrn24SdW64I>

Copyright: Google Free to view.

❖ **Interviewee:** Chris J. Date

DOB: 1941

Interviewer: Thomas Haigh

Date of interview: 2007

Role in LEO: Mathematical Programmer

Joined LEO: 1962

Abstract: Chris Date, well known for his work on Data Base theory and practice started his career with LEO in 1962 – 1967, and provides a description of his experience on pages 7 - 9 of the transcript of the interview. Very complimentary about LEO

Repository: Computer History Museum, California

Transcript: <http://archive.computerhistory.org/resources/access/text/2013/05/102658166-05-01-acc.pdf>
- 51 pages

Link to Museum: <http://www.computerhistory.org/collections/catalog/102658166>

Copyright: Computer History Museum **CHM Reference number:** X4090.2007

LEO Computers Society: Oral History Project

The LEO Computers Society has initiated an Oral History Project assisted by funding from the Association for Information Technology (AIT) Trust. The list of Oral Histories taken to-date (January 2016) includes:

❖ **Interviewee:** Alan Sercombe

DOB: 1934

Interviewer: John Hoey

Date of Interview: 23/07/2014

Role in LEO: Programmer

Joined LEO: 1959

Abstract: Alan received degree in mathematics and after National Service joined Armstrong Siddeley as a programmer on a Ferranti Mark I. The company's merger with another aircraft manufacturer led to his leaving and joining LEO. He worked on the LEO II at Standard Motors, but in 1963 joined Peter Gynge in Australia working with a number of LEO computers sold in Australia and later with EELM and then ICL; finishing his career in 1996 as a very senior member of the successor companies working in an administrative and legal capacity.

Repository: Audio Recording: Dropbox: Part1:

[https://dl.dropboxusercontent.com/content_link/MCikf3KV5kmzaLtQgbP5xkwuzWKZBcGg3ziZB0Y1VwTeqcNSOGoDqC9DpKU9sgTy/file](https://dl.dropboxusercontent.com/content_link/MCikf3KV5kmzaLtQgbP5xkwuzWKZBcGg3ziZB0Y1VwTeqcNSOGoDqC9DpKU9sgTy/filehttps://dl.dropboxusercontent.com/content_link/MCikf3KV5kmzaLtQgbP5xkwuzWKZBcGg3ziZB0Y1VwTeqcNSOGoDqC9DpKU9sgTy/file)

Part 2:

https://dl.dropboxusercontent.com/content_link/8XdHDOZuABqxDJfsyRs9UG6Yy2cTUhbzxNqNpzgyLvDQXOnpmCOXjsAdv5DCEGP2/file

Recording: MP3/4

Text: Unedited Transcripts, Part 1 and 2 Dropbox <https://www.dropbox.com/home/Leo%20Interviews>

Copyright: LEO Computers Society

❖ **Interviewee:** John Daines

DOB: 28th July 1943

Interviewer: Ray Hennessy

Date of Interview: 26/04/1012

Role in LEO: Computer Operator

Joined LEO: October 1961

Abstract: John was an operator in the LEO II bureau and then did acceptance trials for LEO III systems in the Minerva Road factory before moving onto System 4 trials and software development. His oral history covers the role of operators in the early days. He progressed through ICL until retirement as a senior consultant in 2002. Active member of LEO Computers Society

Repository: Audio Recording: Dropbox:

https://dl.dropboxusercontent.com/content_link/eH0oR3NrZa2yehG3joRbmNidf53zvU6o7ltNxM5JJ6EVod01RS5X4qMJJ5RZfIRW/file

Edited Text: <https://www.dropbox.com/home/Leo%20Interviews>

Recording: MP3/4

Copyright: LEO Computers Society

❖ **Interviewee:** Simon Benedictus **DOB:** 1933

Interviewer: David Phillips

Date of Interview: 17.04.2012

Role in LEO: Statistician

Joined LEO:

Abstract: Mathematics degree from Imperial College, followed after National Service by Masters in Statistics from LSE. Joined Lyons Maid (Ice Cream division of J. Lyons) working on weather based Ice Cream forecasting. Helped define LEO Ice Cream sales job, later working on bakery sales. Remained an employee of J. Lyons.

Repository: Partially edited Transcript: Dropbox:

<https://www.dropbox.com/home/LEO%20Oral%20History%20project/LEOSoc%20Oral%20History%20file%20uploads?preview=Simon+Benedictus+Unedited+Transcript+1+%26+2.doc>

Recording: Part 1:

https://dl.dropboxusercontent.com/content_link/b9b9baWGEevYSzQmBWwrC9Z4lj8vvhNedoCQC6Kg9Q31X2Hh6nMavBYlarR36qZW/file

Part 2:

https://dl.dropboxusercontent.com/content_link/cC3ndG5ZN4y5xRERZ4ZEUWSuoCOmiGLjZx3Xye3JjOa17Um3xvGXhBv07KJsW0Zc/file

Recording: MP3/4

Text: Dropbox Unedited Transcripts Part 1 & 2 <https://www.dropbox.com/home/Leo%20Interviews>

Copyright: LEO Computers Society

❖ **Interviewee:** Roger Coleman

DOB: 1932

Interviewer: Tim-Greening Jackson

Date of Interview: 22.05.2008

Role in LEO: Computer Programmer, Systems Analyst

Joined LEO: December 1954

Abstract: Roger left school in 1950 to self-study to become an actuary but in 1954 responded to an advertisement for a programmer job at Cadby Hall. Joined LEO aged 22, the then youngest programmer. Rapid progress led to him being given the British Rail station to station distancing job under David Caminer. The oral history is confined to his early career and the details of the BR job. A text only appendix provides a summary of his career to retirement.

Repository: Audio Recording: You can download the [entire unedited audio file](#)

Text: There is a [PDF transcript](#) of the interview Also Dropbox <https://Player/www.dropbox.com/home/Leo%20Interviews?preview=Roger+Coleman.pdf>

Text Appendix: Dropbox

Recording: Windows Media Player

Copyright: Tim Greening-Jackson, but unrestricted access permitted subject to due acknowledgements.

❖ **Interviewee:** Alan King

DOB: August 1936, died 2017

Interviewer: Tony Morgan

Date of Interview: 16.08.2011

Role in Lyons: Systems Research Office, then Lyons Computer Services

Joined Lyons: Autumn 1959

Abstract: Alan studied Classics at Oxford and on graduating was taken on by Lyons in their Systems Research Office. A career working on a number of the Lyons LEO application followed by a senior role in Lyons Systems Services, formed to develop and service computer applications first on LEO machines and later when Lyons replaced LEO with IBM computers. Acting Chief Executive Institute of Administrative Management.

Repository:

Text: <https://www.dropbox.com/home/Leo%20Interviews?preview=Alan+King+Interview.doc>

Edited Text: Dropbox.

<https://www.dropbox.com/home/LEO%20Oral%20History%20project/LEOSoc%20Oral%20History%20file%20uploads?preview=Alan+King+edited+P2.doc>

Copyright: Leo Computers Society.

Restrictions: None known

❖ **Interviewee: Ray Hennessy**

DOB: December 1934

Interviewer: John Daines

Died: November 2016

Date of Interview: 27.04.2012

Role in Lyons: Programmer

Joined Lyons: 1959

Abstract: Joined as trainee programmer after being offered jobs by Elliott computing and English Electric.. Worked on many projects including British Oxygen. Despite temptation to join other companies remained with LEO and its successor companies working in a senior capacity on a number of Government projects and after retirement working as a consultant to ICL and its associated companies.

Repository:

Text: Partially edited transcript in dropbox

<https://www.dropbox.com/home/Leo%20Interviews?preview=Ray+Hennessy+Interview+edited+transcript%5D.doc>

Recording:

<https://www.dropbox.com/home/Leo%20Interviews/LEO%20Oral%20History%20Recordings?preview=LEO+Oral+History+Recording+of+Ray+Hennessy+on+27+Apr+2012.wav>

Copyright: Leo Computers Society.

Restrictions: None known

❖ **Interviewee: Tony Morgan**

DOB: June 1937

Interviewer: Ray Hennessy

Date of Interview: 08.11.2011

Role in Lyons: Commissioning Engineer

Joined Lyons: December 1947

Abstract: Joined LEO as engineer. Spent most of his career as commissioning engineer on LEO IIs and IIIs, finishing as senior commissioning engineer. In retirement LEO Computer Society's expert on all matters relating to LEO hardware. Active Member of LEO Computers Society

Text Repository:

<https://www.dropbox.com/home/Leo%20Interviews?preview=Tony+Mprgan+edited+Transcript.doc>

Text: Transcript being currently edited by Tony Morgan

Recording:

Copyright: Leo Computers Society.

Restrictions: None known

❖ **Interviewee: Bob Gibson**

DOB: 18th May 1927

Interviewer: Martin Garthwaite

Died: August 2016

Date of Interview:

Role in LEO: Manager training and customer support

Joined LEO: February 1956:

Abstract: Trained as electronic engineer as part of National Service. After working as an electronic research engineer in Civil Service, recruited by LEO as trainee maintenance engineer. Took responsibility for training customer engineers and rose to oversee all LEO training as well as managing engineering maintenance services/ Briefly left LEO to become management consultant but returned to become head of customer services for EELM. Retired 1988.

Repository: Unedited transcript of recording in Dropbox at

<https://www.dropbox.com/home/LEO%20Oral%20History%20project/LEOSoc%20Oral%20History%20file%20uploads?preview=bob+gibson+unedited+transcript.doc> Edited Transcript in Dropbox.

Recording:

Copyright: Leo Computers Society.

Restrictions: None known

❖ Interviewee: Ralph Land (1) **DOB:** 24.10.1928
See above

❖ Interviewee: Doug Comish **DOB:** 1926

Interviewer: Martin Garthwaite

Date of Interview: 6th December 2011

Joined Lyons: December 1949

Role in Lyons: Management Trainee to management accountant

Joined LEO: April 1956

Role in LEO: Programming, and education to head of marketing

Abstract: Long and distinguished career with many roles including education, staff selection, sales and marketing finishing as head of marketing before retirement, Active sportsman.

Repository:

Text: Dropbox Edited Transcript <https://www.dropbox.com/home/Leo%20Interviews>

Copyright: Leo Computers Society.

Restrictions: None known

❖ Interviewee: Steve Farrow **DOB:**

Interviewer: Martin Garthwaite

Date of Interview:

Role in LEO: Commissioning and Design Engineer

Joined LEO: Spring 1957

Abstract: Took Science degree at Imperial College after national service in RAF. Joined LEO after seeing an advertisement. Steve worked as a commissioning engineer first on LEO II machines including commissioning the Bull Printer on LEO II/3 and subsequently on LEO II machines. Achieved rank of Chief Engineer for LEO III. Involved in design of the abandoned LEO IV after merger with English Electric. Subsequent career from 1965 with Medical Research Council working as a design engineer.

Repository: Edited transcript

<https://www.dropbox.com/home/Leo%20Interviews?preview=Steve+Farrow+Oral+History.doc>

Recording:

Copyright: Leo Computers Society.

Restrictions: None known

❖ Interviewee: Ray Shaw **DOB:** 17th April 1924

Interviewer: John Daines

Date of Interview: 27th September 2016

Role in LEO: Design Engineer, Project Manager

Joined LEO: 1949

Abstract: Joined Pinkerton as a design engineer, rising to senior design engineer for LEO I and II. Left LEO in 1956 to work with John Bennet in Australia at Sydney University. A distinguished career as project manager and design engineer with ICL followed including work on communication Systems. Retired in 1981 but carried on working as private consultant.

Repository: Dropbox

Text: Unedited Transcript located at

<https://www.dropbox.com/home/LEO%20Oral%20History%20project/Copied%20from%20old%20Leo%20Interviews%20shared%20folder/Leo%20Interviews?preview=Ray+Shaw+unedited+transcript.doc>
<https://www.dropbox.com/home/Leo%20Interviews?preview=Ray+Shaw+unedited+transcript.doc>

Recording:

Copyright: Leo Computers Society.

Restrictions: None known

❖ Interviewee: Neil Lamming **DOB:** 1938

Interviewer: Martin Garthwaite
Date of Interview: 31.01.2012
Role in LEO: Programmer, Consultant, Manager
Joined LEO : 1960

Abstract: As a mathematics graduate Neil chose LEO when offered jobs in the computing industry. Started work at Hartree House working on Army Payroll, joined team at Renold Chains and subsequently recruited to join Peter Gyngell in Australia. Rapid rise post merger to become Managing Director of ICL Australia at age 37. Left company to work on executive recruitment and retired at age 50.

Repository:

Text: Dropbox. Edited Transcript. <https://www.dropbox.com/home/Leo%20Interviews>

Recording:

Copyright: Leo Computers Society.

Restrictions: None known

❖ **Interviewee:** Margaret Baty

DOB:

Interviewer: Peter Byford

Date of Interview: October, 2015

Role Lyons:

Joined Lyons:

Abstract:

Repository:

Text:

Recording:

Copyright: Leo Computers Society.

Restrictions:

Interviewee: Ernest Roberts

DOB: 1931

Interviewer: Ray Hennessy

Date of Interview: April 2016

Joined LEO: 1954

Abstract: Joined LEO following Mathematics degree at Oxford University and National Service. Started as programmer under Leo Fantl working on mainly mathematical applications on LEO I. Spend whole career with LEO and successor companies as a senior application and software programmer retiring aged 60.

Repository: Transcript of recording and first edit of transcript (Alan Hooker) in Dropbox

<https://www.dropbox.com/home/LEO%20Oral%20History%20project/LEOSoc%20Oral%20History%20file%20uploads?preview=Ernest+Roberts+edited+P1.docx>

Recording:

Copyright: LEO Computers Society

Restrictions None known

Interviewee: Derek Jolly

DOB: 1930

Interviewer: Cyril Platman

Date of Interview: 11th April 2016

Joined LEO: Circa 1953-55

Abstract: After grammar school started training as an accountant, but decided to try something else and was interviewed by David Caminer, and Tony Barnes and offered a job with LEO I as an operator. Worked on LEO I, LEO II and LEO III. Became shift leader and then Chief Operator. Left LEO in 1974 to join Access at Southend. Retired aged 60.

Repository: Edited transcript of recording in Dropbox

<https://www.dropbox.com/home/LEO%20Oral%20History%20project/LEOSoc%20Oral%20History%20file%20uploads?preview=derek+jolly+unedited+transcript.docx>

Recording:

Copyright: LEO Computers Society

Restrictions None known

Interviewee: Peter Bird

DOB: 1934

Interviewer: Tony Morgan

Date of Interview: 6th September 2016

Joined Lyons: 1964

Abstract: After a career in the Merchant Navy achieving his Masters certificate 'discovered' computing, studied programming and applied for Jobs in computing. Interviewed by Lyons for an operator job and joined Lyons 1964 as an operator on the their LEO III. Promoted rapidly to Operations Manager, then overall Systems Manager. After retirement became interested in the history of Lyons and in the LEO story resulting in the publication of his books on LEO and subsequently on Lyons the Food Empire.

Repository: Edited Interview Transcript

<https://www.dropbox.com/home/LEO%20Oral%20History%20project/LEOSoc%20Oral%20History%20file%20uploads?preview=Peter+Bird+edited+P2.odt>

Recording:

Copyright: LEO Computers Society

Restrictions: None known

Interviewee: Peter Wharton

DOB: 1941

Interviewer: John Daines

Date of Interview: November 2nd 2016

Joined LEO: 1962

Abstract: Joined as a mathematical working on linear programming transportation applications. Long career with LEO and its successor companies working at various locations including Hartree House and subsequently Kildgrove. His work involved hardware and software design as well as applications and he finished with the title of Chief Engineer. Appointed visiting Professor at Southampton University. Regarded his early learning of CLEO as a key step in his understanding of design in his later career.

Repository: Unedited transcript:

<https://www.dropbox.com/home/LEO%20Oral%20History%20project/LEOSoc%20Oral%20History%20file%20uploads?preview=Peter+Wharton+unedited+transcript.docx>

Recording:

Copyright: LEO Computers Society

Restrictions: None known

Interviewee: Paul Dixon

DOB: September 29th 1928

Interviewer: Mike Storey

Date of Interview: 4th April 2016, Transcribed 2nd February 2017

Joined LEO: 1955

Role in LEO: Programmer, Consultant

Abstract: Paul Dixon, a refugee from Czechoslovakia (Prague) in 1947, graduated from Manchester University with an honours degree in Economics and Politics. Intrigued by an advertisement for programmers, applied, was interviewed by Peter Hermon and joined LEO Computers as a programmer. Although only with LEO for two years had a rapid rise ranging over a range of applications. Joined Roger Coleman at LEO II customer Ilford's. Emigrated to Canada and later the USA for a career in computing, including very senior, and prominent positions with major companies.

Repository: Edited Transcript in Dropbox:

<https://www.dropbox.com/home/LEO%20Oral%20History%20project/LEOSoc%20Oral%20History%20file%20uploads?preview=PAUL+DIXON+edited+P2.docx>

Copyright: LEO Computers Society

Restrictions: None Known

Interviewee: Michael Mills

DOB: 1935

Interviewer: David Phillips

Date of Interview: 7th February 2017

Joined LEO: 1958

Role in LEO: Maintenance Engineer LEO II

Abstract: A lively, chatty interview full of personal anecdotes relating to his life and work experiences. Concentrated on Maths at School and awarded scholarship to Cambridge. But opted to do National Service in Royal Signals, for two years, rising to rank of Lance Corporal. Opted for a degree in Physics at University of Birmingham, graduating with II/1. Saw LEO advert for engineers, taken on at Minerva Road and after training school became maintenance engineer on a range of LEO/IIIs. Spent 3 years with LEO, then joined Honeywell as manager of software development. Subsequent career with Rank Xerox in marketing, as consultant with CACI, then working with James Martin and after a spell in Australia (1997), set up as independent consultant before retirement.

Transcribed: February 2017

Edited March 2017

Repository: Dropbox

<https://www.dropbox.com/home/LEO%20Oral%20History%20project/LEOSoc%20Oral%20History%20file%20uploads?preview=Michael+Mills+edited+P3.doc>

Copyright: LEO Computers Society

Restrictions: None known

Interviewee: John Winterbottom

DOB:

Interviewer:

Date of Interview:

Role in Lyons:

Joined Lyons:

Abstract:

Repository:

Text:

Recording:

Copyright: Leo Computers Society.

Restrictions:

Interviewee: Patrick Blakes

DOB: 1938

Interviewer: Cyril Platman

Date of Interview: 27th July 2016

Joined LEO: 1958

Role in LEO: Commissioning and Maintenance Engineer LEO I and LEO III

Abstract: Received background training in Electronics doing his National Service in the Royal Air Force. Decided on career in that field after seeing an advert for trainee engineers from LEO. After training worked first as commissioning engineer on LEO II/7 than became site maintenance engineer on LEO II and LEO III sites including acting as chief engineer on Ilford's LEO III.. Retired from ICL in 1969 to join an independent computer maintenance company working on LEO machines.

Edited Transcript:

<https://www.dropbox.com/home/LEO%20Oral%20History%20project/LEOSoc%20Oral%20History%20file%20uploads?preview=Patrick+Blakes+edited+P2%2BPatrick+corrections.doc>

Copyright: LEO Computers Society

Restrictions: None known

Interviewee: Ian White

DOB: 19th November 1930

Interviewer: Mike Hally

Date of Interview: 6th December 2016

Transcribed: 27th December 2016

Editor: Bob Marsh received copy for editing 5th January 2017

Joined LEO: Summer 1955

Role in LEO: Design Engineer on LEO II

Abstract: Studies Natural Sciences at St Andrews, specially interested in Electronics. Commissioned in REME and posted to teach at Shrivenham, On discharge interviewed by Pinkerton and joined LEO engineering team in Olaf Street. Left LEO for a career in electronic control devices, but retained an interest in LEO. Joined LEO Computers Society and started collecting LEO memorabilia

Edited Transcript:

<https://www.dropbox.com/home/LEO%20Oral%20History%20project/LEOSoc%20Oral%20History%20file%20uploads?preview=Ian+White+edited+P2.doc>

Copyright: LEO Computers Society

Restrictions: None known

Interviewee: Tony Earnshaw

DOB: 8th November 1935

Interviewer: David Phillips

Joined LEO: Not clear. Worked on LEO III/6 Shell-Mex and BP in 1965 as part of site engineering team

Role in LEO: Maintenance Engineer

Date of Interview: 16th February 2017

Transcribed: 19th February 2017

Editor: David Phillips is undertaking a first edit of the transcript of a very confusing and chronologically muddled interview. Tony Earnshaw will be asked to re-edit the revised script.

Abstract: Worked as untrained TV repair man in 1950s, Spotted by passing LEO engineer, invited to apply to LEO. Started work as assistant to site engineers on the Shell-Mex and BP LEO III in Hemel Hempstead. Prides himself on his successful career as an engineer without having acquired any qualifications. Rose to be chief site engineer at Minerva Road responsible for seven sites. Left ICL to become independent engineer,

Transcript: first edit by David Phillips at

<https://www.dropbox.com/home/LEO%20Oral%20History%20project/LEOSoc%20Oral%20History%20file%20uploads?preview=Tony+Earnshaw+unedited+transcript.docx>

Copyright: LEO Computers Society

Restrictions: None known

Interviewee: Peter Hermon

DOB: November 1928

Interviewer: Neville Lyons

Joined LEO: September 1955

Role in LEO: Programmer, Consultant

Date of Interview: 15th June 2017

Transcribed: 28th June 2017

Editor: Bob Marsh. Edited version to Dropbox 7th July 2017

Abstract: Peter Hermon joined LEO after he obtained first class honours from St. John's Oxford, and seeing an advertisement for a mathematician from J. Lyons. He was one of the most brilliant LEO recruits and quickly made his mark as a programmer and consultant. He was involved in a number of LEO sales, working first with Wills Tobacco and later with Dunlop Rubber. He joined Dunlop to first run their LEO installation, but subsequently rose to head Dunlop Management Services worldwide. He moved to BOAC where he was responsible for the development of BOADECIA the airline reservation system which became a major UK success story and later became a Director of British Airways. After retirement in 1989 he became an active member of the LEO Foundation, acting as its treasurer. Peter's other interests were walking in North Wales and he has published a number of guides for walking in Wales.

Location of Transcript:

<https://www.dropbox.com/home/LEO%20Oral%20History%20project/LEOSoc%20Oral%20History%20file%20uploads?preview=Peter+Hermon+edited+P2.doc>

Copyright: LEO Computers Society

Restrictions: None known

Interviewee: Ian Bruce

Interviewer: Mike Hally

Role in LEO

Date of Interview: 5th July 2017

Pending Oral Histories

If any reader knows of any other reference please let Frank Land know at f.land@lse.ac.uk

Tony Denton

Interviewer: John Paschoud

Michael Jackson

Interviewer: Frank Land

Dave Rocke

Interviewer: John Daines

Barry Fox

Interviewer: John Daines

Alan Jacobs

Interviewer: Ralph Land

Don Riley

Interviewer: Ralph Land

Vince Bodworth

Interviewer: Peter Byford

WEJ Parry

Interviewer: Jean Elliott

John Godwin

Interviewer: Bernard Behr via Skype to South Africa

Norman Witkin

Interviewer: Bernard Behr via Skype to South Africa

Leonard Letton

Interviewer: Mike Hally

John Page

Interviewer: Dag Spicer via Skype USA

Mike Gifford

Interviewer: To be selected via Skype USA

Georgina Ferry Transcripts: Georgina Ferry has donated the unedited transcripts of the people she interviewed for her book A Computer called LEO to the Heritage Project of the LEO Computers Society. The following interviewees are included:

Anthony Salmon, Maurice Wilkes, David Wheeler, Murray Laver, David Caminer, John Pinkerton, Ernest Kaye, Ray Shaw, Derek Hemy, Peter Hermon, John Aris, Mary Coombs, Ralph Land, Frank Land (incomplete first half of transcript lost)

OTHER MEMOIRS, REMINISCENCES AND COMMENTS

▪ **Maurice Bonney:**

Abstract: Maurice Bonney was a mathematician who had early experience of working with LEO as head of a group of programmers involved with aerodynamic calculations for missile technology working in the British aircraft industry, and using LEO as a bureau facility. Later in his career he worked for Renold Chains on their LEO III as chief programmer. He subsequently joined academia in Operations Management finishing his academic career as Professor of Operations Management. He spent much of his academic career working on Computer Aided Design producing significant innovative research.

He has written a substantial memoir about his career including his LEO experiences. The memoir, still undergoing revisions, is stored in the LEO Dropbox archive,

<https://www.dropbox.com/home/LEO%20Oral%20History%20project/LEOSoc%20Oral%20History%20file%20uploads?preview=Maurice+Bonney+reminiscences+March+2017.docx>.

▪ **Joe McNulty**

DOB: 1940

Joined LEO: 1966

Role in LEO: Site Maintenance Engineer LEO III; System 4

Abstract: Born in Northern Ireland, father miner, mother textile worker, moved with large family to village in Northumberland, failed 11+, educated in local elementary school till age of 15 without any qualifications or certificates. One brother was an apprentice electrician at a local pit and attended Carlisle Technical College one day a week. Joe taking a peek at his brother's books became interested and he too became an apprentice electrician at a local coal mine and attending Carlisle Technical College where he gained his ONC in mathematics and Electronics at the highest level. In 1961 opted to join RAF as a Radar technician serving part of his time in Malta. On completing his service, having acquired a love for electronics, looked for a job with computers and in 1966 was taken on by EELM to train as maintenance engineer on LEO III's at Radley House. Notes the quality of training he received. "I loved every minute of the course". Moved to Scotland as site engineer on a LEO III's and System 4 machines. After a successful career left ICL in 1972 to work in a number of electronic companies, before setting up his own consultancy and completing an honours degree in mathematics at the Open University. Joe retired in 2009. Final words from a fascinating memoir: "For me, I think, LEO provided an environment and situation in which I could succeed in my own terms. I was doing work that I could understand, that I liked and that made sense to me. In a sense, that gave me an attitude of if I can understand and use a computer, I can learn to do anything. That's a big thing to say about a company but I believe that, even then, it was a special sort of company with special people in it".

Repository: Dropbox

<https://www.dropbox.com/home/LEO%20Oral%20History%20project/LEOSoc%20Oral%20History%20file%20uploads?preview=Joe+McNulty+Memoir.doc>

Copyright: LEO Computers Society

Restrictions: None Known

- **Linda M Chapman (nee Robertson)** "I worked in Hartree House as a junior programmer between 1963 and 1965. I have memories of the excellent training and supervision which far exceeded anything else which I came across in my 30 years as a programmer"

Tony Weber: LEO Australia. "I was in the founding management group (Accountant/finance director) of the Australian subsidiary in the early 1960's under the management of Peter Gyngell.

I had 25 years service with the Leo/ICL group of Companies, which then led to another 30 years in the industry including service in Hong Kong then Boston USA. I spent the last 18 years up to 2015 on the Board of the public Company Prophecy International Limited ; an Australian listed software Company.

I have great memories of Leo, and the service it provided to the Australian business community in the early computer days, and enriched employment to 100's of staff in the IT industry."

- **Colin Hobson:** Weather, Wildlife and LEO Computers

Both LEO 1 and the LEO 2s were not installed in cosy, air conditioned palaces. They went into normal office accommodation and the heat, generated by the hundreds of thermionic valves was conducted away

by fans and overhead ducting. The operators were kept cool only if they could open the office windows! This could cause a number of unexpected problems:

On LEO 1 rain could be a problem. It was necessary to look outside before turning anything on. If it was raining, or snowing, the heaters in the valves needed to be turned on before the cooling fans. This built up enough heat to ensure that the water droplets sucked in were vaporised before they hit a hot glass valve cover. Failure to do it this way round would result in a series of high pitched squeaks as the glass, of the valves cracked. This would be followed by the sound of engineers swearing! If there was no rain, it was better to get the cooling up and running first.

On LEO 2 this was not a problem. The ventilation system didn't cause the computer much in the way of problems. The computer did provide a lot of heat, most of which was conducted away by the ventilation system. However, there was still a lot of peripheral equipment and human bodies churning out heat. The only option, certainly on LEO 2/1 was to open the windows to the outside world. Mostly this worked well. However, there were times when the outside world made its way into the operating area to cause chaos. Wildlife was one such problem. The occasional visiting bird could provide some distracting entertainment but the worst problem I can remember was a swarm of small insects which came in through the open windows and settled on the paper tapes and punched cards. They got squished into the holes in the cards and tapes changing the data.

Many years later I was working at a Post Office (now BT) site where a snake made its way through one of the doors from the outside world, down a short corridor and then got stuck between the automatic airlock doors into the air-conditioned computer hall.

MEDIA COVERAGE

- **BBC Calling Europe**, February 1954, John Pinkerton talk on LEO reported in LEO Chronicle, February 16th 1954.
- **BBC French Service**, talk on LEO by Mary Coombs
- **BBC 1 TV** in March 2012 ran a 5 episode series fronted by Len Goodman, reminiscing about the 1950s entitled *The 1952 Show* in honour of the Queen's Jubilee. Episode 5 screened on March 30th at 9.15am. It featured the LEO story with an excellent interview of Ernest Kaye. See also <http://www.bbc.co.uk/programmes/b01f9qw3/broadcasts/2012/03>
The section featuring LEO and Ernest Kaye can be seen on YouTube at <http://www.youtube.com/watch?v=GE6TX70A3Rc>
- **Granada TV** (2003), London's Home Movies. Episode 3 includes a section on LEO featuring David Caminer and Peter Byford. Copy held by Trevor Hughes ex LEO peripheral equipment engineer on VHS tapes. Download on <https://wetransfer.com/downloads/3d28d5f563c7e0d6048ade280663176320170404131306/409fc3cc262cc3ca676bcc0ea87b1e3220170404131306/458253>
- **60th Anniversary event at Science Museum 11th November 2011**
The event received wide coverage including interviews on the BBC Today programme, BBC World Service, and BBC5 Live Outriders programme. It was also covered by the Daily Telegraph and the Daily Mail website. A video interview of Georgina Ferry, Ernest Kaye, Mary Coombs, Ralph Land and Frank Land made for Google was also presented. The links below include reports in media, video recordings, radio recordings, photographs.
<http://www.youtube.com/user/LeoCompSoc/videos>
<http://storify.com/lynetter/leo-60th-anniversary>
<http://www.pcauthority.com.au/Tools/Print.aspx?CIID=280510>
- **Eric Schmidt in the 2011 MacTaggart Lecture** noted:
"You (UK) invented computers in both concept and practice. (It is not widely known, but the world's first office computer was built in 1951 by Lyons' chain of teashops!). Yet today none of the world's leading exponents in these fields are from the UK"
<http://s3.documentcloud.org/documents/238974/mactaggart-lecture-2011.pdf>

- **The Guardian on 2011 McTaggart Lecture Bridging the arts and sciences divide**
<http://www.guardian.co.uk/technology/2011/aug/29/bridging-arts-science-divide>
- **Sunday Telegraph July 1st 2012** Christopher Middleton interviews Eric Schmidt as part of the paper's campaign to "Make Britain Count" and in his comment on the interview repeats Eric Schmidt's earlier notes on the role played by LEO in pioneering business computing.
<http://www.telegraph.co.uk/education/maths-reform/9288256/Make-Britain-Count-Google-head-Eric-Schmidt-supports-our-campaign.html>
- **TV Channel 5** ran a series of programmes on *Disappearing Britain*. The third episode in December 2006, entitled *The BRITISH CUPPA WITH WENDY CRAIG*, and included a section on J. Lyons with its Corner Houses and Teashops. This included the story of LEO including an interview with Frank Land. See also <http://ftvdb.bfi.org.uk/sift/title/824846?view=synopsis> and watch on http://www.ovguide.com/tv_episode/disappearing-britain-season-1-episode-3-the-british-cuppa-with-wendy-craig-536421
The Program was also seen by Bill Forfar whose comments are filed under:
<http://www.groveblue.co.uk/wf.pdf>
- **BBC Radio 4** commissioned a programme from Pennine Productions called **Electronic Brains** which was broadcast on 30 October 2001. The programme was compiled by and fronted by Mike Hally and one of the four episodes featured the story of LEO. See <http://www.bbc.co.uk/radio4/science/electronicbrains.shtml>
- **BBC Radio 5/Live** Tuesday, 29 November 2011 Short piece by Jammilah Knowles on the pioneering LEO enterprise. LEO: Making history.
http://www.bbc.co.uk/blogs/legacy/outriders/2011/11/leo_making_history.shtml
- **Celebrating LEO, the world's first business computer**, Google Europe Blog, November 17, 2011
<http://googlepolicyeurope.blogspot.co.uk/2011/11/celebrating-leo-worlds-first-business.html>
- **ITV (LWT London area only)** is to show a series of 8 programmes called London Home Movies on Sunday afternoons. The series will start on 9th November 2012 at 5.30. Several members have contributed to the series and Trevor Hughes's contribution is included in the first programme.
References to LEO will appear in the programme devoted to Work which will appear on Sunday November 30th. at 5.30 pm.
Interviews with David Caminer and Peter Byford will be included with the LEO film and it will include some footage of a home movie taken by Brian Eaton in the sixties, of LEO 3 together with an interview with Brian.
- **National Public Radio (NPR), USA**
An episode of Revolutionaries, a co-production of the Computer History Museum, Silicon Valley and KQED television, Published on Jul 6, 2012 by Computer History. The subject is the contribution to computing of Sir Maurice Wilkes.
<http://www.youtube.com/watch?v=h9DrKQ2isIk&list=UUHDr4RtxwA1KqKGwxgdK4Vg&index=5&feature=plcp>
- **The Register:**
Live Chat NOW: LEO, the British computer that roared, 28th June 2013 (see http://www.theregister.co.uk/2013/06/26/live_chat_leo/). Gavin Clarke, editor of The Register and members of the audience interview Frank and Ralph Land online in real time. The outcome is rather messy as questions and answers do not come out in a proper sequence.
- **UK Computer Heritage**
at Google HQ in London 1st July 2013 to celebrate UK contribution to Information and Communications Technology. Featured the Video commissioned by Google for the 60th anniversary of LEO held at the Science Museum: <http://www.youtube.com/playlist?list=PLG7EqWtzelhXjSD4SdfPx1WQICKZMVCp4>

- **BBC How the Computer Changed the Office Forever.**

BBC Magazine. Broadcast August 1st 2013 BBC Radio 4 at 13.45 as part of a 10 episode series by Lucy Kellaway entitled **Lucy Kellaway's History of Office Life** and explores the changes brought about in the office by computers and this episode starts with a brief review of the LEO story including a photo of LEO I. <http://www.bbc.co.uk/news/magazine-23509153>

- **BBC 4 The I.T. Girls**

21st August 2013, 11.00 am BBC Radio 4. Fronted by Martha Lane-Fox its contributors include, Mary Coombs, Dame Stephanie Shirley, Ann Moffat and Tilly Blythe. From the 1950s to the mid-1970s in Britain, many of the pioneers of early computing were women. This was a highly skilled new world of work providing opportunities that were often in sharp contrast to the established norms of post-war British life, with new technology helping drive social change.

- Mary Coombs was the first woman to program the world's first commercially available business computer: the Lyons LEO. She tells us what it was like to work on this machine - which was the size of a room.
- In 1962 Dame Stephanie Shirley founded a programming company, Freelance Programmers, which only employed women. She became a very successful figure in the industry.
- Ann Moffat started her career at Kodak in 1959. She programmed the black box flight recorders for Concorde and wrote missile programmes for Polaris.
- The Science Museum's Keeper of Technologies and Engineering, Dr Tilly Blyth, explains the significance of her museum's collection of machines that changed these women's lives.
- Martha Lane Fox presents the programme. In 1998 she co-founded Lastminute.com, and become one of the pioneers of the dot com era. See <http://www.bbc.co.uk/programmes/b038hfkx>

- **BBC News Channel: Celebrating the UK's Computer Pioneers.**

<http://news.bbc.co.uk/1/hi/technology/7521868.stm> A Brief account of the role played by the UK in the development of computers from Bletchley to LEO.

- **BBC Radio 4 Extra**, 2nd November, 2013, 9.00-12.00 am and 7.00- 10.pm. A three hour compilation of computing history from the BBC radio archives, fronted by Maggie Philbin at Bletchley Park. The programme started with Charles Babbage, and Ada Lovelace, went on to Bletchley and the second world war code breaking exploits, then the LEO story from the Make Hally LEO episode in the four part story of the Dawn of Computers (about 20 minutes), Clive Sinclair and the Micro Computer revolution, Berners-Lee and the World Wide Web, and finally the spread of Social Computing with Facebook and Twitter. <http://www.bbc.co.uk/programmes/b03g8lxl>

- **BBC 1 ONE Show**, 13th November, 2014, 7.00 pm – 7.30 pm devoted a section of the programme to Lyons and the LEO story, with extracts from a LEO film, and explanations from Peter Bird and Frank Land. It was well edited and presented, lauding the LEO initiative and stating clearly Lyons' role in building the world's first business computer

- **BBC Radio 4: Hidden Histories of the Information Age** 23rd October 2014 at 13.45. [Repeated week commencing January 4th January with LEO story on 7th January at 9.30 am](#). One of six 15 minute programmes, presented by Aleks Krotoski, devoted to specific exhibits at the new Information Age Gallery which opened on 24th October in the London Science Museum. The program, on the 23rd of October, told the story of LEO as ushering in the new age of business computing. It involved interviews with Jessica Bradford from the Museum (content manager of the new Gallery, Gloria Guy and Frank Land from the LEO Computers Society, a teashop manageress who had been a user of the original teashop ordering program and nicely rounded off by Tilly Blyth (who had been largely instrumental in the making of the new Gallery from concept to final exhibit) from the Science Museum. Altogether a well-balanced telling of the LEO story and how it fits into the development of the Information Age. It can be heard on <http://www.bbc.co.uk/programmes/b04m3ftg>

- **The Guardian Notes and Theories from the Science Desk**, 22nd October carries a comprehensive note on the Science Museum Information Age Gallery LEO Story Exhibit, including the film clip which forms

part of the LEO exhibit. <http://www.theguardian.com/science/blog/2014/oct/22/information-age-cake-computer-changed-world-science-museum>

- **The Richmond and Twickenham Times** Nov 2014 carried a photograph of the presentation to Jackie Caminer and Helen Pinkerton of framed photographs of David Caminer and John Pinkerton respectively by Peter Byford and Ray Hennessy. Included was a brief summary of the LEO story and the key roles played by David Caminer and John Pinkerton in the LEO story. See http://www.richmondandtwickenhamtimes.co.uk/news/11581099.Widows_gather_for_tribute_to_their_husbands_pioneering_computer_work/
- **BBC Radio 4 'Ways of thinking'** 4th April, 2015, 1.30. An account by Naomi Alderman of what programming and coding involves including looking back at what underlies high level languages with an excerpt from Mary Coombs Oral History talking about programming LEO I.
- **BBC Radio 4 'In Business'** 9 April 2015 8.30 pm includes reference to LEO with some photos.. It will also available on Internet Radio at the same time: <http://www.bbc.co.uk/radio4> If for any reason you are unable to listen at the allotted time it will be available later on BBC Iplayer at: http://www.bbc.co.uk/radio/player/bbc_radio_four
- **Stewarts & Lloyds.** Corby Town Council is holding a heritage exhibition, open until end of September, 2015 1.00-4.00 weekdays, 11.00-2.00 Saturday, celebrating the town's connection with early computers. It features LEO II/3, the first LEO delivered to an outside company: Stewart & Lloyds, steel makers located at that time in Corby. See <http://www.northantstelegraph.co.uk/news/top-stories/discover-corby-s-computing-heritage-with-new-exhibition-1-6866793> and <http://www.corby.gov.uk/sites/default/files/Leo%202.pdf>
- **BBC Radio London**, 2010,, interview of Neville Lyons, with Robert Elms, on the occasion of opening of the new Modern London gallery in the Museum of London, which featured part of the frontage of the Coventry Street Corner House, donated by J Lyons company to the Museum.
- **BBC Radio 4 'Today Programme'** 2013 on the occasion of a major exhibition of the Lyons Teashop Lithographs at the Towner Gallery, Eastbourne. The recording, introduced by Justin Webb, was conducted by Nicola Stanbridge, the interviewees Neville Lyons, Charlie Batchelor, Curator and David Gentleman, one of the lithograph artists.
- **BBC Radio 4 'Computing Britain'** a 10 part *series presented* by mathematician Hannah Fry from University College London. Broadcast on Monday to Friday between 14th and 25th September. The series will start in the mid-1940s and finish in the early 21st century, concentrating the UK's part in computing history between these years. The series features the story behind machines such as LEO, EDSAC, Baby and ERNIE as well as later breakthroughs such as packet switching, home computing, the BBC Micro and ARM microprocessors.

Program 2: LEO: The Electronic Office, 15th September 2015, 15 minutes. Repeated on BBC Radio 4 on Friday 10th March 2017 <http://www.bbc.co.uk/programmes/b069rvb4th>

Reflections on Program: Peter Byford: I heard the programme in your *Computing Britain* series about LEO. Whilst I was delighted that you made a programme about LEO and Lyons, I was a disappointed about a number of aspects about it.

You used our film and other recordings that we provided, I should also state that we hold the Copyright of the LEO film, made in 1957 as I told you. Despite this there was no acknowledgement of the Society or mention of it's excellent website - see below. I looked at your website and there was no mention there either. Please correct this when you can and acknowledge the Society.

You used a number of people in your programme who were not LEO people to describe Lyons and LEO and possibly because of this you made some mistakes. The only LEO people the late Ernest Kaye, Mary Coombs and Gloria Guy were taken from recordings/YouTube that we provided to you. The Society has a number of quite eloquent speakers who are, of course, knowledgeable about LEO. We could have checked your facts corrected any errors you have made before it was broadcast. One significant error was that you stated that LEO was operational in 1956 - no it was in November 1951 when the first LEO program went operational.

I know Tilly Blythe of course, but who were that other people who were on the programme? Other than the presenter of course, they were not mentioned.

- **BBC 4 TV: The Joy of Data** July 20th, 2016, 9.00pm. See <http://www.bbc.co.uk/programmes/b071k6tj> David Crawford in the Radio Times writes: “**Documentary** We live in a data driven world, where every industry you can think of relies on digital data, and there’s the constant threat of drowning in information overload. But why are we so enamoured of all this stuff, and how did we get to this point?”

Happily the ever enthusiastic Dr Hannah Fry – the Beeb’s new go to mathematician – is here to throw a lifebelt with this witty explainer. She argues that data is the bridge essential for scientific discovery, to move from problem to solution – and invaluable in the modern world.

Along the way you’ll learn how **J Lyons** purveyor of fine British tea and cakes was at the forefront of the computer revolution.” The programme includes interviews with Mary Coombs and Frank Land.

FILMS

- **LEO The Automatic Office**, 1957 promotional film highlighting the way LEOs were constructed and their many varied business uses, ranging from teashop inventories to Ford's payroll. Copyright LEO Computer Society. <http://www.youtube.com/watch?v=-8K-xbx7jBM> Also held by Computer History Museum Silicon Valley <http://www.computerhistory.org/revolution/early-computer-companies/5/110/2260> and <http://www.computerhistory.org/collections/accession/102705993>
- **LEO: Celebrating The Pioneers:** A short film sponsored by GOOGLE made to highlight the contribution of the team behind LEO computers, to celebrate the 60th anniversary of it taking on its first "office job" on November 17th 1951. <http://www.youtube.com/watch?v=Lrn24SdW64I>
- **Ernest Kaye LEO 1952:** An extract from the 1952 show featuring Ernest Kaye and his involvement in the development of Lyons Electronic Office (LEO). It includes a glimpse of how he looked 60 years ago, barely any different from today. <http://www.youtube.com/watch?v=GE6TX70A3Rc>
- **Leo II Computer:** The latest in our series of early technologies from Michael Bennett-Levy's collection that went up for auction in October last year looks at the world's first commercial business computer, the LEO II/3. Entering service in May 1958, the LEO II/3 (Lyons Electronic Office II/3) at Stuart and Lloyds in London was the world's first commercial business computer. http://www.youtube.com/watch?v=y_Z6OGBif9w
- **Mary Coombs shares her story:** Mary Coombs was a programmer for LEO, the Lyons Electronic Office that was the world's first business computer. Produced by Google as part of a series of short films highlighting women's involvement in the early days of computing. <http://www.youtube.com/watch?v=C6DRr0Dhn4Q>
- **Taking the Punch Out of Input**, 1970's era film by Lyons Computer Services focusing on input devices for LEO III range developed in 1960's. <http://www.youtube.com/watch?v=6IPVdHHRc2Q>
- **Electronic Data Processing.** A series of film strips produced by the Institute of Office Management by its EDP Committee covering LEO I, Elliott 405 and Ferranti Pegasus. Available from Kevin Murrell at the National Museum of Computer History, Bletchley, Copy held by LEO Computers Society.
- **Unveiling Ceremony**, on the 29th November 2016 a commemorative plinth was unveiled in Lyons Walk in the Borough of Hammersmith and Fulham, a site overlooking the place once occupied by Cadby Hall the headquarters of J. Lyons & Co and the location of the world's first business computer LEO. The unveiling took place exactly 65 years after LEO carried out on behalf of Lyons the running of the world's first data processing application on an electronic computer. The unveiling was carried out jointly by Dame Stephanie Shirley and Frank Land in the presence of representatives of the Borough of Hammersmith and Fulham, representatives of the local MP, Andrew Slaughter, descendants of the families which had built J. Lyons & Co., members of the LEO Computers Society and friends of LEO including representatives of the Association for Information Technology. The erection of the plinth was arranged by the Borough of Hammersmith and Fulham and much of the funding provided by Tony Morgan of the LEO Computers Society. A film of the ceremony, including speeches by Peter Byford, a representative of the Borough of Hammersmith and Fulham, Frank Land, Dame Stephanie Shirley, and Tony Morgan can be found on <https://youtu.be/FmHnKq15SGc> For more information and pictures see <http://ta.mdx.ac.uk/leo/leo->

[plaque-unveiling-in-london/](#) The **Sunday Times** carried an op-ed article by Dominic Lawson following the ceremony, entitled **65 years ago the age of the computer began to sell better tea cake** page 24 4th December 2016. <http://www.thetimes.co.uk/edition/comment/65-years-ago-the-age-of-the-computer-began-to-sell-a-better-tea-cake-zzpx63qx6>

LEO AWARDS and PRIZES

❖ **The AIS LEO Award for Exceptional Lifetime Achievement in Information Systems**

The Association for Information Systems (AIS) is the institution linking academics in the discipline of Information Systems world-wide and has a membership in excess of 3000. It selects members who have made outstanding contributions to the study and teaching of Information Systems for the LEO Award (its highest honour), named in remembrance of LEO the First Business Computer. The award was inaugurated in 1999. See <http://home.aisnet.org/displaycommon.cfm?an=1&subarticlenbr=151> and list of Award holders at <http://home.aisnet.org/displaycommon.cfm?an=1&subarticlenbr=149>

❖ **The LEO Award Advisory Board**

The LEO's are named after the world's first business computer. Created by the Lyons Company of the UK in 1951 and with installations in Australia by Tubemakers, Shell and Colonial Mutual. LEO was the first computer in the world to be used to solve complex analytic problems including (but not limited to) calculating disease among miners, ballistic problems of missiles, mortality rates for insurance companies, "flutter" in new aircraft, how to make rain by seeding clouds and even calculating tax tables.

The awards celebrate outstanding achievements in the full range of Business Intelligence and Information Management activities:

- Data modelling, integration, quality, warehousing and mining
- Analytics, reporting, dashboarding and scorecarding
- Business Process Management
- Search
- Performance management
- Knowledge management and strategy

- to name a few. The awards are given to commercial organisations, government, and education initiatives as well as individuals who have excelled in the end-use of analytics and information management.

Governance of the LEO Awards is conducted by an Advisory Board consisting of seasoned members of the Australasian commercial, government and academic knowledge economy. The Board represent many industries and aspects of hands-on experience from the end-user community.

The awards were launched in 2010. See <http://www.tbig.com.au/advisors/>

❖ **Middlesex University: David Tresman Caminer Postgraduate Scholarship in Business Computing**

The scholarship was set up to honour the achievements of David Caminer under the aegis of The LEO Computers Society. The Scholarship is funded through the generosity of the Association for Information Technology (AIT) and its Trustees, and is valued at £5000 per annum. The scholarships will be available to students who have demonstrated excellent academic potential. Applications are welcome from students who have fulfilled the admission criteria and been offered a place to study for a postgraduate degree based in the School of Engineering and Information Science. A student will only be entitled to one award during his/her period of study with Middlesex University. The first students were selected in 2011. See http://www.scholarship-search.org.uk/grants/the-david-tresman-caminer-postgraduate-scholarship-in-business-computing-supported-by-the-leo-foundation-and-ait-trust-at-middlesex-university/hc_edu/fin.page_pls_user_sch_dets/16180339/220707/sch_id/58303/page.htm and <http://alumni.mdx.ac.uk/page.aspx?pid=497>

The 2014 award winner Tope Ashiru writes:

"Receiving the Scholarship is mind blowing! It has restored me back on track and reinvigorated my career aspirations. My academic progression almost took a dark turn in the light of my father's prolonged illness which eventually took his life. I had thought it was all coming to a dramatic halt for me but the Scholarship came to the rescue! Now I can focus on finishing with a first class."

If any reader knows of any other reference please let Frank Land know at f.land@lse.ac.uk

❖ **2016 Middlesex University David Tresman Caminer PhD Scholarship.**

The research leading to a PhD will investigate the role of LEO in the evolution of business computing with special emphasis on the philosophy which motivated a company in the food industry to build the world's first business computer. The project supervisor is Dr Giuseppe Primiero of the Computer Science Department. The scholarship is funded by a grant from the AIT. See <http://www.mdx.ac.uk/news/2016/03/first-ever-business-computer-to-be-researched-at-middlesex-university> and <http://www.mdx.ac.uk/courses/postgraduate-research-degrees/research-studentships/david-tresman-caminer-studentship-for-the-history-of-computing> and tinyurl.com/j3oh6ow.