

Newsletter of the Australian Society for History of Engineering and Technology

New ASHET committee elected at Annual General Meeting on 23 April

Each year ASHET elects new office bearers and committee members. Those elected this year are:

President	Robert Renew
Senior Vice President	Ian Jack
Vice President	Mari Metzke
Secretary	David Craddock
Treasurer	Eric Metzke
Ordinary Committee Members:	
	Ian Arthur
	Malcolm Brady
	Neil McDonald

Beverley Johnson, a member of our previous committee, did not seek re-election because of ill-health. We had shared Beverley's high hopes of making some significant contributions as a committee member, particularly on the Lightning Ridge project. But her health declined unexpectedly and she decided it would not be appropriate for her to become heavily involved in the work on the Lightning Ridge project for which as a



Rob Renew, President



Malcolm Brady, Committee Member

recently retired professional historian specialising in industrial history she was highly qualified. She decided also not to seek re-election to her committee.

We have one new committee member, Malcolm Brady. Malcolm has been an active member of ASHET for several years and is well known to many members. He works as a consulting civil engineer, with extensive experience in water supply and building. He has also specialised in design management of church bell installations and a recent project has been the new bells at St Leonards Church, Naremburn.

The other office bearers and committee members are re-elected members of the previous committee, but some hold different positions. New President is Rob Renew, formerly Senior Vice President. Rob has recently retired as a Senior Curator at the Powerhouse Museum. He has been responsible for organising the ASHET tours to outback New South Wales and northern New South Wales, and is currently heavily



David Craddock, Secretary

involved in our Lightning Ridge project, which is nearing completion.

Ian Arthur stepped down from the position of Secretary after serving in that position from ASHET's formation in 2003. He is now an ordinary committee member, and currently involved in ASHET's Unilever Balmain and Making Meat Pies in Sydney projects. He continues as procurer of *ASHET News*

The new Secretary is David Craddock, David had

previously been President of ASHET. He is a recently retired aeronautical engineer, with a particular interest in the history of flying machines, both powered and un-powered. David has also served as President of the Royal Society of New South Wales.

This new committee will serve until the end of the Annual General Meeting in 2014. ■

The origins of ASHET

by Ian Arthur

ASHET was formed in Sydney in 2003 to fill what some of us saw as a gap in the coverage of existing organisations concerned with history and heritage. I had been for a few years a member of the Institution of Engineers Australia engineering heritage committee in Sydney. This committee, and its counterparts in each of the other geographical divisions of the Institution, is represented on its national committee for engineering heritage, which is named Engineering Heritage Australia (EHA). EHA defines engineering heritage in the following terms: 'Items of engineering heritage are those that have been designed, constructed and operated by engineers, tradesman and other technicians that may be significant for historic, aesthetic, scientific or social reasons.' I felt that in focussing its attention on items of heritage significance and their conservation, EHA tended to give little time to history, and that the way to redress this was to consider forming a new organisation that was not only for engineers but could include all those with an interest in the history of engineering and technology in Australia.

There are thriving societies in Australia that specialise in the history of particular areas of technology; the largest by far is the Australian Railway Historical Society. There are others, such as the Australian Society for Mining history, and the Australian and New Zealand Society for History of Medicine, that are based in academia, but include among their members many practitioners as well as academics. Other societies interested in related areas are the Royal Societies in each state and the Science History Club at Sydney University (since amalgamated with ASHET). But there were many gaps in this coverage of the history of technology in Australia. So I explored with the Royal Australian Historical Society (RAHS) the idea of forming a society, affiliated with RAHS, for the history of technology. RAHS, despite its name, is a New South Wales rather than a national society. It was formed just before Federation, and these days has counterparts in each of the other states. RAHS has over 300 affiliated societies, most of them local history societies, but some representing other ►►

Next ASHET events

Thursday 25 July 2013

Talk by Ian Jack

The Paragon Café in Katoomba: its social, aesthetic and industrial heritage

Greek cafes of the 1920s and 1930s have a special place in Australian social history and occupy a distinctive heritage niche. The Paragon in Katoomba is the apotheosis of the Greek cafe, still flourishing after ninety years, still renowned for its chocolates and its ambience. But there is more to the Paragon than most people have seen: two spectacular function rooms behind the public cafe and the industrial zone upstairs, with its bakery, chocolaterie, dumb waiter and original equipment.

Ian Jack has been interested in the Paragon since he supervised the heritage assessment twelve years ago and is strongly supportive of the efforts of the present tenant, Robyn Parker, to conserve its heritage values. Ian has retired from the Department of History at the University of Sydney and is a past President of both ASHET and the Royal Australian Historical Society.

Venue: History House, 133 Macquarie Street, Sydney

Time: 5.30 for 6 pm

Cost: Includes light refreshments on arrival; RAHS and ASHET members \$10, others \$12

Bookings: phone RAHS on (02) 9247 8001 or email history@rahs.org.au

Tuesday 24 September 2013

Talk by John Dickenson

History of Modern Hang Gliding

September 8 2013 is the 50th anniversary of the first flight of the modern hang glider. The flexible winged hang glider was the brain-child of John Dickenson, providing an affordable means of personal flying for the first time, but it unfortunately became better known as the Rogallo wing. That first flight was made at Grafton, NSW by a local water ski champion Rod Fuller. Last year the Federation Aeronautique Internationale recognised John Dickenson for his invention and he was awarded the Gold Air Medal, one of aviation's highest honours.

interests such as railway history, garden history and church history. RAHS Outreach Officer Mari Metke and President Ian Jack were encouraging and supportive of the idea of forming a society for history of technology.

Six of us met at History House on 12 March 2003 to discuss the idea of a new society for the history of engineering and technology. It agreed to call a meeting on 10 April to which we would invite people whom we thought might actively support the idea, including engineers, other technologists and historians we knew had an interest in technology history. Mari and Ian were particularly helpful in suggesting names of people likely to be supportive and we also got good representation from members of EA's engineering heritage committee. The meeting was held at History House on 10 April 2003, chaired by Ian Jack, president of RAHS, with around 40 attending.

I outlined to the meeting the idea for a new society to promote active interest in the history of engineering and technology in Australia. The society would cover a broad range of interests including social, political and economic history of technology and would encompass such fields as agricultural, biological, food, medical and electronic technologies, and the

John Dickenson completed courses in electronics at Sydney Tech., radar and electronics with the RAAF during National Service. John mainly worked in industrial process control, technical sales and consultancy.

Venue: History House, 133 Macquarie Street, Sydney

Time: 5.30 for 6 pm

Cost: Includes light refreshments on arrival; RAHS and ASHET members \$10, others \$12

Bookings: phone RAHS on (02) 9247 8001 or email history@rahs.org.au

Tuesday 25 June 2013

Talk by Frank Heimans

Oral history interviews tell the story of NSW timber truss bridges

In this talk Frank Heimans will describe how he used an oral history interview with two retired Chief Bridge Engineers with the NSW Roads and Traffic Authority (RTA), Brian Pearson and Ray Wedgwood, to tell the story of timber truss bridges in New South Wales. There were at one time over 400 of these bridges, built between 1861 and 1936. Of these 63 remain, and a strategy has been agreed between RTA, now part of the Roads and Maritime Service, and the NSW Heritage Council for the conservation of a representative sample of 25 bridges.

Brian Pearson and Ray Wedgwood have been directly involved in the maintenance and conservation of these bridges over a long period of years and are uniquely qualified to record their history. Frank will describe in his talk how he helped in an interview with them to tell it in an interesting and concise way.

Frank Heimans through his company Cinetel Productions, incorporated in 1975, has specialised in the production of television and video documentaries and in oral history. He has won many awards for his work, including in 2011 the Hazel de Berg Award for Excellence in Oral History. He has recorded 22 interviews for the National Library's *Eminent Australians Oral History Collection* and a large number of interviews for other public and private sector organisations.

Venue: History House, 133 Macquarie Street, Sydney

Time: 5.30 for 6 pm

Cost: Includes light refreshments on arrival; RAHS and ASHET members \$10, others \$12

Bookings: phone RAHS on (02) 9247 8001 or email history@rahs.org.au

application of technology in trade and industry. The focus of the society would be on history rather than conservation, collections or advocacy since these areas are well covered by other organisations and societies. We would not try to duplicate the interests or activities of any existing societies nor to take them over or amalgamate with them. We would try to foster links with others who shared our interests.

Many of the societies affiliated with RAHS have museums or collections. So there was an issue of whether the society should collect and display items of historic interest as part of its activity because that would affect its need for resources. The meeting decided we should not be involved in collecting items or historical interest, though we recognised the importance of museums and cooperate with them. The meeting endorsed the idea of forming a new society and elected a steering committee of eight members to prepare a firm proposal and report to a further meeting in June, which might decide on further action.

The steering committee met three times. It agreed to recommend to the June meeting the formation of a society to be called the Australian Society for History of Engineering and Technology (ASHET), with an object to ►►

promote active interest in the history of engineering and technology in Australia. Anticipating a favourable response from the June meeting, it made a set of detailed recommendations which if accepted would allow the new society to be formed immediately.

There were 45 attended the 25 June meeting. They voted unanimously to accept the steering committee's report, and to proceed to invite applications for membership at an annual subscription of \$20 for individual members and \$30 for family memberships, to appoint an interim committee consisting of the members of the steering committee, to apply for incorporation as a not for profit corporation in NSW and to seek affiliation with the RAHS. By the end of the meeting 27 applications for membership and \$660 in subscriptions had been collected. We soon acquired many more members, doubling our membership before the end of the year.

ASHET's first general meeting was held on 29 October 2003 where a committee was elected, with Ian Jack as President, to succeed the interim committee.

By the beginning of 2004 ASHET had established a regular program of activities open to members and guests. Its first site visit, on 24 February 2004, was to the military relics at Middle Head. RAHS offered to participate with ASHET in a program of monthly meetings at History House with speakers on a wide range of topics and with light refreshments provided at 5.30 pm before the 6 pm meetings.

ASHET's first weekend away was in 2004 to the Mudgee area. It included visits to a winery, the Turon Technology Museum, the machinery museum at Sofala and the Lue pottery. Since then ASHET has continued with a program of monthly joint meetings with RAHS at History House along with day or part day tours to places of interest around Sydney and weekend tours to more distant places. We have also run two longer tours by coach to outback NSW, including Broken Hill, and to northern NSW.

In its formative stage, ASHET was fortunate to have the active support of RAHS, and particularly the contributions of the President Ian Jack, and the Outreach Officer Mari Metzke. Ian, a retired associate professor of history at the University of Sydney, has a special interest in the history of technology and industry in Australia and is co-author of a book on the history of iron-making. Ian served as President for eight years. Among many other contributions to ASHET he led two of our tours, one to Lithgow and the other to northern Tasmania. He is currently Senior Vice President. Mari Metzke, who knows almost everyone in the NSW history world, and whose knowledge and experience of how to form and run a historical society is unique, has been a constant source of advice and support to ASHET. She has also done the catering for almost every ASHET event at History House. Mari is currently Vice President of ASHET. Also of great help to us in ASHET's formative stage were some of the members of EA's Engineering Heritage Committee, particularly Michael Clarke who served on the steering committee formed prior to ASHET's formation, and later on its management committee. Michael has recently managed our timber truss bridges oral history project. ■



Mari Metzke

Ian Jack

ASHET's Logo



With a name as long and clumsy as Australian Society for History of Engineering and Technology, an acronym was needed. The initials ASHET met the need and incidentally provided an idea for a logo. In Scotland an ashet (a word derived from the French 'assiette', a plate or dish) is a large shallow oval plate used for serving meat. ASHET's inaugural President, Ian Jack, and the inaugural Secretary's wife, Anne, both Scots, being familiar with the word, understand the symbolism of the logo, though probably few Australians would. The colour of the logo, a rusty red, seemed appropriate for a society that takes an interest in old things.

International Technology History Societies

At the time we were planning to form ASHET we looked around to see what other societies there were in the field, first to ensure that we needed to form a new society to achieve what we wanted, and secondly to find what similar societies elsewhere to the one we were forming were doing.

We found two international societies in the English speaking world that were of interest, the *Newcomen Society for the Study of the History of Engineering and Technology* in Britain and the *Society for History of Technology (SHOT)* in America.

Britain

The Newcomen Society was formed in 1920 and is the oldest society in the world specialising in the history of engineering and technology. Its headquarters are at the Science Museum in London where it holds regular meetings, and it has branches in six other British cities. Its members are largely academics and the publication of scholarly papers on the history of engineering is a major activity. With over 1,000 learned papers published over its life, it aims to be an invaluable archive of original research on the history of engineering. It holds a Summer Meeting of several days each year with papers and visits, at a centre usually outside London. It has arranged international visits, including one to Australia in 2001. The Society opened an American branch in 1923, and this operated independently of the society in Britain; it closed in 2007. The Newcomen Society's principal publication, *The International Journal for the History of Engineering and Technology*, has been published twice yearly since 1920.

In Britain the Institution of Civil Engineers (ICE), the learned society representing the civil engineering profession, has active member groups in the area of history and heritage, and publishes a quarterly volume of proceedings on Engineering History and Heritage. The other British major engineering learned societies, the ones in Electrical and Mechanical ►►

Engineering, like the ICE dating back to the nineteenth century, are unlike ICE in providing no coverage for the history or heritage of their branches of the profession. In general in Britain, history is a matter for serious research and interest by historians, not by engineers and technologists.

Among British technological societies, the Royal Aeronautical Society (RAeS) is something of an exception. It is the world's largest (17,500 members worldwide) and oldest (founded in 1866) society in the field of aeronautics and aerospace, with comprehensive coverage of the whole field including its history. At the time it was founded the objectives of the society were given as 'for the advancement of Aerial Navigation and for observations in Aerology connected therewith'. The RAeS has an active Historical Group.

America

The Society for History of Technology (SHOT) was formed in 1958 to encourage the study of the development of technology and its relations with society and culture. An interdisciplinary organisation, SHOT is concerned not only with the history of technological devices and processes but also with technology in history— that is, the relationship of technology to politics, economics, science, the arts, and the organization of production, and with the role it plays in the differentiation of individuals in society. SHOT is an international society, with around 1,500 members from a wide range of disciplines and professions. It meets annually in America or Europe. It works actively to foster a stronger global community for the study of the history of technology and to support a worldwide community of scholars in the field. SHOT publishes a quarterly scholarly journal *Technology and Culture* that publishes papers, essays and book reviews that give comprehensive coverage to the history of technology worldwide. It maintains an extensive bibliography of the history of technology that is available to its members.

In America, as in Britain, the major branches of engineering have large and active learned societies, but in America they tend to have broader coverage of their fields, with many members from associated disciplines. The largest of the engineering institutions, the Institute of Electrical and Electronic Engineers (IEEE) is the world's largest technology-related organisation, with almost 400,000 members, many of them from outside America. From its inception IEEE has had a standing History Committee. In 1984 it founded the IEEE History Centre to coordinate its activities in the area of history, which include publications, conferences and meetings, and a large website the *IEEE Global History Network* www.ieeeahn.org/.

The other major engineering institutions in USA, the American Society of Civil Engineers (ASCE) and the American Society of Mechanical Engineers (ASME), have similar programs though not on as large a scale as IEEE.

In America, unlike Australia, all the major universities have departments offering courses and graduate programs in the history of technology and technology and society. Their staff and graduates provide a strong professional base for research and writing on the history of engineering and technology that is reflected in the programs of American learned societies.

Models for ASHET?

These British and American societies that are active in the history of technology can provide valuable resources for ASHET through their publications, databases, websites and personal contributions of their members. But there is not at this time in Australia a level of research, writing and other professional activity in the history of technology that would support such learned societies, so these societies are not models for ASHET. However there are elements of their programs, and particularly their websites, that we could emulate. The IEEE is an outstanding example.

What we do have in Australia, to a greater degree than in other places, is a community of local and specialist history societies supported and encouraged by RAHS and its counterparts in other states. There seems plenty of scope for ASHET to adopt this model and to use it as a base for development and innovation in its range of activities and use of resource.

Lightning Ridge project nearing completion

This is an ASHET project to research and record the history of the unique machines developed at Lightning Ridge for the small scale mining of opals. The ASHET team, Mari and Eric Metzke and Rob Renew, have made three visits to Lightning Ridge in north west New South Wales, on the latest one time taking with them an oral history specialist to train local historical society members and conduct further interviews to supplement the ones conducted by the ASHET team.

The results of our team's work will be incorporated in a display at the Australian Opal Centre at Lightning Ridge where it will complement the exhibition of some of the machines there. The display will be launched during the Opal Festival in late July.

Opals are mined at Lightning Ridge on many small claims (individual claims are limited in size by law to prevent large scale mining). Many of these claims are worked by one or two people. The machines developed by the local miners and mechanics have been designed for this kind of mining and most of them have been invented and built locally. The best known of them is the auto-hoist, consisting of a framework erected over a mine shaft just large enough in diameter for a man or an ore bucket. The hoist has a small petrol engine which a miner at the bottom of the shaft can operate to raise and lower the bucket and to empty a full bucket after raising it to ground level. This makes it possible for a miner to work a claim on his own without any assistance. ▶▶



Auto-hoist at Lightning Ridge



Puddling machine, Lightning Ridge



Puddling machine at Opal Centre, Lightning Ridge

Other machines that have been developed are digging, drilling and shovelling machines that can be easily dismantled and reassembled after being lowered down the narrow shafts, puddling machines used at the surface for separating opals from the waste material, and the 'blower', a giant vacuum cleaner that can suck up material from the bottom of a shaft. Many of the machines like the blower and puddler illustrated here have been adapted from other machines readily available.

The ASHET team will describe the project at one of our regular meetings in Sydney and we plan to also present the results in a future issue of *ASHET News* and on the ASHET website. ■

Making meat pies in Sydney



In June we learned that ASHET's application for a Commonwealth government *Your Community Heritage* grant for a project *Making meat pies in Sydney* was successful. For ASHET this will be a major project, not due for completion until late 2014.

The idea for this project came from a report we found in the Royal Australian Historical Society archives on a feasibility study carried out in 1963 of the possibility of the company Unilever embarking on the large scale manufacture of meat pies in Sydney.

This study of the meat pie industry that Unilever undertook was a detailed one. It researched the market for pies in Sydney, the businesses of the existing pie manufacturers, and the possibilities for Unilever to enter the market by acquiring one of the existing manufacturers or by starting a new business to compete with them.

Unilever decided not to proceed with pie-making, But for us this report is a resource that provides a snapshot of the industry making one of Australia's iconic food products at one point in time.

In 1963 there were around 60 million meat pies made each year and consumed in Sydney, making them almost the largest selling fast food product, perhaps only matched by fish and chips. Around 90 per cent



Sargent's pie factory in 1963

were made by four companies, of which the largest producer, with a share of around 50 per cent, was Gartrell White at Newtown, a part of the international company Weston Foods, makers of Big Ben pies and Tip Top bread and cakes.

The other three large makers of pies in Sydney at the time were Scott's, Ireland's and Sargent's, each producing around 10 million pies per year. The oldest of these, Sargent's, traces its origins to George Sargent (1859-1921) and his wife Charlotte (1856-1924) who in 1883 won a Tattersall's sweep enabling them to open a bakery in Glebe where they baked 700 loaves of bread a day. In 1891 they opened a shop in Oxford Street, Paddington where they made meat pies selling at a penny each. With their son Hartley they opened bakeries and refreshment rooms and in 1906 formed the company Sargent's Limited. It became a large scale catering business with many tea rooms. These started to close from 1962, but the pie-making business continued. In 1967 it was sold to Scott's Provisions, which around the same time also purchased Ireland's. In 1978 the present owners of Sargent's Pty Ltd. acquired the business and all the brand names. It moved the combined pie-making activity to the former Ireland's factory at 32 Cleveland street Surry Hills. Following a large increase in sales it moved to new premises at Smithfield and switched most of its production to frozen pies. The company relaunched ►►





Sydney pie shop in the 1960s

the Sargent's brand name in 1988 and moved to its present manufacturing location of Colyton near Penfith. It acquired the Big Ben brand name from Weston Foods in 1992. It is now the only large pie-making business in Sydney. It makes a range of pies sold under Scott's, Sargent's and Big Ben brand names.

The business of pie-making in Victoria developed quite independently of the Sydney business. The leading Victorian brand name for pies, Four'n Twenty, was invented in the 1950s by Bendigo caterer L. T. McClure who developed a local reputation for his pies.

The company that now dominates the Victorian meat pie scene, Patties Foods, had its origins in Patties cake shop in the Victorian country town of Bairnsdale. It had been purchased by Peter and Annie Rijs and started to make pies in 1967. It built a new pie factory there which has expanded in several stages. It is now a public company, with a son of the founder on the board. It took over pie manufacturers Four'n Twenty, Herbert Adams and Nanna's from Simplot, and is now the largest manufacturer of meat pies in Australia, and probably in the world.



Harry's original cart

Sydney's best known pie shop is Harry's Café de Wheels. Harry Edwards opened a caravan café in the late 1930s near the gates of Woolloomooloo naval dockyard. He operated the café until 1938 and then joined the AIF, serving overseas during world War II. On his return he reopened the café. It got its name when the City Council introduced a requirement that mobile food caravans must move at least twelve inches a day. Harry sold the business to Alex Kuronya in 1975. The first Harry's franchise opened in Newcastle in 1998 and several more have opened since then. In 2004 the original café was classified by the National Trust



Harry's at Woolloomooloo in 1938

and included in its register. At that time it was moved to Chinatown.

Harry's pies were originally supplied by Sargent's in Darlinghurst. They are now supplied by Hannah's of Ultimo.

We are just beginning work on our project on making meat pies in Sydney and would welcome offers of information and images as well as offers to participate in the research and presentation of results. If you can contribute, contact Ian Arthur, the project manager for ASHET, ianarthur@ozemail.com.au or phone 02 9958 8397. ■

Update on ASHET's Unilever project



Unilever at Balmain in 1955. At this time there were over 1000 employees on the site.

As reported in January 2013 *ASHET News*, we received late in 2012 a grant from Leichhardt Council for a project centred on making more readily accessible the contents of an archive of reports, images and other documents relating to the activities of Unilever at Balmain. The archive is held by the Royal Australian Historical Society (RAHS) at History House in Sydney. We had planned to catalogue and digitise this material, and mount a visual display of some of the items.

Our proposal to Leichhardt Council was based on an offer from a highly qualified and experienced archivist to direct the work of cataloguing and digitising and undertake the bulk of the cataloguing herself. She is now unable to undertake this work because of the need to give priority to another important archiving project for RAHS on material relating to the first crossing of the Blue Mountains which has its centenary this year. Our project funding will not stretch to engaging a professional archivist for the work on Unilever so we cannot now proceed with that part of the project. But we have discovered in other places a large amount of other interesting material on Unilever at Balmain and will now concentrate on providing a visual display of this new material we have discovered as well as some of that in the RAHS archive.

The display will be in the Leichhardt municipality, probably in one of its libraries and timed to coincide with Heritage Week 2014 which occurs early in the year. We will make sure the event is well publicised. ■

ASHET News is the newsletter of the Australian Society for History of Engineering and Technology Incorporated ABN 47 874 656 639
ISSN 1835-5943

11 Heights Crescent Middle Cove NSW 2068

Phone: 02 9958 8397

Email: sec@ashet.org.au

Website: www.ashet.org.au

