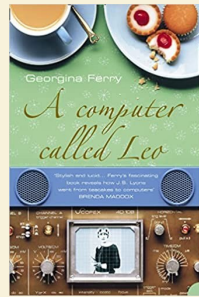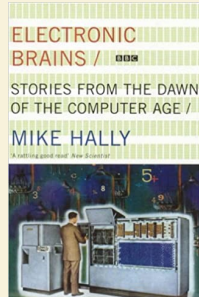|			
LEO The incredible Story of The World's First Business Computer *by David Caminer, John Aris, Peter Hermon, Frank Land.*	LEO, The World's first business computer. *by Peter J Bird*	A Computer called LEO. *by Georgina Ferry*	Electronic Brains. Stories from the Dawn of the Computer Age. *by Mike Hally*
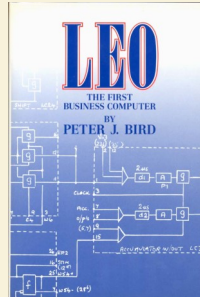
Some Books about LEO — *also see page 7*

This Issue – Index

Message from our Chairman - Peter Byford

Welcome to the slightly delayed newsletter. It has been a busy time when you consider that we only recently published LEO Remembered which Hilary and Lisa edited – more about the book later.

It is with great regret that we have to pass on the news that one of our LEO people, Peter Hermon, passed away at the start of November. As we report, in our first item, he had a very distinguished career in computing and was a big supporter of LEO and the Society. He will be sadly missed.

The next article relates to the site of J.Lyons and Co.'s HQ and factory, formally known as Cadby Hall but now known by its address, 66 Hammersmith Rd. I will tell you about our discussions with the current owners of the site, Big Yellow Storage.

We go on to report on the launch of the excellent new edition of LEO remembered. Hilary will tell you about the launch and the positive feedback that we have had. We include Frank Land's comments at the launch event. We were pleased that Catherine Griffiths, a trustee of the AIT trust which kindly provided funding for the book, agreed to speak at the launch and we reprint her talk here.

The next two articles are also related to LEO remembered. Mark Greenia a renowned computer historian and author wrote an excellent review of the book which we include. This is followed by instructions on how to order the book. We continue this edition with an article by Luke Thorne, our archivist, who reports on progress with the LEO archive,

work funded by our National Lottery Heritage Trust grant. Then Paul Kelley, one time field engineer on LEO lll tells us of a visit he made to LEO I just before it ceased working for the last time.

The last article is an unusual one. We heard via another member of the death earlier this year of Stewart (Stu) Megan in Arizona. Stu Megan had worked on LEO III/35 as a shift leader at South West Gas before emigrating first to Canada and then the US to continue a career in IT. I think you will be fascinated to read that his name has been given to an asteroid!

We conclude this edition with a list of the trustees and committee members. If you think you would like to join us please let me know as we really need more help and fresh ideas are always welcome. This will be particularly important next year when our National Lottery Heritage Grant comes to an end and we need to consider how we might fund ourselves to continue with the work we are currently doing and maybe looking at different activities.

Hilary Caminer has again put together an interesting edition for you laid out as usual by Bernard Behr. I should, of course, also thank the contributors to this edition. If you have a striking, preferably LEO based, tale to tell do let us know and maybe it will be in the next edition in 2023.

Peter Hermon 1928 - 2022

"Peter had an outstandingly distinguished career in IT and management starting from his time as a LEO programmer and also enjoyed a wide variety of deeply-absorbing interests and activities, including a great love of travel and of walking".

This is how Peter is described in the introduction to 'User-Driven Innovation', the book he co-edited with David Caminer, John Aris and Frank Land on the development of LEO, published in 1996:

Airways. He is author of the definitive two-volume 'Hill Walking in Wales.'

Peter later wrote a book 'Lifting the Veil: A plain language guide to the Bible' which was published in 2007. In retirement he preached widely on behalf of the *Association for the Propagation of the Faith*, having been authorized both by the late Cardinal Basil Hume and the Bishop of Portsmouth.

Peter has been a long time member of the LEO Computers Society, attending reunions, donating papers to our archive and contributing both oral and written reminiscences of his work with LEO.

Peter often stressed the impact that his years at LEO had had on his career success. In an article he wrote which we published in 'LEO Matters', he said:

Somehow the leaders installed a vitality and camaraderie in LEO that I have never seen elsewhere. Such was the esprit de corps in those early days-indeed throughout the whole of my time at LEO that everyone helped everyone. A problem had only to be raised in the coffee or tea break, for example, for virtually the whole programming office to pitch in with help and advice whether it was related to their own job or not. We were all 'doers', actively engaged in the day to day minutiae of detail as well as managing. We were all part of a concentration of talent that can rarely have been equalled in any programming office anywhere. As for supervision it was minimal, indeed it was something that tended to be sought rather than imposed.

We would very much like to hear from any readers who have memories of Peter Hermon.

Link to Peter Hermon's Obituary in The Guardian: *Here*

L to R Seated: Peter Hermon, David Caminer and Ralph Land.
Standing: Jim Feeney, John Aris and Frank Land. —-
At the Reform Club to mark the publication of 'User-driven Innovation' in 1996

'Peter graduated in Mathematics from St John's College, Oxford, where he was awarded the prize for the best result in mathematics for the whole university. He joined LEO computers as a trainee programmer in 1955 and became a Senior Consultant, guiding leading enterprises with their entry into computing. He continued in the LEO environment with Dunlop, where he became responsible for Group computer developments worldwide. His next 18 years were spent with BOAC and British Airways where he pioneered the celebrated BOADICEA and BABS system (global networks of real-time computers) which won the Queen's Awards both for technological innovation and export achievement. During this period, he served as an adviser on computer development to the Civil Service. He eventually became Managing Director of the airline's European Division and served on the boards of both BOAC and British

Hammersmith Road, where Cadby Hall once stood - A New Development
The Story so far   by Peter Byford

The name of the building originated from Charles Cadby, piano manufacturer, who bought the land in 1874. Peter Bird, in his book 'The First Food Empire, A History of J. Lyons and Co.' describes the building in some detail. He explains that Cadby Hall was constructed using Portland stone and red Fareham bricks, with terracotta panelling above the first floor windows, and carved portraits of famous composers. Reliefs on the sides of the entrance doorway depicted scenes celebrating music and poetry. Cadby called the building the Cadby & Company Pianoforte Manufactory. After Cadby died in 1884 the factory was sold.

By 1899, the fledgling J. Lyons company took over the Hall and retained its name, although the official address of the Cadby Hall complex became 66 Hammersmith Road. In time it became one of the largest food factories in the United Kingdom, growing to cover an area of more than 13 acres.

Following the demise of J.Lyons & Co., Cadby Hall was demolished in 1983 and the site redeveloped. In the period after Lyons closed down, Cadby Hall had served as a location for filming of episodes of the 1970s TV action dramas 'The Professionals' and 'The Sweeney'.

Coming forward to more recent times, in September 2017 I was contacted by Sam Stopp of Kanda Consulting who was working with Pirbright Holdings Limited and Quadrant Estates to bring forward proposals for the redevelopment of the Kensington Centre, which is how 66 Hammersmith Road, W14 was known. Pirbright Holdings Limited had owned the property since the late 1980s,

 The current building was reaching the end of its life, being in very poor condition and was uneconomic to maintain. They were at a very early stage of the pre-application process and wished to pick our brains' about any local considerations we might be aware of and essentially wanted our support by including aspects of the Lyons and LEO heritage in the new development.

In October 2017 several of us met with the architect, Mark Williams-Jones. The new building would essentially be new offices but with strong environmental and heritage considerations.

I kept in touch with Mark and by October 2018 planning permission for their development had been granted. This increased the value of the site and he thought that the owners might sell the site on.

I had made contact with Richard Farthing, Chairman of the Hammersmith Society who was obviously interested in this development. I also contacted our committee member Gloria Guy, who lives nearby and has good contacts with the council. All went quiet and no doubt covid was partly responsible for the silence on this subject.

In September 2021, I contacted Mark, the architect, he told me that he was no longer involved as the site had been sold on to Big Yellow Storage Company. He was very disappointed because he was keen on developing the building and understood the heritage involved.

I contacted Big Yellow Storage and they put me in touch with Simon Allen who was their Head of Development and responsible for the 66 Hammersmith Road development. Simon was delighted to hear from me and was keen to include the Lyons and LEO heritage in the new development.

Early in 2022 they wanted to put hoardings around the development site and said they would use the history of Lyons and LEO as illustrations on the hoarding. They sent us pictures of the plans for the hoardings which would be excellent publicity for the Society. Although the council broadly approved the hoardings they wanted the planning permission to be submitted nearer the time when a development date had been agreed.

In September 2022, Simon Allen suggested that we meet up so that he and his architect could explain their plans for the development. Vince Bodsworth and I met up with Simon and his architect, Anna Ryten, for lunch at a pub near Hertford – we all live north of London. This was a very useful meeting and he was able to explain some of the plans for the development. The previous owners of the site would have built offices - which of course, since the covid pandemic, has been a less attractive proposition with many people working from home. It has meant that storage and logistics facilities have become much more attractive.

We asked Simon if this development might be sold on as well. He categorically said no they would go ahead with this development. He also said that they would do some work around Lyons Walk including making it entirely pedestrians only for its full length. (The top end is currently a road.) I suggested that it would be good to have a Lyons & LEO time line on, or by, Lyons Way which Simon and Anna agreed to consider. Subsequently Neville Lyons and I have been working on suitable versions of a time line. Their landscape planners are also responsible for repositioning the commemorative LEO plaque which we unveiled there in 2016, but will only do so with our agreement.

In October a few Trustees had a Zoom meeting with Anna Ryten and Kerry Lemon. Kerry has been hired to develop sculptural art in the development to reflect the Lyons and LEO herit-age. They had rather concentrated on LEO, but I think we managed to expand their view to include Lyons. We recommended that Kerry bought Peter Bird's book The First Food Empire for useful source material which she did. Kerry's original idea for her artwork was to use punched paper tape or card to reflect LEO. We said that we didn't see this as sufficiently evocative of LEO and we are continuing constructive discussions with Kerry about the artwork as it evolves.

I think we can be reasonably confident that the Big Yellow Storage will carry out the development. I also think we can look forward to impressive advertising for LEO from the hoardings and eventually a building that will have some effective advertising of the Lyons and LEO Heritage. We are liaising with The Hammersmith Society and discussing any concerns with them.

LEO REMEMBERED

Launching our new book, LEO remembered, 28th September 2022
by Hilary Caminer

Hilary and Lisa, the two editors at the online book launch.

It's always an exciting - and slightly nerve-racking - moment when you come to the end of a long and complex project and you prepare to let others see the fruits of your labour. That's what happened to Lisa McGerty and me at the end of September.

Lisa and I had been working together on the second edition of LEO remembered for several months- always by zoom – we haven't been able to meet in person since 2019 - and we were ready to let the book meet its public.

It was back in 2106 that the first edition of this book, which I edited on my own, was published – presented to Peter Bird in honour of his fine work in writing the first published complete history of LEO. This was quite a slim volume and when we sold out of our stock, the trustees thought hard about the best way forward.
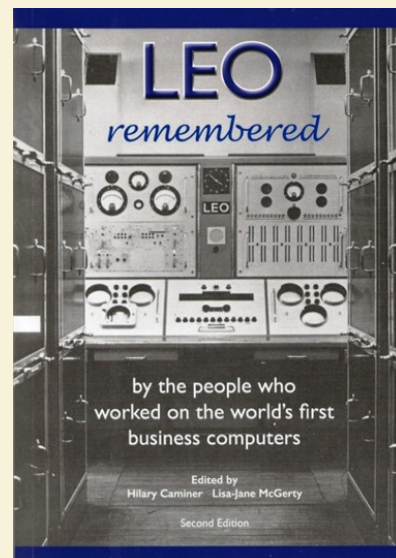
We could just have reprinted, but over the intervening 5 years we had been busily gathering a fine crop of new reminiscences – either submitted as articles for LEO Matters, as part of recorded oral histories or simply volunteered, sometimes after online zoom discussions. We wanted to include these in an updated and enlarged volume. We decided early on that we would also include the content from the original edition thus making our new book as comprehensive a record of 'life with LEO' as we could. In fact, this second edition is over twice the size and contains over 80 contributions.

We also made a few editorial decisions – we wanted to ensure that the work of LEO women – our lionesses – was properly recognised and we wanted to cover people's experiences of LEO in as many of the government departments and firms, at home and abroad - as possible. Lisa and I worked as 'curators'- we gathered the pieces, we ensured that they were an appropriate length for the book and we carefully identified the dates and work roles of each of our contributors. Then we went in search of as many early photographs as we could to illustrate what was being described. We sequenced the pieces – by date and by workplace – and we provided a detailed index so readers could browse – looking up names of people, specific machines, places and functions. Finally, we included a detailed reference section so that interested readers could find out more about LEO.

The launch

The launch itself was held online – much more user-friendly than a face to face event give our far-flung membership. After a welcome from our Chairman Peter Byford, Catherine Griffiths, a trustee of the AIT Trust spoke to explain why the trust had decided to grant the Society funds for the book. We reprint her talk below. Then Lisa and I talked about our work on the book. In particular we focussed on what makes this volume different from all the histories of LEO – this looks at this important period in the development of business computing from the point of view of those who actually worked on LEO machines – in a wide variety of job roles and carrying out many different business tasks.

Frank Land then spoke about why he thought the collection of reminiscences was a valuable addition to the literature about LEO. Again, we reprint his talk below.

The evening continued with some discussion from those attending. We welcomed as a guest Professor Paul Ceruzzi, the distinguished author of histories of modern computing whose review of Peter Bird's book is in the collection.

Among those unable to attend but wishing us well were Dame Steve Shirley who wrote the foreword, Suzie Spence from the National Lottery, funders of much of our heritage work, the Assistant Master at WCIT and Rachel Burn, the new Curator of Information and IT at The Science Museum.

Why the Association for Information Technology Trust have funded LEO Remembered.

A talk by Catherine Griffiths, AITT trustee, given at our book launch

Thank you for inviting me to speak on behalf of my fellow AITT Trustees: they are, as you may know, Igor Aleksander, Carsten Sørensen, Jeremy Pitt, Frank Land and myself. On their and my behalf, I would like to congratulate you on both this book, compiled and edited by Hilary and Lisa-Jane, and the remarkable film you released recently.

The request to fund LEO was brought to our attention by Prof Frank Land, some years ago, as a result of his and his twin brother Ralph's earlier involvement.

The idea that the UK could have yet another world class innovation that was unknown or under-appreciated struck immediately – the fact that it was in the field of computing and IT, meant AITT could do something to help, as it fitted with the Trust's foundational terms of reference. In addition, which we only found out later, part of the LEO history has been the contribution made by women e.g. Mary Coombs, who is considered perhaps the first female commercial programmer. This is a continuing attraction to us – and the Society, and this book, has enabled her to be identified and acknowledged for her work as it has many others.

As an historian, I know only too well the value of contemporary sources, however biased or favourable/unfavourable they may be. Working with and enabling the LEO society to capture first hand, through interview, oral history, the maintenance of some

Catherine is a Founder Trustee of the Association of Information Technology Trust. The trust has not only financially supported this new book, but also funded the doctoral scholarship at Middlesex University which has led to the award of a PhD to Elisabetta Mori's for her thesis on LEO's development.

of the technology, the film, and book showing the extensive and personal contributions of individuals, has meant that not only now, but future historians will have a rich dataset to see the breakthroughs made, and to evaluate the contributions in a richer context.

The research about LEO has also, perhaps inadvertently, thrown the spotlight on the Lyons company itself. It has shown what an innovative company it was, and that the public manifestation of teashops and Swiss rolls was only possible through the complex systems that functioned efficiently, but largely unseen – until now.

In retrospect, it should come as no surprise to any of us, that the first commercial computer in UK was focused on the vital work of streamlining the national provision of pots of tea and plates of cake.

The value of the book, and the research done by the Society, has been acknowledged by its partnership with the Centre for Computer History, Cambridge. The AIT Trust are proud to have contributed to recording important facts about the history of computing and LEO's place in it. We are delighted to have a copy of LEO remembered II, and we look forward to continuing the relationship with LEO, and to hearing more about its wider appreciation, as a result of this book and of your extensive work. Thank you.

Frank Land's talk at the Launch

memories but even better told stories which I had completely missed and where entirely new to me.

Thirdly, and more sadly, memories of those who have passed and the realisation that the passing of one's old friends is inevitable and if there is to be a third edition it must be shaped by that.

On a different note, speaking as the LCS Historian:

Historians have comparatively recently realised that to understand the past we have to go beyond the formal accounts into the living experiences of those who actually participated in these events. The Oral History Society has been promoting the value of Oral Histories and indeed the LEO Computers Society has an active Oral History programme. But Oral Histories conducted by interview do not capture the richness of the recollections, with its daily battles against the unforeseen, and the ingenuity, far from the rule book, used to overcome them. Some recollections have more comic elements.

The other notable feature, even from individuals who spent only a short time with LEO is of the value to them of working as part of the LEO team , both in terms of what it gave them in understanding and the ethos to advance their careers and in terms of sheer enjoyment.

I found the book a fascinating read and am proud to have been a member of that group of pioneers for 16 years.

L et me just say a few words about this second edition of LEO Remembered.

First immense gratitude and admiration for the two editors, Hilary Caminer and Lisa McGerty. They have done a terrific job in compiling this enhanced edition

Second my own joy in reading the range of contributions. To one who lived through that period it brought back floods of

Since the launch….

W e have sold a good number of copies. Excellent reviews are starting to come in from journals and – new reminiscences are being offered!

A few comments from readers:

Mike Storey writes: *'May I offer both of you my hearty congratulations, on producing an excellent book.*

I imagine that just about everybody who reads it will gain an informed view of LEO's significance: both within its own sphere; together with glimpses of the time period in which it existed, on the whole.

I feel though, that through this book, it almost still exists.

We (the society members) have of course either benefited directly from our own years' spent with the machine; or indirectly, by knowledge gained from the Society.'

Paul Kelley writes: *'First and foremost, a hearty thank you to all those involved in the preparation of the book. It has been my bedtime reading for the last several nights and I thoroughly enjoyed it. '*

Norman Witkin writes: *'I like the version 2 of LEO Remembered — well done! '*

Stan Evans writes: *'Well done Hilary. You and Lisa Jane have done a superb job. I will enjoy reading the book. Because I have two books I am able to lend one of them to friends I know are interested in the old generation of computers. I can be proud that there are not many members who can wear the badge of LEO I (and worked with your father) on their coats !!!'*

Roger Emsley writes: *'The three second edition books I ordered have just arrived. Excellent!'*

Thank you so much for all your hard work and for the others that produced this second edition. It really is a remarkable recognition of LEO, the heritage and its people.

In these chaotic times it so rewarding to read a good news story - and that is what this book provides.

Lisa and I are delighted that readers are enjoying the book – making our work feel well and truly worthwhile. We do hope that all members will buy their own copy and also consider buying copies as gifts, particularly to members of younger generations. We know that if LEO's heritage is to live on that we must reach out to those beyond our membership list who may be unaware of its fascinating and unusual story.

The launch evening was recorded and can be viewed *here*

…and here is the first of several reviews that are beginning to come in from academics and journals in the IT field:

LEO remembered Review

by Mark Greenia, Director, Computer History Archives Project (CHAP)

Behind the glowing valves ("tubes") and humming circuits lurks a great series of human stories to be told. The new enlarged edition of "LEO Remembered" edited by Hilary Caminer and Lisa-Jane McGerty is a great collection of such LEO stories. I found the book to be exceptionally well organized, clearly presented, and very enjoyable to read. The historical data is interspersed with numerous vintage photos of people, places and equipment that created and evolved the LEO computers during the earliest days of electronic digital machines. The many first-hand accounts of those who worked closely on the early machines were truly fascinating. The book presents a level of detail one does not normally find in a book about computer history. I highly recommend this new book to anyone interested in the early beginnings of LEO business computers and the very human side of bringing these electronic marvels to life.

How to buy copies of 'LEO remembered'

The book costs £8 – and for a single copy to a UK address, the cost is £10.15, including postage.

We can quote for multiple copies and for postage to overseas addresses.

Please just send a note to:
     LEOremembered@leo-computers.org.uk
and we will take it from there!

This is also a good opportunity to let you know that we also have some other books available to buy:

Peter Bird 'LEO: The First Business Computer' Book costs £10. UK postage £2.70

Georgina Ferry 'A computer called LEO' Book costs £8 UK postage £2.15

Again, just contact the email address above for more details.

A short guide to the LEO Archive at the Centre for Computing History, Cambridge
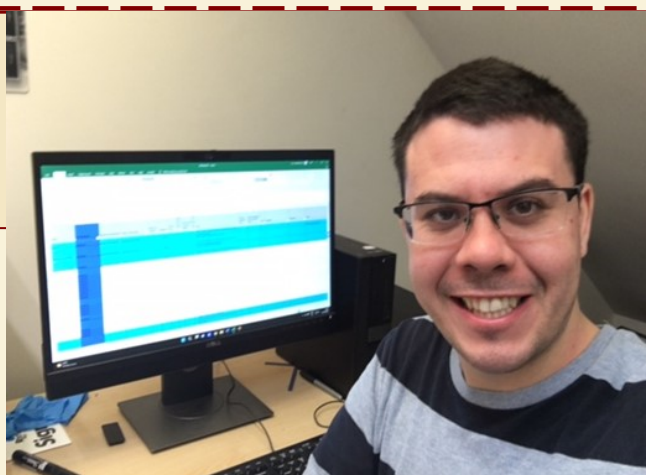
by Luke Thorne

In February of this year I was asked to give a presentation over Zoom to LCS members giving an inside look at the LEO archive at CCH and how to navigate it. For the benefit of those who could not attend that meeting I've put together this short guide explaining a bit about what's in the LEO archive, its structure and how you can go about finding records for yourselves. I hope that this will be of particular use to those who are not familiar with archives.

As the Project Archivist, the main focus of my work has been to catalogue the unique files and items in the LEO collection and prepare them for public viewing in both physical and digital spaces. To achieve this I have been entering descriptive information about each file and item into a spreadsheet and creating an individual record for each one. When each record is put together you have a catalogue which makes up the whole archive.

The same information entered into the spreadsheet is transferred to a newly created entry on the online catalogue, which can be viewed on the museum's website for all to see. In this way we have two catalogues: the spreadsheet, which serves as a finding aid for museum staff to help them locate records when needed, and the online catalogue, which you can

CMLEO/PB/PH/1/60542

This is the reference number for a photograph of the LEO I engineers, which was collected by Peter Bird for his research during the writing of his book, LEO: The First Business Computer. The reference number is made up of components, which also reflects the hierarchical structure of the whole catalogue. In this instance CMLEO represents the 'Collections' level in the catalogue, followed by the 'Sub-collection' /PB, the 'Series' /PH, the 'File' /1 and finally the 'Item' /60542.

When each file or item is catalogued it is placed into a protective folder, which is then put into an archival box like the picture at the beginning of this article. Both the folder and box are labelled with the reference number to reflect their order in the catalogue, make them easier to locate and to maintain a logical order for storage purposes.

The LEO archive is predominately paper-based; consisting of a myriad of reports, memos, correspondences, notes, diagrams and photographs relating to the development, application, results and appreciation of LEO both as part of the Lyons company and beyond. Much of my work to date has been heavily involved with the photographs from Peter Bird's collection, many of which were used for research during the writing of his book, LEO: The First Business Computer.

LEO III tape reel

think of as a presentable copy to be viewed by researchers and members of the public. The catalogue in its entirety can be viewed and searched in in the following link:

http://www.computinghistory.org.uk/sec/54282/Lyons-Electronic-Office-(LEO)-Archive/

Archives are typically governed by an overarching hierarchical structure and the LEO archive is no exception. Using the work and efforts started by the former archivist, Jude Brimmer, we have developed a structure to link records through the different levels of the catalogue.

Our collection begins at the 'Collections' or 'Fonds' level, which is at the very top of the hierarchy and is the first level you'll see in the link above. Below this you'll see that the archive has been arranged into sections by principal collector of the material: David Caminer, Ernest Lenaerts, Frank Land, Peter Bird the LEO Computers Society and the CCH Artefacts Collection. These sections serve as 'Sub-collections' through which you can browse a 'Series' associated with that particular collector.

'Series' relates to a particular activity or type of record, so for example if we selected the David Caminer collection we can not only see some descriptive information about David Caminer, but also the 'Series' in his section, like correspondence, writings, working files and more. Each 'Series' contains 'Files', 'Items', or a combination of both, which belong to the activity described by 'Series'. A 'File' is comprised of multiple records or 'Items', the lowest level in the hierarchy, representing an individual record.

When a record is made it is given a reference number, which serves as a unique form of identification for that particular record. Here's an example:

However, there are other types of record in the archive including artefacts and born-digital records, which are records that only exist in a digital format. Artefacts in the collection heavily feature surviving parts of LEO, whilst the digital records contain more recent additions to the LEO story such as the oral history interviews with former LEO staff and the recent film about the story of LEO, which I can proudly say has been catalogued and is officially part of the LEO archive with a link to its YouTube page.

Please feel free to explore the LEO archive catalogue on the Centre for Computing History's website and take a look at what's been catalogued so far. There's plenty more material that I'll be cataloguing over the next few months as we come to the end of the project, but I hope this short has been informative and useful.

*https://www.computinghistory.org.uk/*

Notes on Luke Thorne

Luke Thorne is the Project Archivist for the LEO Project at the Centre for Computing History, having taken over the role from Jude Brimmer in September 2021. He began his career in archives as a volunteer where he spent over a year volunteering with various archives. He graduated from UCL in 2019 with a postgraduate degree in Archives and Records Management and currently works in the archives of both the Linnean Society of London and CCH on a part-time basis.

My first and only visit to LEO I – on the day before it was shut down for the last time,

Sunday, 3rd January 1965

A reminiscence written in 2003 by Paul Kelley who worked as an engineer on LEO III
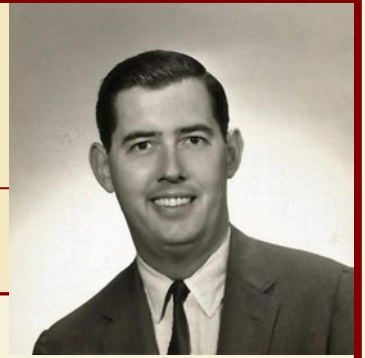
After the publication of LEO remembered, Paul Kelley, one of the contributors, sent in this additional piece about his visit to LEO I in 1965 just as it was being decommissioned. Here is his account. Readers who have the new book will see on page 220, the 'obituary' Lament for LEO, originally published in The Daily Mail on 9th February 1965.

During the preceding weeks the word was out that LEO I was to be shut down for the last time at 18.00 on Mon 04 Jan after 14 years of continuous service. On Sunday, 3rd a colleague (Les Rabbitts) took me to Cadby Hall in Hammersmith to see the system before it became history. This was the first and only time for me. He picked me up at my flat in West Ealing in his Mini Van and we drove to Hammersmith. It was circa 18.00-19.00hr and, being January, dark and just that bit nippy outside.

Les had been there before and knew his way around. I was totally in his hands as I had not a clue. LEO 1 was installed in a large room on the 2nd floor of the Administration Building at the NW end of the complex. Following Les, we entered the building (no security) and climbed the well-lit stairs, turned right and walked along a short corridor towards some double doors at the end - beyond which was the computer room. Everything was quiet bar what sounded like a trumpet being played somewhere. Just before the double doors, on the right and behind a closed door we found the source of the trumpet. Opening the door we found the maintenance engineer's room and there, on the left, perched on the workbench in a squat position was a guy – playing a trumpet. Weird was all I could think. Les apparently knew him and John Wheeler has since informed me it was one Rowan McCombe. He was the only person about. (John Wheeler commented in 2009 ' Rowan was given to playing his trumpet in the small hours of the night while on shift, leading to complaints from neighbours in the dwellings surrounding Cadby Hall. I had to deal with these complaints the next day. I believe Les Rabbitts recommended him for employment, but then nobody's perfect!)

Going back out in the hall, turning right and opening the double doors we entered the computer room.

LEO/1 Cadby Hall - general view   CLOSE ✕

We entered the room on the far side of this shot – just beyond the operator and it was much as seen in this photo.

The system was still powered on but no work was being done. There was nobody in the room and, bar a gentle hum of fans in the ventilation system, eerily quiet. Rowan's trumpeting was now very faint. We took our time and had a good walk around among the system racks and the card, paper tape and printer peripherals. In the photo view the latter are where the cameraman is standing and not visible. None were operating and hence the unusual quiet vis-a-vis the usual clatter when such equipment was operating.

Les and I knew the 64 mercury delay lines (providing the storage or memory) were in 'coffins' beneath the raised wooden floor (to the right of the system racks in the photo) but all were hidden from our view.

Knowing that this was to be the next to the last full day of LEO I's operational existence lent a certain poignancy to the occasion given what had been achieved with it during the preceding decade. Even I, at the time not inclined to dwell on things past, appreciated that I was witnessing the final stages of a piece of computing history.

We were about to leave the way we came when I noticed – it was hard to miss – a flip chart easel to the right of the doors, just beyond the head of the operator in the photo. We both paused to look at them. As we flipped through them we realised that they were the circuit diagrams for the entire system. Some logic symbols but mostly circuit notation. Knowledgeable as we both now were re: major bits of LEO III, we both wondered if anyone would mind if we just rolled up the lot and took them with us. Rowan certainly wouldn't notice as we could still hear him tootling away on his trumpet. We hemmed and hawed about this wondering what would become of them if we didn't take them into custody. Now making our living from understanding such documents we had acquired a certain respect for, and valued, what they represented. In the end we decided against it and it has been a decision I have regretted, mildly of course, ever since. I have no idea if they found a home in a suitable museum. If not, what a waste. John Wheeler has told me that there was also a set of system logic diagrams in ring binders that complemented these circuit diagrams. I can but wonder what happened to them as well.

We were there for about 30 minutes in total. On the day I was glad that we went and, over 50 years later, even more so. It was as we left that I first began to grasp, dimly, the significance of what had been accomplished by the LEO organisation. To have borne witness to the end of the beginning of commercial computing is given to few. Not in my wildest imaginings six months earlier would I have thought that I would have such a privilege.

Asteroid 'Stumegan' named after LEO man.

A t the end of July this year we received the sad news from member Julian Edwards of the death at the age of 70 in Arizona of Stewart Megan.

Stu, as he was known, had worked on LEO III/35 at the Bath South Western Gas Board working for BARIC and had been a member of the LEO Computers Society. He then emigrated first to Canada in 1981 and then later to Silicon Valley in California where he had a long career working on complex software systems including in AI and computer games.

One of his spare time activities was as a volunteer on the Arizona-based Spacewatch project which tracks Near Earth asteroids. This involved the painstaking anlaysis of many thousands of online images.

Stu in the Arizona desert

'15462 Stumegan' – the asteroid

real-time images transferred to volunteers over the Internet, was the subject of much press coverage, encouraging others to join the online search.'

CBS news reported at the time: The asteroid missed the Earth by 1.2 million miles, but it wouldn't have done much more than offer a pretty light show even if it had been aimed directly at us, said Robert McMillan, who directs Spacewatch. At an estimated size of 60 feet by 120 feet, the asteroid would have burned up as it coursed through Earth's upper atmosphere, he said. One of the program's major goals is to search for objects that could become potential destinations for spacecraft missions, while another lies in identifying asteroids larger than a kilometer in diameter heading toward Earth. An impact by an asteroid that size could cause a global catastrophe.

A biography pof Stu goes on: ' In July 2004, the asteroid designated 15462 Stumegan was named 'stumegan' in honor of Stewart A Megan's discovery work at the Spacewatch FMO project. The citation states Stewart A. Megan (b. 1952) discovered the Near Earth Object 2004 BV18 in conjunction with the Spacewatch Fast-Moving-Object Project. This find, made using

Stu's daughter Emily has kindly sent us photos of her father and of the Stumegan asteroid. She says that she is sure that her father 'would have loved that you wanted to write an article about him.'

Neil Lamming
named as '**Legend of the Industry**' by the Australian Computer Society.

We are pleased to pass on the news that Neil Lamming, who started his career with LEO, was accorded the accolade of **Legend of the Industry** at a lunch hosted by the ACS in Sydney.

At the lunch, it was announced that a committee from the Society had prepared a list of people who 'in their view were influential in plotting the course of the Australian Computer Industry over the last 50 years.'

Members of the LEO Computers Society will be delighted to learn that Neil Lamming was selected as one of these legends. Neil started as a LEO programmer in 1960 in London and transferred to Australia in 1963. He has thus had a career spanning 60 years in the industry. There is a very interesting account by Neil about LEO in Australia in the new edition of *LEO remembered*.

We pass on our congratulations to Neil for this well-deserved recognition.

News of the death aged 98 of Ray Shaw 'One of the Originals'.

*J*ust before going to press, we heard the sad news of the death of Ray Shaw. Ray was in at the very beginning of the LEO project, working from 1949 with John Pinkerton as an engineer on the development of the world's first business computer.

Ray had a very interesting career – as you will read in the obituary by John Aeberhard which follows and in the article which John Daines wrote about him a couple of years ago and which can be found on our website at link:

Leo-Newsletter-Autumn-2020

Ray at the 2022 reunion in April

This April, when we held a get-together at The Queen's Head, near where Cadby Hall once stood, we were delighted to see Ray amongst us – and we were able to help him celebrate his 98th birthday. In this last year, Ray has continued to help us ensure that LEO's heritage lives on - he appeared in our documentary film and also had an article published in LEO remembered based on an oral history that he recorded for us. Ray will be greatly missed among the LEO community.

---

www.leo-computers.org.uk
*newsletter@leo-computers.org.uk*

HERITAGE FUND

Ray Shaw 1924 - 2022

The last of the original design team that built LEO I.

Ray Shaw, the last remaining link with the original design team that built the world's first business computer, LEO (Lyons Electronic Office) has died at the age of 98.

Recruited into J Lyons & Co in 1949 for his expertise in radar and radio telecommunications by the LEO hardware team leader, Dr John Pinkerton, he was involved initially with the development of special test equipment and testing schedules for basic units within LEO, but later worked on the design of many of the 90 circuits that went into the early LEO machines.

He did design work on the LEO II development that enabled
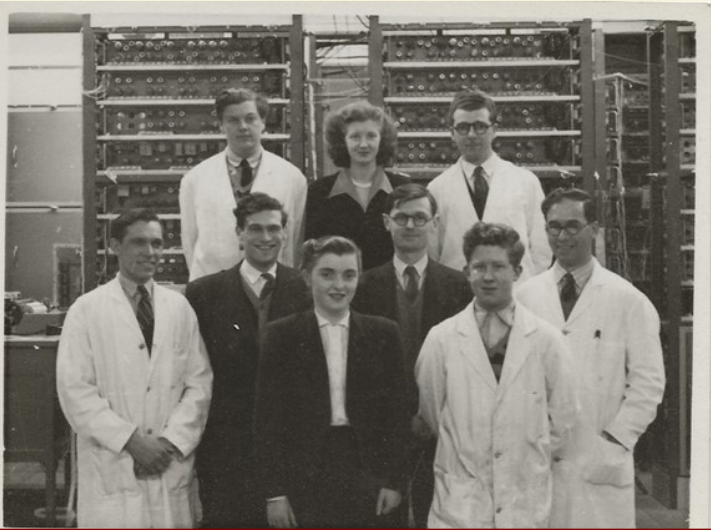
The Original Design Team

Back row: Gordon Gibbs, Jean Cox, Wally Dutton
Middle Row: Ray Shaw, Ernest Kaye, John Pinkerton, Ernest Lenaerts,
Front row: Miss B Plant, David Wheeler

Photo by Leo Fantl, 1950

the system to operate 4 times faster by interleaving the pulses from the mercury delay line storage without major changes to the processor.

Ray left Lyons in 1956 to work 'down under' with, briefly, Amalgamated Wireless of Australia on component standardisation and specification, and then joined the University of Sydney Physics Department at The Adolf Basser Computing Laboratory to work on magnetic tape backing storage for the university's computer, pioneering the use of error-correcting code techniques to minimise the loss of information due to magnetic tape flaws.

Returning to England in 1960 he joined English Electric Computers in Kidsgrove, Staffordshire, to work on the design of the KDF9 computer and then, by a strange twist of fate, found himself back with Pinkerton's research group and LEO after English Electric's takeover of the Lyons computer business in 1963. His later work with LEO involved working on a number of high-profile projects involving advanced data transmission techniques, including research into packet-switching techniques and data transmission standards. The European Computer Manufacturers' Association (ECMA) had a series of

Technical Committees (TC's) and Ray was vice chairman of TC9 that was looking at data transmission and error correction techniques that would in time become part of the multi-layer model that supports the internet.

Raymond Denby Shaw was born in Ilford, Essex, the son of Eliza Shaw, nee Pember, and Frederick Alfred Shaw. He left school at 16 with little in the way of qualifications apart from a facility for mathematics.

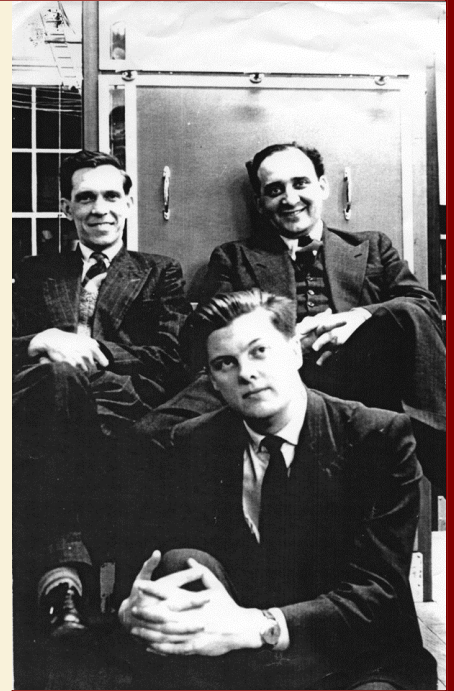He joined Jacob White & Co, a privately owned electrical and mechanical engineering workshop. Then, in 1940, he went on to work on the testing of thermionic radio valves with Standard Telephones & Cable Company in Sidcup, Kent. His main ambition at the time was to become involved in radio research, which led to a move to the Electro Physical Laboratories in Hendon, London, that were engaged in R&D work relating to photovoltaic detecting devices and systems. And thence to Vacuum Science Products at Norwood Junction, a company concerned with the development and manufacture of silver-caesium photoelectric devices.

L to R: Ray Shaw, Gordon Gibbs and David Caminer

In 1943, Ray volunteered to serve in the Royal Air Force and was trained as a radar mechanic, becoming involved with airborne radar equipment and navigational aids and air-to-ground cathode ray tube displays both in the UK and in the Far East theatres of war. Demobilised with the rank of sergeant in 1947, he returned to his pre-service employers continuing work on photovoltaic photoelectric devices and studies in radio and telecommunication engineering.

Following the merger that created ICL in 1968 and through to 1980, when he retired from ICL, he was involved in the formulation of mainframe computing system requirements for future products. He was also prominent as the leader of an advanced team of trouble-shooters.

A founding member of the British Computer Society, Ray 's many interests were reflected in a wide range of other memberships, including the Chartered Institute of British Management, the Defence Electronics History Society and the British Society for the History of Mathematics.

He was married twice; his first marriage ending in divorce and his second wife pre-deceasing him.   He had no children and is survived by a nephew.