CHARLES TODD: THE GOVERNMENT ELECTRICIAN

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Charles Todd was often referred to – and referred to himself – as "The Government Electrician".

There is little difference in principle between a system which transmits small electric currents as telegraph signals and one which transmits larger currents for lighting and motive power and so the knowledge and skills acquired in the one field were directly transferable to the other.

Todd's focus was always on his principal responsibility as Superintendant of Telegraphs but he never missed an opportunity to explore wider fields. As early as 1856 he was talking about electric lighting and, through the 1860s, gave demonstrations. In November 1867 he gave a public display of electric light using a lamp he had made himself.

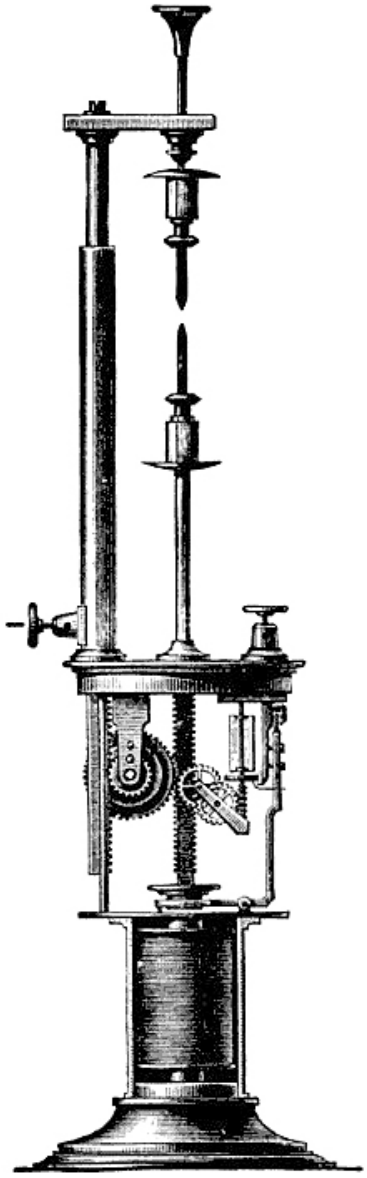
For the next few years he was wholly occupied with the planning and construction of the Overland Telegraph Line but in 1879 he was asked by the Adelaide City Council to report on the practicability of lighting the streets with electric lamps. A few years later he demonstrated how electric arc lamps, powered by dynamos, could be used. By this time, private companies keen to promote the new form of lighting were beginning to emerge and Todd's role became an advisory one.

He recommended electric lighting for public buildings such as the SA Institute and the new Parliament House but the Government was reluctant to take the step: an electric light plant was finally installed in Parliament House, under Todd's supervision, in 1891.

To some extent, the electric light mantle passed to his younger son Hedley who became the South Australian agent for the Brush Electrical Engineering Company in 1892. Charles Todd, however, was present at key events in electrical engineering in Adelaide including the first trials of electric transport in 1889 and the opening of the Colony's first central power station at Port Adelaide in 1898.

As electric lighting became a reality, Todd's attention turned to the interference the new distribution systems were causing to the telegraph and telephone networks. As chairman of the Electric Conference, Todd was responsible for drawing up the draft document and technical standards which would be used to regulate electricity distribution in the newly-federated Australian States.

Nothing was beyond the grasp of this extraordinary scientist and public servant.



A DC arc lamp of the Duboscq design – Charles Todd made at least one of these for his demonstrations of electric lighting in the 1860s

The ingenious mechanism maintains the arc gap despite the fact that the cathode is consumed at twice the rate of the anode

Richard Venus is currently chairman of Engineering Heritage SA, a special interest group within the South Australian Division of Engineers Australia.

Engineering Heritage SA

"**Heritage**" is what we inherit from the past which can be knowledge, artefacts, structures, even entire landscapes. In the present we have the opportunity to appreciate, enjoy, and learn from our heritage; and to record and preserve that heritage for the future.

"**Engineering**" is the practical application of science and technology to create systems, machines, and structures to meet the current and future needs of our communities.

Engineering is as old as humanity: whoever first used a stick as a lever was the first engineer. The term itself dates back to the 14th century and refers to the builders of military machines such as catapaults. The modern profession of electrical engineering had its origins in the 1800s when, first, telegraphy and then electricity generation and distribution emerged as new industries requiring the application of new knowledge and skills.

Engineering Heritage SA (EHSA) is a special interest group within the South Australian Division of Engineers Australia. Our purpose is to identify, record, recognise, preserve, and promote South Australia's engineering, industrial, and technological heritage, either through our own efforts or by supporting the efforts of others.

Recognising our heritage can be achieved by simply telling its story through talks and articles or the more formal process of placing plaques and memorials. Engineers Australia has a national program of heritage recognition administered by Engineering Heritage Australia, the profession's peak heritage body. This includes placing heritage markers at significant sites or works and nominating people for awards to honour their achievements and contributions to engineering heritage.

Preserving our heritage can be a daunting task because it often involves a significant amount of work – usually by volunteers – and large sums of money. If a project can be placed on a commercial footing, all the better. Heritage sites may be required for other purposes and adaptive reuse, in which (for example) a building of heritage significance is converted to another purpose, is often an ideal outcome.

Promoting our heritage is done through organising the recognition activities already mentioned, publishing works such as the ever-popular "Engineering A City" guide to the City of Adelaide, hosting guest speakers, and organising an annual South Australian Engineering Heritage conference. The latter, we hope, will encourage more people to research and write accounts of our heritage by providing a forum in which they can be presented to an interested and appreciative audience.

EHSA would therefore like to hear from anyone interested in this field. You don't have to be a member of Engineers Australia to participate in the work and activities of the group.

To find out more about EHSA's current projects and activities, please visit:

www.engineersaustralia.org.au/south-australia-division/engineering-heritage-sa

If you have an enquiry about engineering heritage or would like to bring something of heritage significance to our attention, please contact Member Programs Coordinator Ashlea Klingberg

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If you would like to be kept directly informed about projects and activities, including events of heritage significance, please ask Ashlea to add your name to our email contact list.