

Storage Unit from
LEO I

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Message from our Chairman – Peter Byford

I regularly seem to start my introduction with 'it's been a busy time for the Society'. It has been the case for many years and this time is no exception.

One of our Australian members wrote 'I am passionate about LEO' in an email to me a few months ago. The Society's strength is the support we get from people like this. Over the years people have stepped up to take on roles on the committee and /or volunteer to take on roles on our various projects. This newsletter tells you all about the work we are doing to promote the LEO story.

In February this year the Society became a charity, specifically a Charitable Incorporated Organisation (CIO). We now have 10 trustees – most of whom were previously members of the LEO committee but we welcome one new person, Neville Lyons who will be leading on the Society's publicity. Neville, incidentally, is a distant relative of Sir Joseph Lyons.

Becoming a charity does add some red tape to our activities but because we have no staff directly employed by us and are a small charity there should be more pros than cons. Our main aim in gaining this status was to become a fully recognised legal entity – something which will help us in our dealings with suppliers, partners and potential sponsors. We can now claim Gift Aid on all donations and can benefit from donations made through online buying.

LEO Matters reflects the Society's many activities. The Heritage project which is being financially supported by the National Lottery Heritage fund (is making excellent progress. Lisa McGerty at the Centre for Computing History, Cambridge (CCH) continues to do a great job

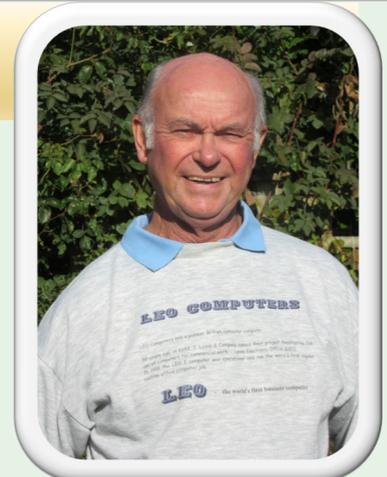
managing the project. She gives a progress report on what the team are doing and tells you about the work underway in our application for the final stage grant. There is no guarantee we will get more funding – it is a very competitive field - so we have to put forward a really strong bid.

Our Archivist, Jude Brimmer, also based at CCH, has tackled the collecting and cataloguing of our historical documents with real enthusiasm. She explains her role as archivist. Our Reunion in April was also an exhibition with displays of LEO, Lyons and some of LEO's customers. We had lots of compliments from attendees. John Daines looks back on it in this issue.

I mentioned that Neville Lyons joined the committee /board as our 10th trustee. He has been giving talks on Lyons and LEO to various groups for many years. He has kindly adapted his LEO talk to make it available for members to present to groups in their own home areas. He writes about this enterprise and his team of volunteer speakers.

Frank Land reviews Thomas Harding's recently-published book, 'Legacy' about the Lyons enterprise. It is interesting to see what Harding has to say about the role of LEO.

We have allocated the next section of LEO Matters to members' memories of their time working with LEO machines. The first of these is by one Peter Hermon, who became senior consultant at LEO and was then a high flyer



in computing. He left LEO to run the computer installation at Imperial Tobacco (WD & H O Wills) and later co-edited 'User-Driven Innovation', the World's First Business Computer'

This is followed by a short piece from Carole Hynam who also worked for WD & H O Wills, but as a young girl in a more junior position.

We have been gently criticised by our friends who produce the Australian All Stars newsletter that we do not include anything from Australia. They often include LEO items in their publication. So this time we have asked some of our Australian members to pen a few words. Neil Lamming, Lex Korngold and John Hoey have written about memories of their LEO times. Neil has provided a very comprehensive account – which we have split into two instalments - the second part will be published next time. We would welcome more reminiscences from Australia to accompany this.

Next, John Aeberhard who looked after PR at LEO and its successor companies – and who remains our PR expert - looks back over this part of his career. Finally, in this section, we have a taster of Tony Morgan's intriguing work on LEO III.

The last part of LEO Matters contains short items of Society news and general information

The Society has been fortunate in gaining lottery funding, but as mentioned, this may not continue. We still need to raise money – to continue our heritage work and also so we can support a postgraduate researcher into LEO's history. One way that you can help – at no cost to yourself - is by naming the Society as your chosen charity when buying online. We have included a brief note about this at the end of LEO Matters. If you have other suggestions for fundraising, please do contact us.

In conclusion, I would like to thank all the many volunteers who help the Society – for example those who take part in the Oral History project by interviewing, editing or indeed giving us their reminiscences, those who have volunteered to give talks on LEO, those who help in spreading the word via social media, who help us with the reunion and its displays, who have donated LEO memorabilia to us and indeed to all those of you who are helping keep LEO's heritage alive. I hope you enjoy reading this edition!

Best wishes,
Peter

Notes on Peter Byford

Peter joined LEO Computers Ltd as a programmer in 1961, straight from school when 17 years old. He enjoyed programming and systems analysis, despite the often long hours (without overtime).

A keen sportsman, without much ability, he played for LEO and for Lyons second team at cricket. In 1964 he organised the winning LEO team for the Lyons Pennant day (a multi sport event against other Lyons departments).

Peter left LEO soon after the merger and went on to work as a Programming team leader or system analyst at a number of companies & consultancies before joining British Gas Eastern in 1971 initially as a programming team leader. In over 25 years his roles included systems analyst, quality assurance manager and data manager. During his period at British Gas he was, for a few years, Technical manager of the ICL User conferences. After leaving British Gas in 1996, he became a self employed data analyst, finally retiring in 2005.

In 1981 Roy Farrant, who had organised several LEO reunions, "passed the baton" to Peter. Thirty-nine years later Peter says he was and still is supported by excellent committee members. If anyone wants to take over they would have Peter's blessing.

Peter is married with two children. His daughter and family live in Melbourne, Australia - including two granddaughters. His son and his wife and our twin granddaughters live in England. Peter's hobbies include family history and home winemaking (he founded the Ware Wine and Beer Circle in 1978). He plays bridge, badminton and golf, although none of these very well.

Update on the Heritage Lottery Fund project - by Lisa McGerty Project Manager at the Centre for Computing History



Since my last update on the project in the Spring of 2019, a great deal of hard work has been put into moving the project forward to make the most of the development funding we so gladly received. This has been set against a backdrop of enormous upheaval at the Heritage Lottery Fund (now called the National Lottery Heritage Fund (NLHF)) which has made it hard at times to keep track of where the goalposts might be moved to. Nonetheless our aims for LEO with this first year of funding

have remained the same: to gather together and start to preserve, archive and digitise artefacts, documents and memories so that we have a sound body of evidence from which we can help get LEO the recognition it deserves.

Together the partnership between the Society and CCH has made some great strides. We now have over 1,000

items in protected storage at CCH and Jude Brimmer, Project Archivist, along with myself and a dedicated team of volunteers, has started the process of sorting, documenting and scanning them so we can establish a safe but accessible LEO archive, run to both archival and museum standards.

In addition, we have begun to move the fabulous resource that is Leopedia to CCH servers, from which we can present it as a web-based resource as well as a list - this work is ongoing but can be found at this link:

[LEOPEDIA/](#)

This gives Leopedia a richness that a simple list just can't achieve and we hope it will, in time, give justice to the gargantuan effort Frank Land puts into it on what must be a daily basis. The newly digitised archive material will also form a section of Leopedia, keeping all the invaluable evidence of LEO's contribution to the history of computing together in one place.

Aside from these two central workstreams we have also been laying the groundwork for all the other parts of the project that will come to fruition over the next 3 years (subject to further funding, of course). These are: a new LEO display at CCH (now almost complete, photo below), a new film, some LEO-related learning resources for schools,

a series of LEO events/talks at CCH and around the country, governance reviews of both CCH and the LCS so we know we have the expertise at board level to protect LEO's heritage long-term and we have also been working up the bid for the remaining years of funding from the NLHF.

Progress has also been fantastic on the virtual reality LEO I – probably the most ground-breaking part of the project. Led by CCH education expert Chris Monk, we now have a prototype VR LEO I which can be 'visited' in its virtual Cadby Hall room and have tested it with a few Society members to see if it resembles the original. It is still early on in the VR development work but comments on it so far have been really helpful and will enable us to refine it further in future years of the project. We also hope to make a web-based version of it too, so people can access it wherever in the world they are. Within it visitors will eventually be able to see some of the LEO archive too, for example to virtually pick up a document or open a valve rack to see inside. It already is a remarkable piece of work.

We're still working on all these things and they will gradually grow and improve over time. We will submit the bid for further funding to the NLHF in November and will hopefully hear that we've got the funds in March 2020. Please keep your fingers crossed for our success.

Notes on Lisa McGerty

Dr Lisa McGerty was one of the founding trustees of the Centre for Computing History, Cambridge and is currently employed as its finance officer. She has an academic interest in the social impact of computing and a personal passion for LEO computers. She curated an exhibition on LEO in November 2017. Following the submission of our successful National Lottery Heritage Fund bid, Lisa is now leading work on the LEO heritage project at CCH with the Society, helping to unlock the stories within what she is sure will become a unique archive.

Rebuilding the LEO Archive - An Archivist's View by Jude Brimmer

Gathering — Preserving — Recording — Disseminating — Promoting

The key to an archive is that it provides evidence, and the essence of our job as archivists is to ensure the authenticity of that evidence. We must, we are told, do this by maintaining and documenting an 'unbroken chain of custody' from the original creator of an object through to its current environment, regardless of the format of that object. It can be a manuscript, a photograph, a series of notebooks, an unidentifiable computer part, a set of committee minutes, a handful of unlabelled slides, a minidisc, a proprietary format digital file created by obsolete software saved on a hard drive - it doesn't matter what the material is, we have to find the best way to store it, at all costs preserving its original order and condition. In doing so we ensure its authenticity and the evidence it may provide. So goes archival theory, anyway, and its description of the ideal scenario; after working as a professional archivist for 15 years, I am yet to encounter an archive which can actually be managed like this. As with nearly all material documenting human activity, the LEO archive has been considerably dispersed, re-ordered and

shuffled around since its creation and original use, and it is generally a lost cause to try and reconstruct its original order, or the journey the material may have taken to reach our hands. Instead, the job is much more about making sense of, preserving and documenting what remains, so it can be made publicly available to as wide an audience as possible - understanding the LEO story is of course central to this task, as is remembering and celebrating the lives and work of the people at its heart.

We are currently coming to the end of our first year of work on the National Lottery Heritage Funded project, "Swiss Rolls, Tea and the Electronic Office". Based at the Centre for Computing History (CCH) in Cambridge (<http://www.computinghistory.org.uk/>) alongside Project Manager/ Researcher, Lisa McGerty, the job for this year has been to gather together the surviving documentation from the development, maintenance and legacy of LEO. We are working towards this goal alongside the committee and



LEO Display at
CCH Cambridge

membership of the LEO Computers Society, and I would like to extend my thanks to all those who have donated material to the cause - too numerous to name here! (We are always on the hunt for more, please see the appeal below).

In terms of what has already been collected, we are hugely fortunate to have David Caminer's papers at the centre of the archive. Meticulously sorted by Hilary Caminer (a great head start!), these provide a first-hand account of the development of LEO and the main players involved, and include drafts of his writings and research notes. We have also inherited the papers which Peter Bird collected while writing his book *LEO: The First Business Computer* (1994). These include minutes from the various LEO committees, from 1958 to mid-1960s, some selected correspondence from the early days (including John Pinkerton's original job application and responses from John Simmons and even a reference from Maurice Wilkes) and a large collection of photographs.

The archive continues to grow almost daily as further donations come in, and our work has been shaped by what we've received in ways we really didn't expect. Peter Bird's collection of committee minutes - far from exciting at first glance - are in fact hugely valuable in demonstrating the culture of the organisation around LEO, and the photographs of LEO I at Cadby Hall have proved central to the development of the LEO VR work by our tech wizard colleagues, Chris and Richard Monk (see our webpage for more details on the fascinating VR wing of the project:

<http://www.computinghistory.org.uk/pages/50348/Welcome-to-LEO/>).

It's essential for an archivist to prioritise making the archive publicly available, but it's very unusual for an archivist to be working alongside users and researchers from the beginning: in this way the catalogue which I will complete in the next phase of our work will be shaped directly by the users' interests and needs, and this "cross-fertilization" has been another unexpected and wholly positive outcome of the project.

Notes on Jude Brimmer

JUDE is a professional archivist now working on the Lottery-funded LEO archive project "Swiss Rolls, Tea and the Electronic Office" at the Centre for Computing History in Cambridge. Previously she was the archivist at The Red House in Aldeburgh, the home of the composer Benjamin Britten, and her work there included the development of a new archive building and publication of *My Beloved Man: The Letters of Benjamin Britten and Peter Pears* (2016). As an archivist with particular interest in and experience of British collections from the 20th century, the LEO project has provided her with a unique opportunity to throw a light on what amounted to a revolution in the way people worked, long before what we now think of as 'the information age'.

Leo Reunion April 2019 – a personal view by John Daines

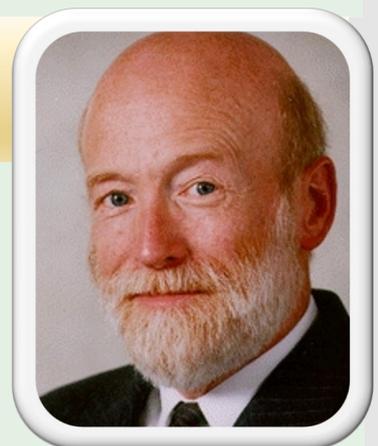
Deep in sleep I claw my way into wakefulness because the alarm has sounded. Where am I, what time is it, why do I need to get up this early on a Sunday morning? Aaaargh! Of course, it's 4 a.m. on Sunday, April 7th 2019 and the latest, greatly anticipated Leo Reunion is today.

All the work and planning by the committee will come to fruition, with a bit of luck. It doesn't just happen! As soon as the October 2017 event at the Honourable Artillery Company was over, there was a review of highs and lows

For now our work continues apace. Having established a structure for the archive catalogue on the museum's in-house Content Management System, Site wise (with technical assistance from CCH's ever-fore bearing CEO and website head honcho, Jason Fitzpatrick), I can start the process of making records available on our website and also, I hope, via the Archives Hub, a central catalogue for UK archives based at the University of Manchester, widely used for research (<http://archiveshub.jisc.ac.uk>). The online archive catalogue will sit alongside our virtual LEOPEDIA pages which, thanks to the tireless efforts of Prof Frank Land, will provide a single window onto all resources available to anyone interested in LEO. To further improve access to the material, we now have three museum volunteers working one day a week on digitisation and indexing: currently Sara New is scanning Peter Bird's large collection of photographs, James Holloway is scanning the committee minutes and Helen Brimmer is subject indexing and selecting clips from the Society's many oral history interviews. We hope to be able to show you all this material online as we progress - do keep an eye on our project webpage for updates:

<http://www.computinghistory.org.uk/pages/50348/Welcome-to-LEO/>.

Through our work the legacy of LEO here at CCH is now secured - we have established a separate storage area for all the material, and there is a permanent display for LEO in the main gallery, which has been seen already by the 1000s of general visitors and over 100 schools who have come to the museum so far this year alone. But we are far from complacent; our work can only continue to the next phase with a successful Round 2 bid to the National Lottery Heritage Fund. There is huge competition for these awards - there are many worthy projects competing for an ever-dwindling pot of money - but we are hopeful that the foundations we have laid in this first year will stand us in good stead to progress to years 2-4. We hope to have positive news for you soon!



locations of most attendees and the need for the day to be held in a travel hub, London it is.

Meanwhile, nearly 200 miles up the M40 / M6 it's about having a shower, dressing and having some breakfast; luckily in the correct sequence. Some personal pre-planning means that the car is already loaded and has enough fuel for the day's travel. I've been to Manchester to see James Peters, who looks after a large collection of Leo material at the University. Each reunion we borrow several boxes of Leo papers that are displayed. I also have the Leo "pull-up" display and a monitor + cables to dovetail with David Holdsworth's Intercode demonstrations. I've also been working with Hilary and Peter to ensure that there is a piece of paper for each attendee with the day's timetable and list of attendees, this year with a brief history of each. Again, hopefully it will work and be an improvement on previous efforts.

By 5 a.m. I am on the road, catching up with a few hours of radio 4 podcasts for company. It's also time to reflect on how the Society has changed from organising the original Friday evening reunions nearly 40 years ago to its current status of being the group that is ensuring that the Leo heritage is preserved, valued and recognised. Today will be exciting because we will be with our new partners from the Centre for Computing History (CCH) in Cambridge. The heritage project that the committee had planned and was presented at the 2017 event is now part of a National Lottery Heritage Fund project and is happening! It has been an exciting few months getting to know and value our CCH partners – younger, energetic folk who realise that the Leo development was of massive significance and must be saved and made available to all.

Today won't just be a reunion; it will have an exhibition that the committee, members and others have planned and worked for over the last 18 months or so. With luck several strands are going to come together and we'll have a good show.

It's getting light now and as I come in on the Westway I can see the London that has changed so much since I started at Hartree House on October 17th 1961. Now I'm at Marble Arch and can see the Cumberland Hotel - a few twists and turns and here I am shortly after 9 a.m. outside the Victory Services Club and there, in front of me, is Mike Storey with a large car full of display boards and other equipment without which there will be a shambles. Luckily there is parking so we can look at our reunion space and think about getting set up. We are in the basement so everything has to be carried downstairs or in the lift. Luckily, Mike has done a great job planning out where everything will go and ensuring that we've got enough tables. Organised chaos ensues as exhibitors arrive and the lack of rehearsal means that we're getting there but with hiccups. By 11'ish it's beginning to come together and the first people start to arrive. There's a demonstration from GPO, the largest user of Leo III's, the folk from Stewarts and Lloyds, the first customer delivery of a Leo II, were there with parts of their machine borrowed from the

Corby Museum. Neville Lyons is there with a display of Lyons memorabilia, too. CCH have a display of some of the stuff they've collected and are busy talking to old-timers to get as much info as they can, especially about Leo I. Lisa McGerty is there with Jude Brimmer, the project archivist and Chris Monk who is putting together a virtual reality model of Leo I based on the surprisingly large number of photos that have been collected.

It's time to take breath and look round. Wow! It looks good. All the committee is here and here are also some of the people I've known for over 50 years. I can see that everyone else is also getting in the mood and greeting old friends, catching up and sadly, in some cases remembering those who've died. They are remembered with much affection and the usual string of anecdotes. Time is flying; the buffet lunch is being served and there's a good selection of tables where folk can eat, drink and talk.

Now it's time for our glorious leader, Peter, to give an update on the last 18 months before the AGM of the Society, which is now a "Charitable Incorporated Organisation" with a formal structure necessary to partner with CCH for the Lottery Project. We have come a long way.

We now have an update on the "Swiss Rolls, Tea and the Electronic Office: A History of LEO, the First Business Computer" project from Lisa McGerty of CCH. Frank Land, 90 years young, is contributing and his magnum opus, LEOpedia will provide a cornerstone for the accessibility aspects of the project.

All this time Hilary Caminer is ensuring that all is running smoothly and that our older members are being looked after and making contact with others. In amongst all this a series of photos is being taken of groups who worked on Leo I, Leo II and Leo III. Elisabetta Mori, the PhD student being sponsored by us is taking them.

Suddenly, it's time for the raffle draw. Soon the bar will close and people are starting to drift away. All good things must come to an end but there is reluctance for this to end – people are enjoying it and realising that it will be 12 or 18 months before they meet up again, all being well. It seems to be the success that we'd hoped and planned for.

Now it is 5 p.m. and I start packing up, along with everyone else. Boxes, crates, display boards are fighting for space with their owners in the lift and on the stairs but we will get there; it's the Leo way. It's time for farewells and the usual reflection that I saw x and y but didn't find time to have a word: hey, ho there's always next time and I did speak with z, who I hadn't realised was a Leo person.

Back in the car I'm on the way back on M40, M6 etc with memories of the day and Radio 4 until there's home and I can unload all the historic paper ready to go back to Manchester in a few days.

"Time for bed" said Zebedee, "it's 11 p.m."

Notes on John Daines

John joined Leo in October 1961 as a shift operator and worked on Leo II in the bureau and Leo III in the factory (commissioning) until December 1967. He then moved north and spent the next many years in commissioning, software support, customer support, project management until he was declared redundant in March 2002.

Spreading the Word

by Neville Lyons



With the Heritage Project for archiving LEO material well under way, our Trustees are conscious of the need to continue spreading the word about the LEO Story as the world's first business computer to a wide section of the public, using our own members' resources where possible.

With this in mind, all members were circulated in July, seeking their willingness to give talks on the subject to organisations to which they may belong, e.g. U3A's, Rotary Clubs, Probus Clubs. It was also hoped that some audiences may include people who have worked with LEO but are not at present members of the LEO Computers Society; and that the talks may encourage them to join. Some may even possess material suitable for archiving!

The response from potential speakers has been encouraging. So far, 27 members have replied positively, including three from Australia, two from Canada and one from Trinidad! We have swiftly followed up with a package which includes a 'model' script and slides provided by one of our Trustees, Neville Lyons (relative of co-founder Joe Lyons), who has been

giving talks on Lyons and LEO over the past 11 years.

We know from experience that talks to most organisations take a considerable time to arrange, but we have already heard from several speakers of their plans to give talks within the next few months. We are looking forward to their feedback.

We stress that the script and slides circulated can be adapted according to speakers' personal experience, the knowledge level of the audience and a sensible time length for talks. The more technical aspects have been excluded from the script, but can be handled if required during the question and answer session after the talk.

If any other members would like to join this speaking project, please do not hesitate to contact:

Neville.lyons@leo-computers.org.uk

Notes on Neville Lyons

Neville's grandfather and Sir Joseph Lyons, co-founder of the catering empire, were cousins. The family relationship inspired Neville to research the history of the company and the story of LEO, resulting in the talks he has been giving for the past 11 years, mainly to retirement organisations. He joined the LEO Computers Society in 2014 and is now a trustee.

Book Review — by Frank Land

Legacy: One Family, a Cup of Tea and the Company that took on the World by Thomas Harding

Many of the readers of LEO MATTERS will have spent part of their working lives as employees of J. Lyons & Co, or its subsidiary LEO Computers Limited. Few, if any would have had much insight into the family which founded and ran the company successfully for over 100 years, their motivation and modus operandi. Some may have wondered how a company established as a major player in the food and catering industry could have the impertinence to build its own computer and then take on the technical industry to manufacture and market a range of business computers.

Thomas Harding, himself a scion of the founding family, the Salmons and Glücksteins, takes us on what can best be described as a virtual reality journey from the life and times of Lehmann Glückstein (born 1798) in Germany, the Netherlands and finally London's East End, always on the move, escaping harassment and pogroms, sometimes fleeing from justice for minor infringements of the law, and founding a large family and the beginnings of a rudimentary business, to the present day. The journey is a fascinating one taking us from poverty in London's Whitechapel, the place populated by Jewish refugees from the pogroms of continental Europe, to the most splendid properties in London.

What made the family special? As the author shows us:

- The continued striving for betterment both in social status and wealth. All members of the family were expected to contribute unstinted effort and labour.
- The vision and enterprise of a number of family members in each new generation, helped by the fecundity of each generation, ensuring a plentiful supply of go-getting youngsters.
- The early recognition that competitive advantage could be achieved by consistent high quality, combined by affordable prices and a willingness to break established norms in terms of where markets for their products could be found.
- A crucial element was the determination to retain the ever-growing family's unity. This was reflected in two ways. The first was the close relationships engendered by repeated first and second cousin marriage. The second, and perhaps unique way, was the establishment of the 'Fund', whereby all male members of the family, from adulthood, became members. All members drew an equal salary from the Fund and contributed all earnings to the Fund. Funds were allocated to members on a basis of total equality so that if one member needed a new horse and carriage any other member could claim the same.

The Fund met weekly and these meetings effectively made all business decisions. On the other hand the female members of the family were excluded from membership, but were granted allowances from Trust funds set up for that purpose,

Harding takes us through the founding originally of the tobacco company, from what started with family members from a very young age rolling cigars on their kitchen tables to what became the largest chain of tobacco retailers in the UK. This was followed by the establishment of J. Lyons, first to provide catering for exhibitions and other periodic events, and then extending to hotels, teashops and restaurants, bakery goods, tea, ice cream and confectionary. By the 1930s Lyons had become the UK's largest food empire and senior members of the family had joined the establishment as Conservative Party MPs, as well as playing prominent roles in the London County Council and the Jewish Board of Deputies. For many of us the collapse of such a well-run and successful company in a very few years has been a mystery. Harding provides a helpful account showing how overweening ambition, combined with changes in the economic outlook brought about by the oil and foreign exchange crisis of the 1970s, led to an unsustainable expansion of the business.

An indication of the high regard in which their enterprise and managerial skill were held was the request at the beginning of World War 2 for family members to set up a new munitions factory providing a significant amount of the shells and bombs required by the armed services. The success of this venture in what was to the family a very alien enterprise, boosted their confidence in facing any business challenge such as those posed when company executives recognised the potential of

computers for helping them run the Lyons offices.

The origins of LEO and LEO Computers is told, though as might be expected in a story covering so much ground, relatively briefly. However the account provides new insights into the way the family looked at this new capability, the way the decision to found LEO Computers Limited was based on a compromise between different views on the role of Lyons in promoting computers, and later on the disposal of LEO to English Electric. To us in LEO our boss Mr Anthony (Salmon) was a somewhat distant personality, friendly when encountered but not the intellectual head of LEO. In the book he is known simply as Mr Tony some distance from the centre of affairs.

The book is a page turner, certainly for us with our LEO heritage. Nevertheless it has some flaws. At times it lacks balance, perhaps elevating the human interest over long-term impacts. A good example is the long account given of the induction of Mr Samuel Salmon into membership of the Freemasons. Perhaps Thomas Harding is too denigrating of the role played by Joseph Lyons in making the company a success. To me Harding does not signify the very important skill shown by the family members in selecting the very best staff to support, indeed make possible, the successes achieved. One of the few non-family members noted is John Simmons, but no mention is made of, for example, George Booth, the company secretary who became one of the very few non-family members to become a main board director. And it was Booth who recruited John Simmons.

But these criticisms do not invalidate a superb story superbly told.

Notes on Frank Land

Frank Land describes his career as having been in five distinct phases: 1. Following study at the LSE, he worked as a Research Assistant in their Economics Research Division. 2. He was then employed by Lyons as an accounts clerk but transferred to the budding LEO team in 1952 as a trainee Programmer. He became Consultant with LEO Computers Limited and its successor companies and was promoted to Chief Consultant. 3. He re-joined LSE after 16 years with Lyons and LEO to establish teaching and research into the new topic of Systems Analysis and Information System study. 4. He joined the London Business School as Professor of Information Systems in 1986 but returned to the LSE as Emeritus Professor in the Department of Management on his retirement in 1992. 5. Since retirement, he has been active first with LEO Foundation and to this day with LEO Computers Society as editor of LEOPEDIA and Chair of its history sub-committee.

Please see page 16 of LEO Matters to read about Frank's newly-conferred OBE.

REMINISCENCES

The LEO Years by Peter Hermon

A part from a brief spell teaching at Leeds Grammar School Leo Computers was the first job I had. I started in September 1955 after graduation and research at Oxford. It was all-action right from the start as I was straightaway put on a five week training course along with half a dozen other new recruits and a handful of potential customers. As a model of clarity and professionalism I have seen nothing since to rival it. We were introduced, in completely non technical language, to the four parts of the computer: store, input/output, arithmetic unit, co-ordinator. We were given a thorough grounding in programming. And we were taught something of the practicalities involved in applying computers to commercial work: the need for data validation, reconciliation accounts and restart points, for example. All this in 1955! Many users-indeed some manufacturers-had barely grasped the need for such disciplines many years later.



The course culminated in our writing and implementing on Leo a model job centred around calculating salesmen's commission and producing elementary sales statistics. Here we were additionally brought face to face with flow charting, job planning and debugging.

Model of clarity though it may have been, there was at least one instance where the course missed a trick. It was perhaps the second day of the course when they started to talk about Hollerith cards. Never having worked outside an academic environment in Mathematics I had no idea what these were. Not wishing to look foolish in front of the class I therefore started asking oblique questions in the coffee and tea breaks, searching for clues so that I could piece together what these mysterious objects were. Eventually I won through without my ignorance being discovered. But not before an early 'theory' had to be ditched when it became clear that Leo had complicated the issue by extending the conventional use of cards punched in decimal notation to catering for binary numbers as well. I subsequently learnt that I was not alone in my ignorance. I found out later that several of my fellow trainees had been similarly puzzled!

The course over, I was assigned to work on the Ford payroll (the first really big commercial bureau job Leo had landed) along with a fellow trainee. Others were not so lucky. A Cambridge Honours graduate who had been a bit of a plodder on the course was told his career with Leo was over. I remember hearing him argue that 'this wasn't his fault, that wasn't his fault' etc etc only to get the unarguable riposte from David Caminer (DTC): 'I'm not sacking you because you're incompetent but because you're unlucky!' No second chance. That was the way it was in those early years. Quality was everything. Either there was a spark or you were out.

One of the problems in developing an application at that time was to get machine time to test your programming work. All too often the only way to do this was to hang around in the evening. What time you were likely to get home was one of the big unknowns. No overtime was paid but there was a consolation nonetheless. Anyone working after 7.30 was allowed to go to the manager's mess for supper. For we programmers who, ranked as mere supervisors, were normally constrained to eat in a lesser place, this was riches indeed.

December that year brought a pay rise from £820 (equivalent to 21,000 today) to £860, part of Leo's policy of 'little often.' Not a bad outcome considering that in those days £550 was regarded as a good starting salary for an honours graduate. With Lyons also offering a discount on three shillings worth of their cakes for the festive season, a merry Christmas was had by all.

Once the Ford payroll was out of the way a variety of jobs came my way. One was a salary survey for the Office Management Association. Joy of joys it worked first time! Well, almost. My results were just tantalisingly adrift of the test results we had hand calculated. The job was all about calculating standard deviations and I had used 'n' in the denominator of the standard deviation formula where there were 'n' parameters unaware that there was an alternative formula which used 'n-1'. The simple, one instruction, change needed to correct this was soon made and honour restored. At least it was not a programming error. But this incident made a profound impression on me: accept nothing: check everything.

Around this time I was given a customer enquiry to evaluate,

from the Metropolitan Water Board. I remember studying it at the Green Line bus stop at the bottom of Brook Green and all the way home. Sensing the immense potential we had at our fingertips was far more gripping than the Evening Standard. By the time I arrived at the office next day an outline proposal was already complete. Alas, the MWB never followed up.

One night there was a shortage of operators and a couple of colleagues and I were enlisted to take charge of an overnight run aimed at producing some medical statistics on punched cards. All seemed to be going well and at about 3 AM, surrounded by mountains of cards with the punch still crunching merrily away, a colleague and I were proudly fondling some of the cards, thinking no doubt of the heroes we would be in the morning. Imagine our dismay, then, when the first card we looked at had no holes. Nor the second, nor the third; none of them! We had spent hours 'punching' mountains of blank cards. A distraught phone call resulted in our being told to abandon the run whereupon we repaired to Earl's court for the rest of the night. The following morning David Caminer, though naturally disappointed, took it remarkably philosophically. The explanation? We had forgotten to insert the plugboard in the punch.

A surprise came when, after only several months, I was asked to run and do most of the lecturing on, the next training course, a most enjoyable experience. No soon was this over than I was put in charge of the sales accounting suite for ITC, the Imperial Tobacco Company combine of the Wills and Players tobacco empires. ITC was the earliest and most prestigious customer for a Leo 2 and my first task was to define the job, ie ascertain the customer requirements, for the Wills branch. Leo always reckoned that this was the key ingredient for any installation and history bears this out. There have been numerous examples of technically correct applications delivering results that no one wanted or which infringed company regulations.

The ITC work worried me at first. The application reputed to be the most complex Leo had so far handled and I had no commercial experience worth talking of. 'Don't worry' said David Caminer, 'it's all common sense.' I did not believe him and wished I had had some accounting knowledge. But how right he was, as I later came to realise time and time again.

I always remembered this advice when I came across O&M people painstakingly charting existing procedures in the minutest detail as a prelude to computerisation. Whoever looked at the nice neat charts they produced, with their multiplicity of symbols, or even understood them? How much simpler, and quicker, to cut through the jungle of usually irrelevant detail by concentrating on what the system was trying to achieve and following through what outputs were required from what inputs.

I visited Bristol most weeks during the job requirements phase, usually for one or two days. The modus operandi was that I would work my way round the various line managers whose work would be affected to see how they operated and what their needs were.

Any concerns I may have started out with on my lack of commercial background soon disappeared. It was not long before I realised that I knew as much as anyone about Wills' office methods and, before long, significantly more. The ITC management was continually dumfounded at what came to light when the fine detail of Wills' systems was subjected to rigorous anal-

ysis and unearthed. Not only that, but by the seemingly rambling way in which it all came out, and by the apparent contradictions that emerged, which meant that everything had to be crosschecked by asking the same or related questions on a subsequent occasion or of other people. Clearly nothing like this had been seen before. Later on, of course, as I worked with more and more companies, I realised that far from being unusual this was par for the course. But at the time our opinion of Wills was mixed to say the least.

ITC were completely in awe of Leo. To be told by me what Leo could or could not do carried much the same force as the Biblical 'Thus saith the Lord.'

It was soon apparent that, compared with anything Leo had so far encountered, ITC posed a number of new challenges. The relatively large number of accounts, the size of the product range, and the complexity of the programs demanded drum storage for the first time. The need for high speed alphanumeric printing necessitated a new printer, the Powers Samastronic. Furthermore since it was the company's policy to despatch orders received by first post later the same day, there was a premium on speed and reliability. The need for speed also ruled out any possibility of pre-sorting input and so necessitated a degree of random access to the customer master record. But it was not just in hardware and operational demands that ITC's sting lay. The requirements themselves turned out to be surprisingly intricate. A truly labyrinthine set of rules governed pricing and credit control and the way goods were despatched and packing cases made up. And so on. Quite a challenge considering this was Leo's first invoicing job outside Lyons with its compact range of 80 bakery items, only one price per item and simple credit control.

But eventually it was done and the functional specification was finally published in November 1956. Part of the section for the statistics programs was written at home the evening my eldest son, David, was born, in between rushing upstairs to assist the midwife with cups of tea.

Even by the standards of the 1950s ITC was a very hierarchical and formal organisation. Everyone knew his place. On one visit when I accompanied John Simmons and David Caminer we were split up and taken to three separate dining rooms for lunch, each according to the Master's evaluation of our stations in life. Uniquely in my business experience, ITC also celebrated tea in some style. Every afternoon at 3.45 managers repaired to a special room where afternoon tea was served; silver tea pot, sponge cakes, all the trimmings. The downside came in the evening. No one was supposed to go home while there was still a Main Board Director in the building. Many was the time, therefore, when I would leave to catch my train back to London leaving my ITC contacts glumly playing out time.

With ITC safely under my belt my job gradually evolved into 'consultancy'. This meant carrying out appraisals and preparing proposals, including fairly detailed job plans, for prospective Leo 2 sales. There was no industry specialisation in those days. We took on all comers. My portfolio included Dorman Long (a steel company), ICI, Tate and Lyle, Beechams, Esso, Dunlop, Renold Chains, and a whole raft of Gas and Electricity Boards. Keeping all the balls in the air left no time for boredom and an essential skill was to be able to plan itineraries so to put in personal appearances sufficiently frequently to prevent any customer feeling neglected.

There were some odd ideas around. Yorkshire Electricity had a very intelligent man leading their computer studies but he never reconciled himself to Leo not having a table look-up instruction. 'We must not waste the computer's time doing multiplication' he used to say. Far better, he maintained, to look the extensions up from a stored table.

Then there was the sunny evening in Manchester when, in all innocence, I settled down after dinner to prepare (ab initio if you please) a presentation on production planning, including machine loading, in readiness for a meeting the following morning. Small wonder that my confidence began to evaporate as the evening wore on! In the event we managed to steer the meeting on to the safer shores of production control and so maintained our reputations intact. Such was our pioneering zeal that it never entered our heads that we were unlikely ever to be able to improve on the one man who, day in and day out, regarded machine loading as his personal fiefdom and solved it, in his own words, 'much as you would a giant jigsaw puzzle.'

One of my last tasks at Leo was to skeleton code a job for Bertelsmann, a German publishing house, as a check on the timings. As a general rule we had always hitherto assumed that in business applications, with proper use of the buffers, processing time would be completely overlapped by input/output. This exercise showed how mistaken we must often have been. Though the Bertelsmann programs were by no means complex, processing times could not be contained within input/output and would add their own, not insignificant, contribution to run times. Fortunately, with the much faster Leo 3 now on the horizon, this revelation was less traumatic than it might otherwise have been.

When I try to isolate what were to me the chief characteristics of the Leo approach the following come immediately to mind, not in any particular order. All the points seem obvious enough now but 60 years ago they were little short of revolutionary.

the strategic overview ie the need to plan a job overall before tackling isolated parts in detail. Well into the 60s (indeed even into the 80s) this approach was not understood. IBM tried to persuade Dunlop to concentrate on depot stock control before even thinking of an integrated sales accounting suite. When I arrived at BOAC they were looking at reservations, passenger check-in and message switching as three quite separate applications.

- the adversarial approach to clarifying requirements ie asking the same question of different people, asking the same question of the same people in different ways, actively seeking out inconsistencies like a barrister cross questioning in court.
- balance between computer and manual procedures ie not trying to computerise everything just for the sake of it but rather recognising that there were occasions when simple manual procedures could do better.
- the emphasis on quality people ie on paying little often, on delegating real responsibility very early on, on calling a spade a spade and weeding out non performers or those who were simply 'unlucky'
- the need for budgetary control so obvious; but who in those early days did it-or for many years after!

I must now pay tribute to remarkable men whose vision created

and nurtured LEO. It is true that in Lyons they had a company of just the right size and complexity to make meaningful clerical work possible on the early LEO (LEO could not have been born in, say, GKN) and one that was by then well versed in seeking office efficiency. But that was itself, to a large degree, a product of the work of the early pioneers. J R M Simmons: detached, austere, analytical, displaying an Olympian detachment from the daily cut and thrust. T R Thompson (TRT): the impatient, highly strung, visionary, priding himself on always being open to suggestion (as indeed he often was) but sometimes curiously blinkered and self opinionated (as in his opposition for so long to mass storage, magnetic tape and alphanumeric printing). David Caminer: a perfectionist and driver; a man intensely loyal to his staff whom some could have taken, at times, as over-demanding had it not been for his integrity, ability and dedication. John Pinkerton the 'boffin' who believed that technology was there to serve users-and acted on it!-and who had the gift, typical of so many first class minds, of being able to explain the most obscure technicalities in everyday language.

Somehow those 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.

So, if LEO was so wonderful, why did I leave in 1959 after only 4 years? Because I knew it could not go on and I could not bear to think of this wonderful venture being squeezed out of existence by the dull uninspired mediocrity of the punched card companies likely to take it over. And it was all so unnecessary. If only Leo had forsaken machine manufacture and concentrated on software and installation services, which were where its strengths lay, it would surely still be there today with the leaders.

In fact I did not really leave Leo in 1959. I moved to Dunlop where, while still with Leo, I had managed its proposal for a fully comprehensive sales accounting, stock control and sales

statistics suite based on the first Leo 3 It was now my job to implement it. This duly happened, smoothly and on target.

In 1965 I moved on to BOAC (and later British Airways) to create, almost from scratch, a global real-time network linking over 10,000 terminals based on a complex of computers sited in London and supporting, 24 hours a day, second by second, practically every aspect of the airline's activity. This was the well known BOADICEA project. At its peak some 3,000 staff were involved in its development in BA alone quite apart from people working on the direct on-line links that were forged to other airlines, travel companies and communications agencies.

I was now in a big league with single jobs taking up to 300 man years to develop; with worldwide real-time communications links; and where system breakdown could lead to grounded aircraft with all that entailed for an organisation marketing a totally perishable product and continually in the public eye. Yet over the course of the 18 years during which information systems reported to me, not once did we have a noticeably late cutover, a botched implementation or a budget overrun. This is such an extraordinary claim as to beggar belief. Nonetheless it is true and a factor that was acknowledged in our winning two Queens Awards.

The credit for all this goes back to the disciplines and controls that were forged at Leo all those years before. Refined and extended they may have been; but out of the original Leo stable for all of that. And lest anyone detect a note of immodesty, or question the relevance of my British Airways experience in a paper on Leo, let me say straightaway that the BOAC team that developed BOADICEA contained a solid nucleus of ex Leo staff, at least nine managers with others down the line.

Later, during my 18 years with BOAC and British Airways, when I moved into General Management and joined the Board-leading the airline's productivity campaigns and so on, though the scale and nature of the problems I contended with far exceeded anything I encountered at Leo, I know that much of my success was due to what I learned in my early years at Leo: the direct common sense, no nonsense, 'call a spade a spade' questioning approach based on 'why?'; eschewing jargon; getting to the heart of a problem by scything through the unkempt scrubland of irrelevant detail; and never tolerating the second rate. I may have left Leo the company in 1959, and Leo the computing environment in 1965, but the spirit of Leo lived on.

Working for Wills as a 15 year old in the late 1950s by Carole Hynam

I came to be working for W.D. and H. O. Wills in Bristol because although I had always wanted to go to Art School, I came from a family that had never gone into further education (because in our section of society you had to be very well off or gain a scholarship.) Even though I was always in the top three in an A stream, as it was called, my careers officer told me there was no chance I would pass the entrance exam for WD and HO and would probably get a job in a factory or a shop. Luckily I had already taken the exam otherwise I may have pulled out at that point. Things were pretty grim in 1957 as it was only 12 years after the war had ended and money was very thin on the ground and so instead of taking the job offered to me in an advertising workshop sending me to art school one day a week I took the position offered by WD and HO because it was offering £3 per week. I had heard my parents struggling with money and felt it would help them too.



I was chosen to work on 'Leo' as I had scored well in Maths in my Wills entrance exam. I really didn't appreciate at the time how honoured I was to be selected to work on Leo as WD and HO had a huge number of employees and I had come from an ordinary Secondary Modern school to work alongside of grammar school girls and public school boys. There were four of us chosen to work - two of us 15 year olds putting in data and two 16 year olds who were scrutinisers to check our work with a manager in charge of us called Irene. She seemed very old to us 15 year olds but was probably in her forties.

The year was 1957/8 and the computer took up half of the general office. There was a great deal of suspicion from the other workers in the offices as I think they thought they may lose their jobs. We had an engineer called Reg who used to start the computer each morning and one programmer. As time went by more programmers were employed. The work was very spasmodic and we spent many hours just sitting waiting for our work to come in. The computer was very sensitive to

damp conditions and if it rained it didn't work at all well. I remember Reg telling us it had the same valves as an electronic organ and that's why it seemed to play a tune on being started up. When fully trained our agility was important as we had to work at great speeds.

I stayed with WD and HO for just two years and then moved on to work for the NHS as a records officer. In hindsight I was probably silly to leave but at 16 I didn't find the work satisfying enough. After a long and varied career, I started painting again and luckily for me it took off. I still paint and do the odd commission and have sold over two hundred paintings during my life.

I feel very honoured to have been part of the story of this wonderful invention, Leo. I regard it as a very important part of my working life and at 77 years of age am able to relate this fascinating experience to some of my son's friends who are in the IT industry. How things have moved on.

History of LEO Computers in Australia as recalled by Neil Lamming

Neil has written this very detailed account of LEO's adventures in Oz which we have divided into two parts – this one deals with the period from 1961 – 63. Neil continues the story in our next edition.

The history of LEO Computers in Australia all started in 1961 with an order from Tubemakers of Australia (TOA) for a LEO III to be installed in Botany, Sydney. In those days TOA was an affiliate company which enjoyed a close relationship with Stewart & Lloyds in UK who had installed LEO II/3 at Corby in May 1958, the first computer to be installed with a commercial company in UK. They were a very positive user, a great reference site and instrumental in TOA placing an order with LEO Computers in UK. The arrangement was for LEO to establish a subsidiary in Sydney which would use the second shift on TOA's LEO111 in Botany for its own marketing and service bureau purposes.

Enter Peter Gyngell. Peter first impressed LEO management in UK while he was working for a user, the FORD Motor company, which had installed LEO II/4 in December 1958 at Aveley, Ford's spare parts depot in a suburb of London in Essex. Indeed it was FORD who had run the first computerised payroll on LEO I back in December 1955. Born in Caerphilly, Wales in 1930, Peter was a graduate in philosophy who, before going to University, spent a year at RADA (Royal Academy of Dramatic Art) in London along with such stars of the future as Kenneth Williams. Peter joined the Ford O & M team before being appointed Systems Manager at Ford Aveley in which role he worked closely with their LEO consultants.

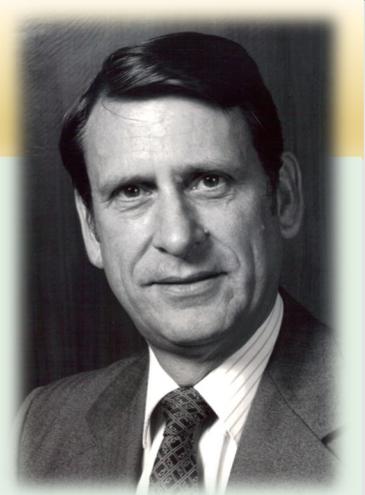
Peter was an inspired choice to join LEO to establish the subsidiary in Australia. My recollection is that he first visited Australia in 1961. I do remember him returning to London on a visit in 1961 and making an enthusiastic presentation in the Boardroom at Hartree House on the opportunities he saw in Australia. Peter with his wife Jean and their son Julian (their second son Stuart was born in Sydney in late 1963) emigrated to Australia in 1961 and had established their home in St Ives, Sydney by early 1962.

Peter was joined in Sydney by Colin Baker and his new wife Gerry, Colin transferring from LEO in London at the beginning of 1962 to provide programming and systems support on a 12 months assignment.

For my part, TOA selected 3 of their staff members in Australia and sent them to LEO in London in early 1962 to be trained as programmers (Graeme Smith, Bob Bender and Graham Nichols). They worked on LEO customer projects and were assigned to the programming office where I was by then a "back-to-the-wall" programmer. I also had an Australian who joined LEO in UK working in my programming team, Rosslyn Sorenson whose family was from Melbourne.

Then as luck had it, Cec Lockhart and Chester Jones from Shell Australia in Melbourne came to London as the first stop on a worldwide trip to investigate what was happening in the electronic data processing world. Chester brought with him a pack of data cards from their large IBM punched card system in Melbourne and he wanted a program written to validate and analyse this data on LEO11/5 at Hartree House. I was given the job of writing the programme, David Caminer even vacated his office so that I could maximize my productivity to meet their very tight deadline before they left to visit our competitors in USA. They were clearly impressed with the performance and capability of LEO.

This all helped to develop my interest in Australia which was rewarded in mid-1962 when David Caminer offered me a three years contract to join Peter Gyngell in Sydney to replace Colin Baker who was soon to return to UK. It was agreed that I could go by sea provided I stayed to the end of the Renold Chains system that we were developing to run on LEO111/1.



So on 22 December 1962 my wife Pat and I set sail from Southampton, celebrating our first wedding anniversary on the first day of the 6 weeks boat trip to Australia! I started work in our little office in Miller Street, North Sydney at the end of January 1963.

LEO Australia at that time consisted of:

- Peter Gyngell, our General Manager.
- Colin Baker, who returned to UK soon afterwards
- Peter Goodrum, who had worked with Peter Gyngell at FORD in UK and had moved to Canberra in Australia to join the Department of Defence which had recruited in the UK to establish a computer activity under Dr John Ovenstone. Peter accepted an offer to join LEO in North Sydney and was particularly involved training computer staff initially for both Tubemakers and for LEO.
- Tony Casson, an Australian who had moved to the UK for a period and worked for LEO as a consultant in London. Tony decided to return home to Melbourne, Australia in time for Christmas 1962. He moved to Sydney in January 1963 where he worked as a consultant in sales for a while before moving back to Melbourne. He subsequently left LEO to join PA Consulting where his father, John Casson, was the head. Interestingly Tony had Sir Lewis Casson and Dame Sybil Thorndike as grand-parents back in UK.
- Judy Gill who provided secretarial and admin support for everybody
- Me!

These were hectic but very exciting times for our little team as we prepared for the arrival of the LEO111 for TOA and at the same time established a sales and marketing presence in the marketplace. Peter with his enormous energy, enthusiasm, creativity and intellect was an inspirational leader who was making a big impact in the business community.

A few weeks after arriving in Sydney, in February 1963, it was announced that LEO Computers and the Computer Division of English Electric were to be merged to form a new company, English Electric LEO Computers. Peter promptly sent me to the English Electric offices at 365 Sussex Street, Sydney to meet their "computer people", two people who were to join our new company:

Mick Norsa who, after some time as a sales consultant in Sydney, left to join Computer Sciences Australia (CSA) who were just setting up in Australia and John O'Neil who moved to Melbourne where he spent many years with Control Data (CDC) who had just won tenders to supply computers to both CSIRO and the Bureau of Census and Statistics.

They introduced me to the English Electric Managing Director for Australia, George Fox, who years later became a good friend and who died in 2012 at age 98.

I also learned that there were two Australians undergoing training in the UK: Tony Montgomery who returned to Melbourne and worked as a sales consultant before moving into academia as a Professor at RMIT and Owen McKenzie who had joined English Electric from the RAAF and had been sent to UK for training in computers.

In addition English Electric had won an order from Sydney University, headed by Professor John Bennett, for a KDF9 system. John Barrett from UK had been selected to head up the technical support for this installation.

Another key gain from this merger was Tony Weber who transferred from English Electric Australia where he had qualified as an accountant, to provide accounting expertise to our then little company. He of course had a long career with our Australian Company as head of finance and accounting.

Next to join our team was Alan Sercombe who on 13 April 1963 (we remember because it was Pat's birthday!) landed in Sydney on the SS Southern Cross en route to Melbourne. I first met Alan and his then wife Gillian (who by a strange coincidence was the daughter of my history master at The City of Norwich School) in Coventry in mid 1961 when I was sent on-site for a few weeks to Standard Motor Company who had installed LEO II/8, the first core store computer made by LEO. Alan was Standard's Chief Programmer. In 1962 Alan applied to join LEO to come to Australia and was offered a position in Melbourne.

At this time, Peter Gyngell was generating a lot of interest particularly in Melbourne and English Electric agreed to provide us with space in their Melbourne office in William Street. I moved from Sydney to Melbourne to join Alan in May 1963, the beginning of our Melbourne Branch.

To be continued

Notes on Neil Lamming

Neil was born and educated in England. In 1960, on graduating with a degree in mathematics, he joined LEO Computers in London as a programmer. He went to LEO in Australia in late 1962 soon after their Sydney office was opened. When ICL was formed in 1968, he progressed through various managerial posts until in 1975 he was appointed Managing Director, ICL Australia at age 37, the first to be appointed from within the Australian organization, taking over from Mike Gifford.

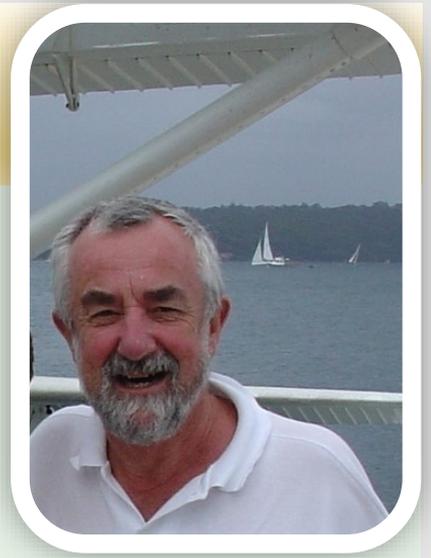
In 1983, he was appointed President, ICL Asia Pacific based in Sydney. He left ICL at the end of 1988 and subsequently worked in the field of Information Technology and Telecommunications until he retired at the end of 1998.

Since retiring, he has travelled extensively with his wife Pat - particularly trekking, having now completed typically 8 day treks in around 15 countries, with multiple treks in many. Neil and Pat have four children all born in Australia and 10 grandchildren.



LEO III/15. Shell Australia, Melbourne

Operating LEO in Australia By John Hoey



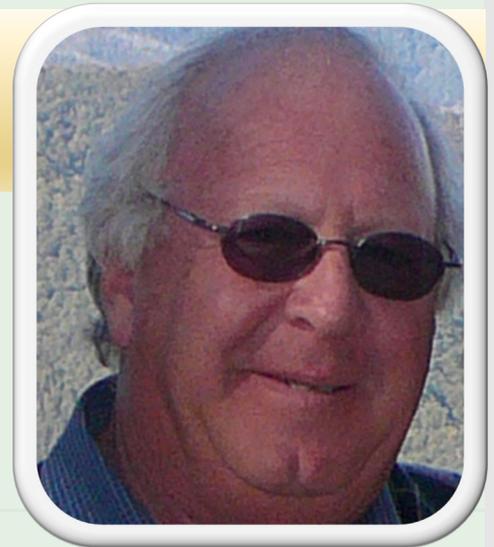
Many of us were operators, blissfully unaware of whatever went on outside the computer room and its immediate surrounds. We simply loaded tapes, cut our fingers rewinding paper tape, dropped boxes of carefully sorted cards, removed the carbon from multipart stationery, co operated with programmers during testing, maybe invented new operational techniques - and then retired to the Four Courts pub. There were absolutely no politics that I was aware of except whose shout it was. I have no detailed knowledge of systems and sales work in those days apart from what has been obtained in the oral and other histories. I simply don't have the time to convene meetings and so on of people who may wish to contribute, but we could do a composite document remotely, each adding what they knew that was not already disclosed by others and then some lucky person could edit it into a whole. Tony Joyce would have good input from Engineering, so too would Neil Lamming from the systems, sales and general management viewpoint. The point to remember is that from an

operators' perspective what happened in the Shell computer room was no different, I expect, from any other LEO III computer room apart from a couple of interesting and maybe hair raising stories. We just turned up to work, did what was expected of us like all operators do, ogled the data prep girls like all operators did, very much enjoyed each others' company and then - whoosh, off to the Four Courts. A good thing about operating was that you did not take problems home with you, as they were all sorted out at the time, or by the next shift. However, most of us tired of operations and made the move into programming for a more creative and rewarding existence, and with no shift work!

Notes on John Hoey

John joined English Electric - Leo in 1964 when he was appointed Computer Operator after applying for the position of "Lion Tamer". This advertisement** in "The Age" was concocted by Gary Diver and Clive Harrison. He eventually moved into programming and software support on System 4, and then for a couple of years worked in UK on VME/K support - remember that one? He gave up his mischievous ways at the ripe old age of 55, married Judy, and lived happily ever after.

Memories of working with LEO in Australia by Lex Korngold



My entry to the LEO world was almost accidental. I joined the Shell Co. in mid 1962 (aged 17) and started work (boss was Bill Cheek) in the unit record / punched card processing department. We were a little later given the opportunity to apply for work in the new computer department.

I was educated to secondary school level (no degree) and many people told me I had little chance with my application which involved an aptitude test. It involved a lesson in some principles in the morning followed by a short test. To my surprise I was one of the very few that managed to get through the morning and the afternoon as well. Most were unsuccessful.

I started work as an operator on the LEO II and then the LEO III working in all sorts of roles. I later graduated from these roles to a programming role, working in Intercode and then CLEO. I spent quite a long time in new development, and then took a role in support.

The hardware of the LEO was physically huge compared to today's technologies, but the capabilities were very underrated. The compiler was slow, so accuracy in programming was very important. I remember writing a program to reprint CLEO programs so that lost printouts could be recovered. This was possible to do in a couple of minutes rather than the slow process of a "dummy compilation". In spite of the

cumbersome machine, the capabilities I believe were not fully appreciated. In later years of my career, I saw people struggle with simple tasks that the LEO systems easily dealt with. The disciplines and process which came with the LEO were resilient and productive, even if regarded as rudimentary by current standards.

I also remember some quite physical aspects of the job. The heavy tape reels and the shifts working on the tape drives were as good as a few hours in the gym! Remembering the process of sorting, and counting the data strings to see how long the sort had to go until completed. The noisy Analex printer and the huge amount of paper it was possible to produce. And who could forget Wally He who was master of the decollator and burster room. Wally was such a character with stories of his life in Far North Queensland and his social life at Victoria Railroads. (His language was worse than Gordon Ramsay.)

I can remember being surprised by the hierarchical structure of our LEO team, with sharp delineation of the various roles. At the time I was very interested in the principles of the hardware and processor (and eventually built my own computer at home). It was also a very interesting time socially as most people, when asking about my work, had no concept of what I was involved with at all.

I stayed with Shell as a programmer on the IBM 360 (programming in PL1) after the LEO time, leaving after a stay of 7 years. In years to come I held many roles, many at a senior level, including CIO, Global IT roles, and GM of a software company. The lessons of those early days at Shell on the LEO team provided me with a foundation and opportunities which were invaluable.

Notes on Lex Korngold

Lex joined Shell, Australia from school in 1962. He stayed with Shell, Melbourne for seven years before branching out into a long and varied career in business and IT.

Now retired, Lex is a member of the Melbourne LEO reunion group.

Reminiscences of my PR role with LEO by John Aeberhard

I was late on the scene as far as LEO was concerned. The name was still hanging in there in the company I joined - as press officer in August 1966 - that assembled roll call of the early British computer industry, English Electric LEO Marconi Computers Limited. My joining just happened to coincide with the publication of the very first issue of Computer Weekly and my first engagement was lunch with Jim Bonnett, the paper's editor. A good start to a career in computer industry PR, I thought at the time and since.

I got the job after a series of interviews, but principally because I managed, in the last of them, to hit it off with David Caminer, largely, I suspect, because I'd recently won a national award from the British Association of Industrial Editors for a newspaper with an 80,000 circulation that I'd edited for my first employer after university, Michelin Tyre Company.

The attraction for me in looking for a move was easy to explain. After four years with Michelin I reckoned I knew pretty much all there was to know about tyres and there were these things called computers that were coming to the fore and were clearly offering a much wider horizon.

In hindsight, I was something of a fraud moving into an area of advanced technology. As my wife would confirm, anyone less technical would be hard to imagine! But a history degree meant that I could string words together quite readily and my role lay largely in explaining technology to a lay audience. The lowest common denominator applied: if I understood something, others would too!

So there I was in the EELM offices in Stag Place, Victoria, charged with publicising the new data processing machines that were rapidly spreading across industry and commerce, reporting to a PR manager, but also working directly with Caminer, an experience that was stimulating and unpredictable at the same time.

Caminer was a manager who commanded respect by being on top of his subject and passionately so. He inspired loyalty, but also left some enemies in his wake. That didn't always fit comfortably in the corporate world that was opening up beyond LEO. There was no side - you either liked him, or you didn't!

I was a fan, albeit he was the only manager I worked for who came close to physically assaulting me by grabbing my

pullover during a heated discussion about what should go into Computerview, the new newspaper I produced for the company as an external PR vehicle.

I didn't realise it at the time, but the LEO influence and, to some extent, its ethos was gradually giving way to the more corporate approach of English Electric. System 4, based on the IBM-compatible RCA Spectra designs, had been introduced to the market and was the focus of all marketing activity.

I would still be writing stories about the Post Office and its LEO 326 computers with the occasional KDF9 press release thrown in there, but System 4, rightly so, was taking all the attention.

At the same time English Electric brought in new management in the shape of Ken Barge whose impeccable credentials as a high-flying IBM salesman didn't, shall we say, naturally fit with Caminer's more direct hands-on management style.

A move of office from Victoria to a brand new building strung along a large part of the Euston Road - "Barge's Folly" as it later came to be known - signalled the shift in culture. The building, much like the British computer industry, no longer exists these days having, like many new office buildings of the 1960s, been swept aside by new structures able to cope with the demand for new cabling needed for the computer age.

Not long after the move and the change of name to English Electric Computers came the shock of another merger. This time it was the big one - the consolidation of the two remaining representatives of the British computer industry, English Electric Computers and International Computers & Tabulators, into a single company, International Computers Limited, ICL.

The white heat of technology that had so impressed Harold Wilson had led to his Labour government, in the person of Tony Wedgwood Benn, brokering the marriage.

From a personal standpoint, the merger was a bad one for me. I was suddenly not, as I had been with English Electric Computers, the company press officer and spokesman, which would have taken me to the Putney HQ. Instead, I was buried away in a basement office of Whiteley's department store in



Queensway in charge of PR for the ICL subsidiary companies.

But not too long afterwards a vacancy occurred in Putney and I was being offered the job of ICL corporate press officer. A weight had been lifted off my shoulders and my career was back on track. I relished the opportunity and set to with gusto..

My time as corporate press officer in Putney was busy and demanding. Computers generally and ICL, in particular, as the flagship for British technology, were always in the public eye and there was much to promote. From a PR viewpoint the job was comparatively straightforward. Interest from the media, if not exactly a given, was easy to stimulate and story lines abounded.

At the same time, however, some of the frustration I'd experienced in Whiteley's basement lingered and it was not long before, in late 1969, I got, and accepted, another job offer, this one to join Honeywell's computer operations as press officer for Northern Europe. I did feel some guilt at joining the enemy after waving the flag for the British computer industry for over three years. But I was career-minded, relatively young and the money helped!

To cut a long story short, I stayed with Honeywell for 11 years and when I finally left towards the end of 1980, it was to return to the UK to start up my own PR company which I subsequently built into a market-leading high tech PR specialist, A Plus Group, eventually selling the company to New-York stock exchange-listed marketing powerhouse, Omnicom, and a management group. At the time, A Plus had some 65 employees and a turnover approaching £5m.

I promptly retired at the relatively young age of 59, but, kept my interest in computers going as a voluntary trustee/director of a charity applying computer technology and its life-enhancing possibilities to the problems faced on a daily basis by people with disabilities. I changed the name of the charity to AbilityNet and helped it build from one centre in Warwick to an organisation of a dozen specialist centres operating nationally.

By this time the millennium was approaching and my career in PR turned full circle as I renewed contact with LEO through David Caminer and other former management from the old days who had joined forces, at Caminer's instigation, to establish a LEO Foundation.

Caminer had this strong wish to see LEO's pioneering role in business computing recognised by history. There was a danger, he thought, that others would usurp LEO's position as the world's first business computer and he determined to do everything in his power to see that this didn't happen.

Personal motives played a part in this. He, after all, had played the leading role in the development of LEO software. But it was broader than this. He was out to beat the Americans again and set the record books straight.

First off there was a book – the first of several - co-authored by Caminer, Frank Land, John Aris and Peter Hermon. Next up was a broader PR campaign.

It was at this stage that I was persuaded to join the Foundation at its regular meetings at Caminer's home close by Richmond Park in East Sheen. Caminer and his management team had decided that a key part of the PR programme was to be a major business computing conference centred around the 50th anniversary of the first operational job to run on LEO, a

bakeries' valuation job for Lyons in November 1951.

The Guildhall in London was to be the prestigious venue, the support of the Lord Mayor's office was secured and the dates were fixed as the 5th and 6th of November 2001.

It was to be my job to develop the PR materials for the conference and to get as much media visibility as possible.. Others would work on getting a top line-up of big-name speakers for the conference programme.

My first thought was to develop a theme for the conference, couched as widely as possible, and a special logo to promote it. Thus we arrived at "50 years of Business Computing" for use on all promotional materials.

These materials had then to be produced, including a press pack focusing on the LEO story. The programme itself, however, was not to dwell on the past, but rather to be forward looking. To underline this, a £5000 prize, sponsored by the National Computing Centre, was to be awarded for a paper speculating on where computing was headed over the next 50 years.

Beyond this I used my contacts to enlist the Wall Street Journal as a major sponsor of the conference – quite a coup to get America's major business daily to support the claim of a relatively unknown British company to have developed the world's first business computer! I took the paper's senior technology editor to East Sheen to meet with Caminer, resulting in a major feature on the LEO story, and the paper also ran a series of free ads promoting the conference.

I also recruited my former PR company, on a pro bono basis, to assist with the mechanics of information distribution and the lobbying of journalists.

In the event – and at a time when the conference business in general was in the doldrums - the conference attracted an audience of some 240 people and a great deal of media coverage.

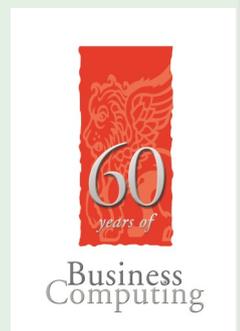
There were many other initiatives undertaken by the LEO Foundation over the next decade to promote the LEO story – too many to cover in this summary paper – and my involvement continued.

One, in particular, however, does rate a mention, namely a 60th anniversary media event hosted by the Science Museum in November 2011. A small tweak to the 50th anniversary logo meant we could use it again. The Science Museum, moreover, was in the process of a major overhaul of its computer and communications gallery, resulting ultimately in LEO being featured in its new displays.

The 60th anniversary Science Museum event was notable for one other reason. It was co-sponsored by Google, another PR coup matching the earlier Wall Street Journal sponsorship.

Here again we had a market-leading US organisation – in fact, their foremost technology company – paying court to the LEO story.

The Google contribution was substantial, involving their whole London-based external communications team, and including the production of a very professional promotional film. Later



on this led to a public lecture extolling LEO at the London School of Economics by Eric Schmidt, Google's worldwide boss no less.

In many ways it was PR job done!

Shortly after this event, the LEO Foundation was dissolved as a separate charity, and its remaining assets and its PR baton passed to its sister organisation, the LEO Computers Society,

a membership group of former LEO employees.

I'm still involved, but now mainly in an advisory role. Occasionally, I get hands-on again, but sadly of late this has mostly involved contacts with obituary editors!

The LEO story, much like the Windmill Theatre in London during the war years, never closes!

Notes on John Aeberhard

John has been carrying out a Public Relations role in and around LEO for over 50 years now. Here he recalls some highlights over that time.

III/33 – Phoenix Assurance Company Summary of a report by Tony Morgan

In 2007, Tony Morgan visited Edinburgh to see what was left of III/33 that served Phoenix Assurance from 1965 to 1973. He had received a tip-off from Roy Farrant, initiator of the original reunions, and, after following it up via a few other people, arrived at the archive store of National Museums Scotland. It is an air-conditioned warehouse with stuff either on pallets or shelves so, by prior arrangement, a representative selection had been extracted for inspection. Tony worked on LEO II and commissioned III/2 in South Africa before managing the commissioning of all the LEO II's from about III/16 onwards so he knew what to look for.

His full report is available at this link: [Tony Morgan Phoenix Report](#) and covers what he found, with its condition, and some notes about the feasibility and practicality of resurrecting some of it.

The first part covers what is missing and would probably prevent progress. The main item here is cables – there were 3 types but there aren't any; and Leo used a lot! The co-ax cables could be substituted and the 25-way Belling Lee cables, if substituted, would probably need different connectors and changes to the cabinets to accommodate different plugs and sockets. The big problem is the 30-way Plessey cables used for address and data signals between the mainframe, store and assemblers. These were very special cables with very fragile low-capacitance insulation on each signal wire. To prevent the wire breaking through the insulation between body of cable and the soldered connection in the plug, after assembly the plug cover was filled with setting foam to prevent breakdown and shorts. If a fault did occur on one of these cables a new one had to be sourced. Fortunately failures were few and far between. If connectors are not available and an alternative used, all cabinet ends including mechanical fixing would have to be changed. Any alternative actual cable would probably be prohibitively expensive. So, a cheery start!

The next problem is a lack of software and magnetic tape decks to read it on. [This is a problem that is also relevant to the Resurrection project. The Society has some tapes that may have software on them].

Documentation is also an issue but Tony has a set of functionals. [The Society has also acquired other engineering documentation from similar squirrels as a result of appeals to members].

The report concludes with a detailed description of the equipment that he saw, together with its condition at that time (12 years ago, now).

His view was that if he had been aware 10 years before then (1997), when he retired, it might have been possible to do more. However, there would still have been the need for space, electricity and money.

Notes on Tony Morgan

Tony first served on the LEO Computers Society committee over 20 years ago. His current role is to identify and explain the LEO hardware artefacts which are received or discovered by the Society. He has been keen to ensure that LEO's history is preserved and generously provided the funds allowing the Society to erect both a commemorative plaque and an Information Board in Lyons Walk, next to where Cadby Hall once stood.

Tony is currently not in good health - John Daines collaborated with him in the preparation of this article. We wish Tony well.



NEWS ROUNDUP

Professor Frank Land OBE

The Society was delighted to learn that Frank Land, a key member of our committee was awarded an OBE in the Queen's June birthday honours for 'services to the information systems industry'. On our website at link: [LEO Press Release](#), you can read the full press release which gives details of Frank's illustrious career in the early days of the computer industry with LEO and as an academic at the London School of Economics, leading the way in Information Systems.

But what is perhaps most wonderful for the Society is the work that Frank continues to do in his retirement (he is now nearing 91) to champion the preservation and promotion of LEO's heritage. For several years, Frank has been recording all references to LEO – in academic papers, press articles, in books, films etc. – in a document which started life as a 'Bibliography', but which is now a very extensive document known as LEOPEDIA. This is also easily accessible on our website and chronicles all things LEO.

LEOPEDIA forms the foundation element of our heritage work and has been integrated into the NLHF project we are working on with the Centre for Computing History, Cambridge- which Lisa McGerty, the project leader, describes earlier in this issue. Frank also leads our work in liaising with academia, in giving expert guidance to Elisabetta Mori, our AIT funded PhD scholar at Middlesex University, in leading our Oral History work and in much else.

We look forward to seeing pictures of Frank at the Palace receiving his honour in due course. It is also noteworthy, that Frank's identical twin brother, Ralph, also a long-standing member of our committee, was honoured by the Queen – with a CBE awarded in 1995, for services to export in Eastern Europe.



Frank Land on the left with his twin brother Ralph in Lyons Walk near Cadby Hall, November 2017.

Carina Dickinson — a thank you!

The Society has for many years been recording oral history interviews with members. After an interview has been recorded, it needs to be transcribed so that we have a written record of what was said – and so that the often rather long and rambling conversations can be edited.

For this, we need very expert help – and originally this was supplied by Caroline Mumford, and on her retirement, she recommended us to Carina Dickinson. Carina has been working with our Oral History team for some years now.

Cyril Platman, who formerly coordinated this work, writes: 'Carina was very good in every way. She was always careful not to interpret and always queried anything dubious. She commanded a wide range of technology to handle most formats that I could send her, CDs, memory sticks and MP3/4 formats. Her turnaround times were always good and I never waited long for any files. She was also interested in Leo and borrowed some of my library to become more familiar with all things Leo.' Mike Tyzack took over from Cyril as OH co-coordinator – and he endorses Cyril's words and adds that despite her arthritis, Carina tried to struggle on, such was her enthusiasm for the work.

Carina has, however, now decided that she must indeed retire. The Trustees and committee would like to thank her for her invaluable work and we all wish her well in the future

Congratulations to our LEO Nonagenarians!

Several of our members have now reached or exceeded their 90th birthdays. Examples are Mary Coombs, Frank and Ralph Land, Neville Lyons, Peter Hermon, Ray Shaw, Doug Comish and Helen Pinkerton. We suspect there are a few more of you out there!

The Society extends its congratulations to all of you – LEO obviously attracted a resilient group of people!

EASYFUNDRAISING

"easyfundraising" is a great website where you can help LEO Computers Society raise funds simply by doing your everyday online shopping with over 3,600 big name retailers like Amazon, Argos, John Lewis, ASOS, Booking.com, eBay, Boden, and M&S.

Every time you shop, we receive a small donation to say 'thank you' and it's completely free too! We want to raise as much as possible so please sign up and help us at link: <https://www.easyfundraising.org.uk/causes/leocomputers/>.

LEO books and bags for sale

A reminder that we have stocks of various books about LEO for sale by post

The books available are:

- ❖ Peter J. Bird's '*LEO: The First Business Computer*' £10 plus p and p.
- ❖ Georgina Ferry's '*A Computer called LEO: Lyons teashops and the world's first office computer*' £8 plus p and p.
- ❖ '*LEO Remembered* - by the people who worked on the world's first business computer' £5 plus p and p.
- ❖ and we also have some great LEO jute shopping bags at just £5 plus p and p.



We first sold these bags 2 years ago to mark the 65th anniversary of LEO's first run and they were so popular that we sold out. We have now commissioned a rerun – this time with no specific anniversary marked - so they will never go out of date.

The bags are capacious and very strong and have comfortable cloth handles. They are made of deep blue jute – which doesn't show the dirt and they have proved very long-lasting. They are ideal for shopping, but also useful for storing papers or materials for hobbies.

Dimensions are: 38cm x 37cm x 13.5 Or, if you prefer Imperial measurements, 15" x 14.5" x 5"

If you would like to purchase any of these items, please contact Secretary@leo-computers.org.uk with your order and details of where you live and we will let you know postage costs and methods of paying. All proceeds go towards the Society's fundraising efforts.

Collecting LEO's heritage – an appeal to members to search their lofts!

The Society continues to collect any items that you may have of LEO material – in whatever form – be they documents, programming notes, pieces of hardware, charts and plans, computer files, correspondence, written reminiscences – whatever!

We would like to thank those of you who have recently responded by donating much valued items to our collection which is being most capably archived by Jude Brimmer.

Some recent donors include: Peter Hermon, Jim Miles, Paul Kelley, Gordon Palmer, John Pinnington, Cyril Lanch and David Morley. Pete Snow has kindly donated material left by his late father Stan and there has been an anonymous donation too as well as material given by several members of the committee – all of whom who have diligently sorted through their files and storage boxes, attics, garages and spare bedrooms!

Many thanks to all – and please keep the donations coming, contacting Secretary@leo-computers.org.uk if you can help!

Web Stats.

Provided by Bob Stevenson

Statistics for the website show that following the start of our National Lottery Heritage Funded project last winter there was a marked increase in total number of visits to the site. Stats showed that for the 6 months prior to the Project the total number of sessions was 1950 and for the following 6 months 2530, with a very large number of countries represented.

Here, Bob Stevenson presents some observations on who is looking at our website, choosing a single month – August 2019

- 35 different countries accessed leo-computers.org.uk in August.
- 64% were new visitors to the site.
- However 19 of the 35 countries spent no measurable time on the website.
- Note that in the list of countries making most visits, South Korea is ranked 4th with 7 visits, but still with zero time. (Exactly the same as for August 2018.)
- In the list of cities, the South Korean city of Muju-gun appears again: 4 visits for no time. (7 visits in August 2018.)
- Looking at totals for January to the end of August 2019, Muju-gun made 59 visits, again for zero time.

Visits to the LEO Website by City

City	Sessions
1. (not set)	37 (13.03%)
2. London	33 (11.62%)
3. Cambridge	16 (5.63%)
4. Hemel Hempstead	10 (3.52%)
5. Hertford	8 (2.82%)
6. Kristiansand Municipality	8 (2.82%)
7. Epsom	7 (2.46%)
8. St Albans	6 (2.11%)
9. St Helier	5 (1.76%)
10. Royal Tunbridge Wells	5 (1.76%)
11. Hucknall	4 (1.41%)
12. Iddington	4 (1.41%)
13. Watford	4 (1.41%)
14. Muju-gun	4 (1.41%)
15. Melbourne	3 (1.06%)

Visits to the LEO Website by Country

Country	Sessions
1. United Kingdom	188 (66.20%)
2. United States	20 (7.04%)
3. Norway	8 (2.82%)
4. South Korea	7 (2.46%)
5. PHILIPPINES	7 (2.46%)
6. India	6 (2.11%)
7. Canada	5 (1.76%)
8. Jersey	5 (1.76%)
9. Australia	4 (1.41%)
10. Germany	3 (1.06%)
11. Brazil	2 (0.70%)
12. China	2 (0.70%)
13. France	2 (0.70%)
14. Indonesia	2 (0.70%)
15. Jamaica	2 (0.70%)

Parting Ad.

**Ad. in The Age, Melbourne, 21/03/64
(See John Hoey p13)

WE ARE LOOKING FOR Lion Tamers!

Well not exactly lion tamers, but operating controllers for our Leo III computers.

If you are not more than 26 years old and intelligent with a good sense of humor, you will find this an interesting and challenging job.

You will have to convince us that you have an aptitude for this job by passing our "Quiz" and since this particular knack is rather rare we are compelled to pay highly for it.

Call in on Saturday morning, 9.30 to 12.30 and ask for Mr. Harrison, or write to — The Recruitment Officer,

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In addition we have a number of volunteers who are helping with the history projects. Our recruitment of new members is mainly by way of our website. We now have over 800 members around the globe.



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Published by Bernard Behr at LEO
Computers Society

