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

(Last update 18/09/2017)

LEOPEDIA
LEO Computers Society’s guide to references and holdings related to the story of LEO

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BOOKS

   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.
   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.
   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,

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 Newsheet.

"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."


"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 exited 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.”


‘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.


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.


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


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


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


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.

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 Rechentechnic (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.

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


- **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 fascinating account of the British Computer Industry from its birth at the beginning of World War 2 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).


- **IEEE History Foundation.** Milestones By Year Dedicated And Region comprises a variety of relevant material related to the interests of the IEEE. It includes references to LEO and includes an oral history of LEO programmer Betty Cooper, http://ethw.org/Oral-History:Betty_Cooper

**ARTICLES, REVIEWS and other PAPERS**


- Anon (1952) ‘**The Laymans Guide to LEO**’ J. Lyons & Co

  *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

- Anon (1954), **LEO Lyon Electronic Office**, Published by J. Lyons & Co., Cadby Hall, Feb 16th.
• Anon (1954); ‘Electronic Abacus’, The Economist, pp. 789-791, 13th March, probably authored by Mary Goldring.

• Anon, (1955) Leaflet on "Computer Training Courses", by LEO Computers.


• Anon (158957); Political & Economic Planning, ‘The LEO Computer: a case study in the use of an electronic computer in routine clerical work’, Three Case Studies in Automation, July, probably authored by Leonard Tivey


• Anon, (1960), Advanced Data Processing, a clip from the "Engineer" for 22 July 1960, probably the earliest reference to LEO II in print, and concentrating on the microprogramming feature.


• Anon, (1960), Introducing LEO III, a clip from The Stock Exchange Gazette for 12 August 1960, announcing the development of LEO III in more general terms.

• Anon, (1963), EE-LEO Brochure for LECTOR System, Data Processing Journal, February, page 15

• Anon (1965); Daily Mail Obituary for LEO I 9th January 1965 Plus other items about LEO initiatives in Eastern Europe http://www.ampneycrucis.f9.co.uk/PARK/LEO.htm

• Anon, LEO Computer, a useful summary of the LEO story which does need editing, http://en.wikipedia.org/wiki/LEO_(computer)


• Anon (2017), Quotation from a Director of J. Lyons. “I attended a Board meeting when for 1 hour and 59 minutes there was a heated debate about the price of a cup of tea in Teashops. A rise of a penny or half a penny!” At the end of the row John Simmons, of whom everyone was in awe, asked for a further 2 million pounds for work on Leo. Passed without debate


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

- Bird, P., (1990/91), LEO, the Pride of Lyons, British Journal of Administrative Management, pp 20,21, included is brief biography of Peter Bird on page 20 (https://www.dropbox.com/home/Leo%20Interviews?preview=Peter+Bird+Bio.doc)
- Blyth, T., (2015), Information Age? The challenges of displaying information and communication technologies, Science Museum Communications Spring 2015, http://dx.doi.org/10.15180/150303 The article provides an account of the setting up of the London Science Museum’s Information Age Gallery in October 2014 including the LEO exhibit.
- Bringslid, M.m>, (2016), 7 Ways Computers will change our lives, Blog on Eric Schmid Presentation, LSE 14th October, http://blogs.lse.ac.uk/studentsatlse/2016/10/18/7-ways-computers-will-change-our-lives/
- Caminer, D.T., (1956) Experience of a General Purpose Computer, in The Electronic Office, a bound collection of articles assembled by the Office Management Association following their conference in April 1956. Bound volume held by Hilary Caminer
- Caminer, D.T., (1056?), The Application of Electronic Digital Computers and Calculators to Accountancy, Costing and Managerial Control, Lecture to Northampton College of Advanced Technology (now City University, London). Lecture Notes held by Hilary Caminer
If any reader knows of any other reference please let Frank Land know at f.land@lse.ac.uk

- Caminer, Hilary, (2016), editor, Unveiling the plaque, November 29th 2016, edited version of presentation at the unveiling of the plaque commemorating 65 years of business computing at Lyons Walk, including presentations from Peter Byford, Frank Land, Dame Stephanie Shirley and Tony Morgan, Dropbox https://www.dropbox.com/home/LEO%20Oral%20History%20project?preview=Unveiling+of+Plaque+aa+presentations.doc
- Cane, A., (2011), Perspectives: Unlearnt lessons of Leo; British pioneers wrote the script on project management in the 1950s, but no one was listening, Financial Times 6th December, https://www.ft.com/content/7c7fc396-168d-11e1-be1d-00144feabad0
- Clarke, Gavin, (2013), The Big Battle with Blue, The Register, March, http://www.theregister.co.uk/2013/03/27/geeks_guide_leo/A useful sketch of LEO history based on author's reading and interviews with Frank and Ralph Land.
- Clarke Gavin, (2013), Blighty's revolutionary Cold War teashop computer - and Nigella Lawson, The Register, November, http://www.theregister.co.uk/2013/03/27/geeks_guide_leo/
- Cooper, G., (2016), How Lyons Produced the World’s First Large Business Computer, Power Point Presentation to IET retired branch. https://www.dropbox.com/home/LEO%20Oral%20History%20project/Copied%20from%20old%20Leo%202interviews%20shared%20Folder
- Cotterell, S.,(2002), The day LEO roared, Project Manager Today, pp. 4-6, February
- Daziel, Billy,, (2015), Corby & The Electronic Brain: LEO II, pamphlet describing exhibition at the Corby Heritage Centre July/August, in memory of the Stewarts and Lloyds’ LEO II computer, the first LEO II delivered to a commercial customer. See http://www.corby.gov.uk/sites/default/files/Leo%202.pdf
If any reader knows of any other reference please let Frank Land know at f.land@lse.ac.uk

- Duffy, J., (undated), LEO I: The construction of the world's first Business Computer Tripod Website. A good account of the LEO story with many photographs. See http://james.duffy.tripod.com/Leo1.html
- Galliers, R. Editor, (2003), Journal of Strategic Information Systems, Vol. 12, No. 4. (December) The Issue is devoted to the 2001 conference at the London Guildhall celebrating the 50th anniversary of the rolling out of the world’s first business application at the Cadby Hall headquarters of J’ Lyons and Company on their LEO I computer. URL http://www.citeulike.org/journal/els-09638687

The contents of the issue are as follows:

Aris, J.B.B., Preface, pp 253-254
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
Amaravadi, C.S., The world and business computing in 2051, pp 373-386
Schell, E.H., The world and business computing at mid-century, pp 387-395

• Gibson, A, (1995), The next five years’ additional material to celebrate 80 years of the IAM, Modern Records Centre, Warwick University, MSS, 337/4/66/2


• Gluckstein, I. M., (1959), G.W. Booth, Obituary, Lyons Mail, October 1959

• Godwin, C., (1986), Landmarks: How the king of the jungle grew up on tea and cakes, Computing, April 23rd.


• Harvey, F., (2001), The lion that failed to roar, LEO, Financial Times, August 20th.


• Henin, S., (2003),” LEO: Il computer in una tazza da tè, La Altra Scienza, p. 102


David has commented:

“it looks a lot like a real Leo, or so I am told by people who knew the real thing. What is more important than the replica is the software that we have, namely the Intercode Translator, the Master Routine and its accompanying generator programme. All three run successfully on our replica. There may be the odd malfunction, but that was common in computing in the 1960s.”


Holdsworth, D *et al*, (2017), **On-line Leo III User Manuals**, [http://leo.settle.dtdns.net/LeoMan/Manuals.htm](http://leo.settle.dtdns.net/LeoMan/Manuals.htm)


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

- Lyons, N., (1950-1967) Note Books, a set of 48 manuscript diaries covering the work of LEO engineer Ernest Lenaerts from LEO I to LEO III.
- Lyons, N., (2017), Correspondence, Research, Talks (including scripts), London Metropolitan Archives, City of London: Accession reference: B16/078, 2007-2016. The material includes history of J Lyons and Company Limited and its achievements (presentations includes images mainly sourced from Peter Bird, historian) and media interview recordings.
- May, J., (2012), Review of a Computer Called LEO, Amazon Reviews, http://www.amazon.co.uk/review/R3MSJ7IMMOLZRU/ref=cm_cr_pr_viewpnt#R3MSJ7IMMOLZRU
- Murgia, M., (2016), End of Moore’s Law? What’s next might be more exciting, Daily Telegraph, 26th February. The article has photo of LEO to indicate size of early computers. : http://www.telegraph.co.uk/technology/2016/02/25/end-of-moores-law-whats-next-could-be-more-exciting/
- Niewlsdomski, S., (2016), British transistor manufacturers in the 1950s, British Vintage Wireless Society Bulletin, Volume 41, Number 4, pages 10-22. The paper includes a section on LEO III, and displays a Job advert dated 1957 for Computer Engineers from LEO Computers Limited.. It may be
If any reader knows of any other reference please let Frank Land know at f.land@lse.ac.uk

referenced and read but not copied. See http://www.bvws.org.uk/publications/bulletins.php/volume41number4


- Pearson, I., (2017), Editor, ICL AllStars Magazine, Issue 50, Autumn, The newsletter of ICL Australian veterans includes a number of references to the history of LEO

- Pelling, N., (2002), The Case For The First Business Computer, http://www.nickpelling.com/Leo1.html The business cases behind the five proposals made to the board of J. Lyons & Co. by Thompson and Standingford in 1947 - which led to the construction of the first business computer - are analysed, but found to be strategically lacking. Both an alternate reading of the case and some contemporary implications are then developed.


• Quest, M., (1962), *Living with Computers*, The Journal of the Hotel and Catering Institute, Volume 9 Number 4. The article recounts the LEO story and includes an interview with Ralph Land about computers and the hotel business.


• Samways, D., (2016), *Marconi in Computers and Automation*, held in Marconi Wiki, see https://docs.google.com/forms/d/1-eYS5yA1W4avTeW05NxnfDnt6Ug-xr-u7OARORXlpj4/viewform to access the Wiki. Included is a history referencing the LEO connection. Held in Dropbox https://www.dropbox.com/home/LEO%20Oral%20History%20project?preview=marconimincomp utersandautomation+%5Blicensed+for+non-commercial+use+only%5D+-+Marconi+in+Computers+and+Automation.mht


• Schmidt, E., (2016), *From LEO to Deep Mind: Britain’s computing pioneers*, presentation at the London School of Economics on 14th October 2016. The presentation took the form of a conversation between the speaker, the Executive Chair of Alphabet, the Google parent company, and Professor Chrisanthi Avgerou of the LSE and the audience. The presentation can be heard on the LSE podcast at http://www.lse.ac.uk/newsAndMedia/videoAndAudio/channels/publicLecturesAndEvents/playe r.aspx?id=3612 The event was jointly sponsored by LSE’s Department of Management and the LEO Computers Society. It was intended to be the first of an annual LEO lecture.

• Simmons, J.R.M., (1957), *Principles of Security*, Reprinted Paper held in Simmons collected archive at Modern Records Centre, Warwick University as 363-51-6a.pdf


• Spooner, P., (1957), *Electronics in the Office*, Business Magazine, November Issue. This featured LEO II quite prominently but by this time many other British manufacturers also were offering for business. The Decca twin magnetic tape drive of which a photo appears was available with LEO II

• Standingford, O., and Thompson, T.R., (1947), *Report on a fact-finding trip leading to the development of the LEO computer*, 1947. A copy of this report which led to the decision by Lyons to build LEO is held in the London Science Museum, LEO exhibit in the Information Age Gallery. See more at:
Standingford, O., *Using a Computer Service* and *Multum in Parvo*, Standingford’s summary of papers and discussions at the conference in *The Electronic Office*, a bound collection of articles assembled by the Office Management Association following their conference in April 1956. Bound volume held by Hilary Caminer

http://www.computingreviews.com/review/Review_review.cfm?review_id=123033&listname=search


Thompson, T.R. (1955), *Diminishing Returns*, *Engineering*, December 23rd. The paper reflects Thompson’s impressions following a tour of computer installations in the USA.


Thompson, T.R., ‘*The LEO Chronicle, Major Events from 1947 to 1962*,’ *Leo Archive*, National Archive for the History of Computing, Manchester, LEO Computers,  
http://www.chstm.man.ac.uk/nahc/contents/leo.htm

As part of the library’s special collections, the Archive is located in the main building of John Rylands University Library of Manchester, Burlington Street (building 18 in the campus map).


Whitley, P., (2005), *Computerised payroll’s Golden anniversary*, *Sage Accounting Web*  
http://www.accountingweb.co.uk/topic/tax/computerised-payrolls-golden-anniversary


• 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.


• 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/

• 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.


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 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].


- **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
    - 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.96720535308482.1073741831.586954168000271&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. marconincomputersandautomation
- 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  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.
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](http://www.vintage-icl-computers.com/icl42) and [http://www.vintage-icl-computers.com/icl42a](http://www.vintage-icl-computers.com/icl42a). For further information contact Peter Wooledge tabbs-firefly@outlook.com and [http://www.vintage-icl-computers.com](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=ADGEEShQHZUJK9FLJszQDnyUPVCJHyggZYPzb17xrGSn0IsTpHzT-N67c2UJmKwcbndQJCywUfgwSziadPNLwnm9AP2qsDnH8Dyp-JNgYbyD7TCatAtiOny37VO2xbmiE97dQEwtB1N&sig=AHIEtbRt65LTg4sDld2BvgImwO9oAxUNA](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=ADGEEShQHZUJK9FLJszQDnyUPVCJHyggZYPzb17xrGSn0IsTpHzT-N67c2UJmKwcbndQJCywUfgwSziadPNLwnm9AP2qsDnH8Dyp-JNgYbyD7TCatAtiOny37VO2xbmiE97dQEwtB1N&sig=AHIEtbRt65LTg4sDld2BvgImwO9oAxUNA)

- **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.** [http://www.computerhistory.org/revolution/](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/revolution/early-computer-companies/5/110/468)  
  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/revolution/early-computer-companies/5/110/2260](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](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 managed and organized by Dr Tilly Blyth of the Science Museum.  
  See also [http://objectwiki.sciencemuseum.org.uk/wiki/Leo_II.html](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](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&n=search&doc=44IMP_ALMA_DS2139217540001591&index=1&recld=44IMP_ALMA_DS2139217540001591&recldxs=0&elementId=0&renderMode=poppedOut&displayMode=full&frbrVersion=&dsctnl=0&frbg=scp.scpsscope%3A%28444IM%29&tab=local&dtmp=1428759473512&srt=rank&mode=Basic&dum=true&tb=t&vl(freeText0)=LEO%20Computers&vid=ICL_VU1](http://imp-primo.hosted.exlibrisgroup.com/primo_library/libweb/action/display.do?tabs=detailsTab&ct=display&n=search&doc=44IMP_ALMA_DS2139217540001591&index=1&recld=44IMP_ALMA_DS2139217540001591&recldxs=0&elementId=0&renderMode=poppedOut&displayMode=full&frbrVersion=&dsctnl=0&frbg=scp.scpsscope%3A%28444IM%29&tab=local&dtmp=1428759473512&srt=rank&mode=Basic&dum=true&tb=t&vl(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 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.


Heinz Nixdorf Museum (HNF), Padeborg 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)

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
Institute of Administrative Management (IAM), started life in 1915 as Office Machinery User’s Association. John Simmons acted as chair and president for many years and some of its members including Wills were early LEO users.

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

George Manley  1938-2011

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

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

**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.

**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 Scots 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 LEO Society website (Frank Land) The Test Bed- Personal Computer World
Vnunet.com (Iain Thomson, San Francisco) Fujitsu - ICL pensioners (Frank Land)
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-Caminer.html
http://uk.fujitsu.com/pensioner/topics/obituaries/david_caminer/
http://www.liverpooldailypost.co.uk/views/obituaries/2008/06/26/david-caminer-64375-21152334/
http://boingboing.net/2008/06/29/computer-pioneer-and.html
http://www.guardian.co.uk/technology/2008/jul/11/1

**Colin Tully** 1936-2007
http://www.bcs.org/content/conWebDoc/16757
http://comjnl.oxfordjournals.org/content/52/3/388.short

**John Gosden** 1930-2003
Leo Fantl 1924-2000
http://www.thopc.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/obituary25.htm (page 1)

John Pinkerton 1919-1997
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

Ernest Lenearts 1910-1997
http://www.cs.man.ac.uk/CCS/res/res17.htm#f

Dan Broido 1903-1990
http://www.kzwp.com/lyons.pensioners/obituary22.htm (page 1)

John Simmons 1902-1985
http://www.oxforddnb.com/view/printable/57059

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/obituary252.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/obituary25.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.

http://www.kzwp.com/lyons.pensioners/obituary252.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](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.

Peter Bird – born 1934, died 6th August 2017. 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. The LEO Computer Society book LEO Remembered is dedicated to Peter. Peter’s obituary was posted on the Guardian Newspaper website in the OTHER LIVES section on 10th September 2017 at https://www.theguardian.com/technology/2017/sep/10/peter-bird-obituary The obituary is also posted by Elisabetta Mori in http://ta.mdx.ac.uk/leo/in-memory-of-peter-bird/http://ta.mdx.ac.uk/leo/in-memory-of-peter-bird/ and Wikipedia posted an obituary at https://en.wikipedia.org/wiki/Peter_Bird_(IT_manager)

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
David Litten
Eve Manley
George Manley
Ken MacLachlan
Frank Moran
Bruce Parkin
Geoff Parry
Mike Roberts
Brian Rogers
John Rooke
Ted Rowley
Frank Thorne
If any reader knows of any other reference please let Frank Land know at f.land@lse.ac.uk

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
Dave Rowberry, Software Programme, 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
  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](http://conservancy.umn.edu/bitstream/handle/11299/107600/oh149jmp.pdf?sequence=1&isAllowed=y)

- **John Pinkerton (2)**
  Interviewee: John M.M. Pinkerton
  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 initiatve 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’
  Copyright: Audio, London Science Museum, Transcript, IEEE

- **Mary Coombs (née Blood) 1**
  Interviewee: Mary Coombs (née Blood)
  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](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.

- **Mary Coombs (née Blood) 2**
  Interviewee: Mary Coombs (née Blood)
  Interviewer: Google
  Date of Interview: 21.11.2011
  Role in LEO: Programmer
  Joined LEO: 1953
  **DOB:** 1929

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

❖ 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

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
Interview and Video: Editing in process
Copyright: Alan Eardley
Restrictions: Interview and video will be available to members of LEO Computer Society
If any reader knows of any other reference please let Frank Land know at f.land@lse.ac.uk

- **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.

- **Repository:** 
  **Recording:** MP3  
  https://www.dropbox.com/home/LEO%20Oral%20History%20project/Copied%20from%20old%20Leo%20Interviews%20shared%20folder/Leo%20Interviews?preview=Ralph+Land+20111031_MP3.eml  
  **Copyright:** Leo Computers Society.

- **Restrictions:**

- **Interviewee:** Ralph Land (2)  
  **DOB:** 24.10.1928  
  **Interviewer:** Google  
  **Date of Interview:** 21.11.2011  
  **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


- 51 pages

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

Copyright: Computer History Museum

CHM Reference number: X4090.2007

Interviewee: Betty Cooper (nee Newman)  DOB: 1930

Interviewer: Janet Abbate

Date of Interview: September 2001

Role in LEO: Programmer on LEO I and LEO II/I

Joined LEO: 1953

Abstract: Betty joined Lyons as a labour cost clerk in the Statistical Office in September 1949. In 1953 she was selected for a LEO appreciation course, and as a result was offered a job as a programmer on LEO I. Despite scepticism about what LEO would be able to do she accepted the offer. She worked on a number of applications – payroll under Mary Blood (Coombs) and Tea Blending under Frank Land. She gained a reputation as a sound and reliable programmer. She left LEO to work as a programmer with EverReady before leaving to start a family.

Reference: http://ethw.org/Oral-History:Betty_Cooper

LOE 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 Gyngell 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: Part 1: https://dl.dropboxusercontent.com/content_link/MCikf3KV5kmzaLtzQgbP5kvwuzWKZBcGg3ziZB0Y1VwTeqcnSOGOQc9DpKU9stqTy/file https://dl.dropboxusercontent.com/content_link/MCikf3KV5kmzaLtzQgbP5kvwuzWKZBcGg3ziZB0Y1VwTeqcNSOGOQc9DpKU9stqTy/file

Part 2: https://dl.dropboxusercontent.com/content_link/8XdHDOZuABqxDJfsyRs9UG6Y2cTUtbxzNqNpzgyLvdQXOnpmC0xJsAdv5DCEGP2/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/eH0oR3NrZa2yehG3joRbmNicf53zvU6o7ItNxM5Ju6EVoDo1RS5X4qMJJ5RZflRW/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:

Recording: Part 1:
https://dl.dropboxusercontent.com/content_link/b9b9baWGEevYSzQmBWwrC9Z4lj8vvhNedoQCQk9Q31X2Hh6nMavBYlarR36qZW/file

Part 2:
https://dl.dropboxusercontent.com/content_link/cC3ndG5ZN4y5xRERZ4EuWSuoCOmiGLfZx3XYe3JIoI7Um3xvGxh8v07KJsW0Zc/file

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 Mill Hill 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 working with John Gosden under David Caminer. The oral history is confined to his early career and the details of the BR job. A text-only Part 1 to the composite oral history provides a summary of his career to retirement. His career after leaving LEO in 1957 included managing the LEO 2/9 at Ilford Limited, working for Ford Motor Company and rising to head much of their European Computer organisation, and finishing his career as a private consultant.

Repository: Audio Recording: You can download the entire unedited audio file

Text: There is a PDF transcript of the interview Also Dropbox https://www.dropbox.com/home/Leo%20Interviews?preview=Roger+Coleman.pdf

Composite Oral History: Dropbox:

Recording: Windows Media Player

Copyright: Tim Greening-Jackson, but unrestricted access permitted subject to due acknowledgements.
Restrictions: None known

❖ Interviewee: **Alan King**  
DOB: August 1936  
Interviewer: Tony Morgan  
Died 2017  
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](https://www.dropbox.com/home/Leo%20Interviews?preview=Alan+King+Interview.doc)  
Edited Text: Dropbox.  
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. Active in LEO Computers Society until his death.

Repository:  
Text: [Recognized transcript in dropbox](https://www.dropbox.com/home/Leo%20Interviews?preview=Ray+Hennessy+Interview+edited+transcript%5D.doc)  
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+Morgan+edited+Transcript.doc](https://www.dropbox.com/home/Leo%20Interviews?preview=Tony+Morgan+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  
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.


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: Born in Liverpool, educated at grammar school, took Mathematics at Kings College, Cambridge. Then National Service finishing with rank of Captain. Joined Lyons as a Management Trainee in 1949, rose to management rank in the Lyons Work Office as cost accountant. Selected to join LEO in 1956. Long and distinguished career with many roles including education, staff selection, sales and marketing finishing as head of marketing before retirement. Active sportsman, including playing soccer for Cambridge University.

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.

Recording:  
Copyright: Leo Computers Society.  
Restrictions: None known

❖ Interviewee: Ray Shaw  
DOB: 17th April 1924
If any reader knows of any other reference please let Frank Land know at f.land@lse.ac.uk

Interviewee: 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

**Recording:**

**Copyright:** Leo Computers Society.

**Restrictions:** None known

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**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

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**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:**

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**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.

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

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

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

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 Kidsgrove. 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:

Recording: Part 1 and 2 MP3
https://www.dropbox.com/home/LEO%20Oral%20History%20project/Copied%20from%20old%20Leo%20Interviews%20shared%20folder/Leo%20Interviews/LEO%20Oral%20History%20Recordings
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:

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/IIs. 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
Copyright: LEO Computers Society
Restrictions: None known

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:
Copyright: LEO Computers Society
Restrictions: None known

Interviewee: Ian White
DOB: 19th November 1930
Interviewer: Mike Hally
Date of Interview: 6th December 2016
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.


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 Hampstead. 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,


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 world-wide. He moved to BOAC where he was responsible for the development of BOADICEA 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.


Copyright: LEO Computers Society
Restrictions: None known
If any reader knows of any other reference please let Frank Land know at f.land@lse.ac.uk

Interviewee: John Page  
DOB: 1944  
Interviewer: Dag Spicer  
Date of Interview: April 11th 2017  
Joined LEO: 1958?  
Role in LEO: Joined as apprentice engineer in Minerva Road, became commissioning engineer, and chief commissioning engineer on a number of LEO IIs  
Left LEO: Made redundant after formation of ICL

Interviewee: Ian Bruce  
Interviewer: Mike Hally  
Role in LEO
Date of Interview: 5th July 2017

Pending Oral Histories

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

Mike Gifford  
Interviewer: Dag Spicer

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

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:**
  DOB: 1932
  **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.
  

- **Joe McNulty**
  DOB: 1940
  Joined LEO: 1966
  **Role in LEO:** Site Maintenance Engineer LEO III; System 4
  **Abstract:** Born in Northern Island, 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 IIIs 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 IIIs 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”.
  

- **John Winterbottom:**
  DOB: 1928
  **Reminiscences in 2 parts. Part 1 Life with LEO, part 2 pre and post LEO career**
  **Joined LEO:** 1960
  **Role in LEO:** Design Engineer working with John Pinkerton
  **Abstract:** John had a long career as a design engineer in the electronics industry, starting as electrician in the RAF after leaving School having specialised in Science and Maths. Followed up with Degree at Durham University. Later took MSc at Birmingham specialising in solid state physics and digital computing. Employed first by Lucas/CAV and then MIRA was head hunted to join the Data Recording and Instrument Company as Chief Engineer, a company associated with ICT. Left after contract dispute in 1960 to join LEO to work with
John Pinkerton. Associated with a number of high level projects including a Government sponsored project on data transmission for the coming network age. Also heavily involved with the establishment of standards working with ECMA. Left LEO in 1969 as he felt the creation of ICL had emasculated the innovative LEO research team. Joined Farrington – another specialist in data recording, working partly in the USA. Finished career working in management department of Portsmouth Polytechnic. John provides a fascinating account of life as an enthusiastic design engineer as well as his appraisal of the people he worked with at LEO.

Repository: Dropbox Part 1
https://www.dropbox.com/home/LEO%20Oral%20History%20project/Copied%20from%20old%20Leo%20interviews%20shared%20folder/Leo%20interviews?preview=John+Winterbottom+memoirs+2.doc

Part 2
https://www.dropbox.com/home/LEO%20Oral%20History%20project/Copied%20from%20old%20Leo%20interviews%20shared%20folder/Leo%20interviews?preview=John+Winterbottom+memoirs+2.doc

Copyright: LEO Computers Society
Restrictions: None known

Jean Elliott
Joined LEO: Probably 1948/49 having been a Lyons clerk
Role in LEO: Clerical assistant to John Pinkerton

Abstract: One of the earliest to join the LEO team as a clerical assistant involved in a variety of tasks such as filing and note taking for the design team comprising John Pinkerton, Ray Shaw Ernest Kaye and Ernest Lenaerts. Even permitted to do some soldering. Always remembers with great fondness working with LEO

Text of memoir:

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 lead 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.

**Note:** Colin Hobson was interviewed by Marie Hicks for her book *Programmed Inequality* (see above) and provides one of her case studies noting the story of LEO.

**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](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](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](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 BBCS 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://www.youtube.com/user/LeoCompSoc/videos)
  [http://storify.com/lynetter/leo-60th-anniversary](http://storify.com/lynetter/leo-60th-anniversary)
- **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](http://s3.documentcloud.org/documents/238974/mactaggart-lecture-2011.pdf)
- **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](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-br british-cuppa-with-wendy-craig-536421
The Program was also seen by Bill Forfar whose comments are filed under:

- 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
- 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=PLG7EqWtzelhXjSD4SdfPzx1WQjCKZMvCp4
- 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/b03g8lx

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

- 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 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.


  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/b07lk6tj

  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-xx7JBM](http://www.youtube.com/watch?v=–8K-xx7JBM) Also held by Computer History Museum Silicon Valley  

- **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](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=G66TX7O3A3Rc](http://www.youtube.com/watch?v=G66TX7O3A3Rc)

- **Leo II Computer**: The latest in out series of early technologies from Michael Bennett-Levy’s collection that went up for auction in October last year looks at the worlds 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](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 high lighting women’s involvement in the early days of computing.  
  - [http://www.youtube.com/watch?v=C6DRr0Dhn4Q](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](http://www.youtube.com/watch?v=6IPVdHHRc2Q)


- **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](https://youtu.be/FmHnKq15SGc). For more information and pictures see [http://ta.mdx.ac.uk/leo/leo-plaque-unveiling-in-london/](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-2zpx63qx6](http://www.thetimes.co.uk/edition/comment/65-years-ago-the-age-of-the-computer-began-to-sell-a-better-tea-cake-2zpx6)

**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=151 and list of Award holders at http://home.aisnet.org/displaycommon.cfm?an=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 if 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_edufin.page_ppls_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.”

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.