

The Brisbane Astronomical Society (1896 to 1917), Its Six-inch Refractor, and Key Members Dudley Eglinton and James Park Thomson

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The period between 1890 and 1930 saw a flowering of astronomical endeavour in Queensland and also a drama that ended in the demise of the Brisbane Astronomical Society. One of those involved was Dudley Eglinton, a populariser of astronomy who organised the purchase of a 6-inch refracting telescope and established the Brisbane Astronomical Society in 1896. The other was James Park Thomson who founded the Queensland Branch of the Geographical Society of Australasia (later the Royal Geographical Society of Australasia). His main interest was in geography, but he was also a competent observational astronomer. After the demise of the Brisbane Astronomical Society, Eglinton formed a new Society, the Queensland Popular Science and Art Society, and raised funds to buy a new telescope, but he soon became blind. The new Society appears to have quickly foundered, but within a few years the Astronomical Society of Queensland (1927–1978) was formed as a successor to the Brisbane Astronomical Society and Eglinton was elected a Vice-President. Thomson appears to have played no part in this new Society.

Keywords: Queensland astronomy, Brisbane Astronomical Society, D. Eglinton, J. P. Thomson, F. D. G. Stanley, 6-inch Grubb refractor, Queensland Popular Science and Art Society, 12-inch reflector

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Introduction

This paper describes the lives of the ‘key players’ involved in the formation and evolution of the Brisbane Astronomical Society, Dudley Eglinton and James Park Thomson, as well as Francis Drummond Greville Stanley, the owner of the 6-inch Grubb refracting telescope that was the *raison d’être* for the founding of the Society. We then detail the formation, history and demise of the Society, and briefly discuss the subsequent founding of later astronomy-related societies in Brisbane.

At the time, Brisbane was a very fast-growing city (Lawson, 1973). The Moreton Bay settlement was established as a penal colony in 1824, and declared a free settlement in 1842. By 1890 the population of Brisbane had increased to around

85,000 (Figure 1), and it reached 200,000 by 1920 (Queensland Government statistics).

For various reasons, best outlined by Orchiston (1998), in the mid-1890s the time was ripe for the formation of local astronomical societies in Australia. They were formed in Brisbane, Sydney, Melbourne and Adelaide. However, the Brisbane Astronomical Society was the only one restricted to amateur astronomers, given the general lack of government support for professional astronomy in Queensland at this time (Haynes et al., 1993). It was the only one established primarily to prevent a ‘large’ telescope from leaving a colonial capital – all of the other societies were founded primarily to promote observational astronomy, astronomical education and telescope making (Baracchi, 1914;

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Orchiston, 1998, 2003, 2017; Orchiston & Perdrix, 1990, 2002; Waters, 1980).

Dudley Eglinton

Dudley Eglinton (1850–1937) was born in Newcastle-Upon-Tyne, England, on 12 October 1850. He studied at nearby Durham University but left after a year when his parents migrated to Queensland in 1870. He worked as an assistant teacher at Warwick, and then moved to the Church of England School at Toowoomba where he became friends with Dr and Mrs Carr Boyd. The latter pointed out the constellation of Scorpio, thus sparking Eglinton's interest in astronomy. He taught at The Valley Primary School in Brisbane for some months before seeing an advertisement for the position of Secretary at the North Brisbane School of Arts (Cleary, 1967). His application was successful and he held this position from 1874 to 1896. Figure 2 shows the North Brisbane School of Arts building in 1877, three years after Eglinton

began working there. He demonstrated administrative acumen, despite his young age and lack of prior experience.

In 1872, there were 16 Schools of Arts in Queensland (Clarke, 1992), and although most merely functioned as libraries and recreational centres, the prevailing view was that they also should be involved in education. Two of the strongest advocates of this philosophy were Charles Lilley (1827–1897) and John Douglas (1828–1904), who supported the cause of technical education at Committee meetings of the Schools of Arts, in public lectures and in articles in the press. They claimed that knowledge was important for its own sake and that it was a source of social and moral benefit. They expounded the liberal faith that education was an essential ingredient of progress. More importantly, they presented the utilitarian viewpoint that technical education provided more efficient and skilled artisans, which was necessary for a society undergoing the initial stages of industrialisation and urbanisation (Clarke, 1992).

Figure 1. A bird's-eye view of Brisbane in 1888 (Source: Museum of Lands, Mapping and Surveying, Brisbane).



Figure 2. The North Brisbane School of Arts, at the corner of Queen and Creek Streets, in 1877. It is the larger of the two buildings (Source: Wikipedia).



The most effective way of achieving this was through formal classes. This eventually led in 1882 to the founding of the Brisbane Technical College affiliated with the North Brisbane School of Arts. By October 1882 the Technical College was offering classes in (i) freehand and mechanical drawing; (ii) geology and mineralogy; (iii) bookkeeping; (iv) French; (v) German; and (vi) the history of the British Empire. Sixty-nine students were enrolled (Clarke, 1992). Eglinton not only played a key role in the development of the North Brisbane School of Arts, but he convinced Douglas that a technical college was viable, wrote an influential pamphlet on technical education, conducted a successful publicity campaign in the press, and put all of his organisational ability into ensuring the success of the college (Clarke, 1992).

During his time as Secretary of the Brisbane School of Arts, Eglinton impressed people with his diligence and courtesy, but troubles lay ahead. In 1891 moves were afoot by dissident Committee members to have the Treasurer, Mr S. W. Brooks (1840–1915), who occupied a senior position at the Brisbane Technical College, replace Eglinton as Secretary. Towards the end of 1891, the Committee terminated Eglinton's appointment because

of "inefficiency". This charge was never proven, and it would appear he was 'set up'. The action was controversial and became public knowledge (e.g. Anon., 1892a).

The Half-yearly Report of the Committee and the accounts were to be considered by the members at a meeting a month later on 28 January 1892 (Anon., 1892b; Anon., 1892c). Four or five hundred people were present, including the Mayoress. The meeting was very lively, and when it came to the vote, the Half-yearly Report and the accounts were rejected. The meeting was adjourned – Eglinton had won convincingly.

On 5 March 1892, a newspaper report (Anon., 1892d) described a meeting held on 25 February. Once again there was a large attendance, and Eglinton, as Secretary, stated he had called the meeting under Rule XI after receiving a requisition signed by 20 or 30 members. At the meeting, new office bearers and Committee members were elected by ballot.

Eglinton continued to occupy the position of Secretary until 1896. We have been unable to determine why he chose to leave the North Brisbane School of Arts after more than 20 years, but maybe he tired of the constant challenge to secure funding

from the government and from student enrolments, especially in light of the turbulent economic conditions in Queensland during the depression of the early 1890s. There was also agitation for the government to reform technical education throughout Queensland (Clarke, 1992), and the loss of the Brisbane Technical College and its income stream, once it became an independent entity in 1889, was probably a critical factor (Clarke, 1992). There may also have been continuing friction from the dissident Committee members involved in the infamous '1892 affair'. We surmise that it was a combination of factors that led Dudley Eglinton to resign. He may have reflected that on 12 October 1896 he would turn 46, and it was time for a change while he was still young enough to take on a new challenge.

Dudley Eglinton married twice during these years. He married Eveline Stanley Phelan (1858–1883) on 22 April 1879, but she died from tuberculosis on 18 April 1883, four days before their fourth wedding anniversary. Sadly, she was only in her mid-20s. Four years later, on 11 April 1887, he married Irish-born Martha Shirlow (1861–1919). They had eight children, five of whom survived him. Martha died on 30 October 1919.

Teacher, Writer and Lecturer

A newspaper advertisement dated 24 August 1897 (Anon., 1897) advises "Private School and Evening Classes" at "Concord", Merivale Street, South Brisbane, but it appears that Eglinton moved from these premises, the house being advertised for rent on 11 January 1898 (Anon., 1898). The Post Office record for 1897–1898 also has him at this address. He may have lived on-site with his family. Alternatively, he may have been looking after his ailing father, the Reverend William Eglinton (ca 1818–1898) in Church Street, Toowong, in which case the Merivale Street house was merely a business address. To add further confusion, he is listed at the Church Street address in Australian City Directories for 1894 and 1896.

There is also a reference in the Eglinton family papers to a "... school roll book listing students who attended Dudley Eglinton's private school for youths and young ladies that was located on the corner of Peel and Stanleys [*sic*] Streets, [South Brisbane]". This address is compatible with the Post Office entry for 1901 which describes him as a "teacher". In 1902,

Dudley Eglinton's postal address was Ipswich Road, Woolloongabba; then, in 1903, Jeays Street, Bowen Hills; in 1905, Markwell Street, Bowen Hills; and in 1907, Gladstone Road, Highgate Hill. Clearly these were residential addresses.

Apart from his teaching activities, there is no record of later employment except for an intriguing entry in a 1908 list of voters, where a Dudley Eglinton of "Woodhope", Walmsley Street, Kangaroo Point, is shown as a "collector" (employed to collect debts, tickets, taxes, etc.). Postal records also place him at this address between 1908 and 1912. He probably owned the Kangaroo Point property, and in 1912 may have sold it to purchase 'Holly Dean' in River Road, Milton, for £400 (K. Eglinton, n.d.). This large, well-known house (Figure 3), on an acre of ground, first appeared as his residential address in the 1913 Commonwealth electoral roll. Thereafter, he was described on the electoral rolls as a "writer and lecturer", until 1928 when he was listed as a "lecturer".

Emerging Interest in Astronomy

It would seem that Eglinton's interest in astronomy grew through his association with the North Brisbane School of Arts. After his marriage in 1879, he and Eveline lived in Vulture Street, South Brisbane, and on clear nights he liked to examine the sky as he walked home from work (Anon., 1930), at a time when light pollution had yet to become an issue. However, there is no evidence that he observed the 1874 or 1882 transits of Venus, both of which were well publicised (Lomb, 2011; Orchiston, 2004). In 1882, south-eastern Queensland was covered by clouds on the vital day (Orchiston & Darlington, 2017).

In 1912, Eglinton was elected a Fellow of the Royal Astronomical Society (F.R.A.S.), nominated by Colonel E. F. Plant of Brisbane and seconded by Sir Benjamin Stone (1838–1914), a British politician and accomplished photographer. Financial circumstances forced Eglinton to resign in 1928 (Eglinton, 1928). Despite claims made by Orchiston (2017, and in earlier papers), Eglinton does not appear to have had an observatory, or owned an astronomical telescope. This confusion arose because Eglinton was instrumental in obtaining a 12-inch reflector in 1919 (detailed later) and installing it on the roof of the Old Fire Brigade Building; however, he did not

own the instrument. Various directories show him at 10 different Brisbane addresses between 1888 and 1913, and given the frequency that he shifted residences, he could not have maintained an observatory for very long.

Like other amateur astronomers throughout Australia at this time, Eglinton was a populariser (Orchiston, 1991; 1997a), and his dogged determination largely sustained public interest in astronomy in Brisbane from 1896 until 1925, and to some extent thereafter, even though blindness had overtaken him.

The Twilight Years

The cause and date of Eglinton's blindness are uncertain, but family records indicate his sight was almost gone when he visited his son Eric in Toowoomba in 1923, and he certainly was totally blind by mid-1925. It has been claimed that his blindness was due to telescopic observations (Anon., 1937a; Anon., 1937b), but he was an experienced observer so this is unlikely. A medical condition is more likely, particularly as both eyes

were affected. It could have been genetic, since at least two of his sons suffered from eyesight problems (K. Eglinton, pers. comm., 2020), but without access to ophthalmic records the cause of Eglinton's blindness remains unknown.

Certainly he was afflicted by 21st July 1925 when a partial eclipse of the Sun visible in Brisbane ended at 7.24 am. Eglinton (1925) stated:

I should be glad if you would inform your readers that my want of eyesight prevented my seeing more exact particulars concerning the places from which the eclipse would be noticeable. Observations made by a friend at Toowong [7.30 am] ... revealed ... that the Sun's face was in no way marred by any interposition of the Moon ...

When he was already blind, Dudley Eglinton married for the third time, on 4 August 1926 (Figure 4). His bride was Anna Catherine Sophia Nicholson, who was born on 16 January 1861 and was 87 when she died on 16 October 1948, having outlived Eglinton by 11 years.

Figure 3. 'Holly Dean' in River Road, Auchenflower (Source: State Library of Queensland).



Figure 4. The wedding of Dudley Eglinton and Anna Nicholson on 4 August 1926 (Source: Richard Tassicker).



Anna was from a German family living in San Francisco, and was described as an accomplished German and Swedish scholar and translator (Anon., 1905). Her marriage to Eglinton may have been concurrent with or not long after his move to 'Vort Hem' (Swedish for 'Our Home'), in William Street (Wade Street since 1938), Virginia (see Figure 5), where he is recorded on the 1928 and 1934 electoral rolls as a "lecturer".

Despite having lost his eyesight and no longer able to make astronomical observations, in the last decade of his life Dudley still corresponded and wrote articles, dictating to Anna. From various newspaper articles that appeared in both their names (e.g. Eglinton & Aliquae, 1926; Eglinton & Eglinton, 1933) it is clear she also collaborated with him and carried out research. Anna also attended meetings for her husband and even presented a paper to the first meeting of the Amateur Astronomical Society of Queensland on 3 October 1927 (the word 'Amateur' was formally deleted from the Society's name on 4 February 1928). The new Society had two Vice-Presidents, one being Eglinton. By this time he rarely left home, so his election must have been in recognition

of his contribution to astronomy in Queensland and for successfully transferring the remaining property of the defunct Brisbane Astronomical Society to the new Society. Well-known local astronomer John Beebe was a Councillor of this new Society, but there was no mention of J. P. Thomson (see later).

In January 1930, a detailed and comprehensive interview on Eglinton's life and achievements was conducted by reporters at his home, indicating he still had complete command of his mental faculties (Anon., 1930). Another report stated: "... that those in his company, whilst engaged in animated conversation, were almost prone to forget that he was totally blind" (Anon., 1937b).

In December 1930 he was represented by Anna at a function for his 80th birthday, his health preventing him from attending. He continued contributing the occasional article to journals and newspapers (e.g. Anon., 1930; Anon., 1937b). In 1935 he was made an Honorary Life Member of the Astronomical Society of Queensland, and his final astronomical article, entitled 'The Southern Cross', was published in the *Queensland Agricultural Journal* in December 1936 (Eglinton, 1936).

Figure 5. ‘Vort Hem’ in William/Wade Street, Virginia (Google Earth).



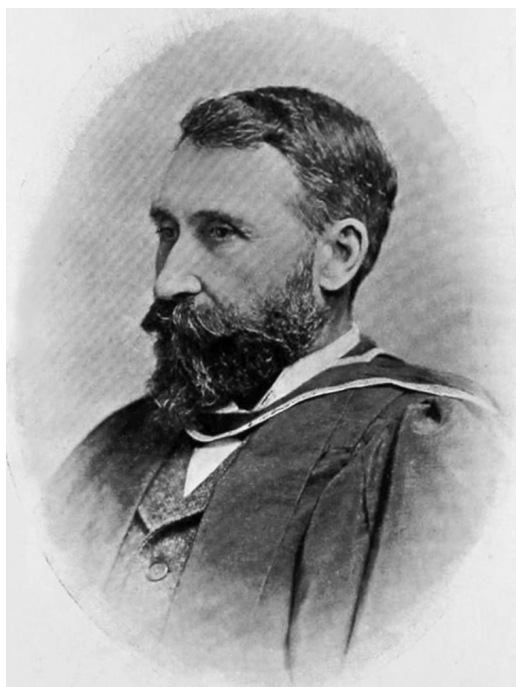
Dudley Eglinton died on 10 June 1937 and was survived by his wife Anna, and by three sons and two daughters from his previous marriage.

James Park Thomson

James Park Thomson (1854–1941) (Figure 6) was born in the Shetland Islands, the son of Laurence Thomson, a farmer. At age 18 he went to sea, visiting the United States and South America. Returning to Scotland, he learned the rudiments of marine engineering in Glasgow (Kitson, 1990). In 1876 Thomson visited New Zealand, and from 1877 spent two years working with surveyors in New South Wales. Securing an appointment in Fiji, he was registered as a land surveyor in March 1880.

Thomson was interested in astronomy, and in November 1881 he observed the transit of Mercury from Fiji, and the following year supervised observations of the transit of Venus from Levuka in Fiji (Kitson, 1990). In 1884 he travelled the South Pacific, before joining the Queensland Department of Public Lands in 1885 as a draftsman in the Survey Office. As part of a team, he helped compute the trigonometrical survey of South East Queensland (Kitson & McKay, 2006).

Figure 6. Dr James Park Thomson (after Thomson, 1904: Frontispiece of *Round the World*).



In 1885 Thomson was the driving force behind the formation of the Queensland Branch of the Geographical Society of Australasia (later the Royal Geographical Society of Australasia, hereinafter referred to as the RGSA). He was its honorary Secretary and President (1894–1897) and edited its journal (Kitson, 1990). Throughout his life he maintained a keen ‘hands-on’ interest in the Society.

Thomson’s observations of the transit of Mercury in 1894 (Anon., 1894a; Anon., 1894b) demonstrate his fine scientific approach and thoroughness. He accurately timed this event using Stanley’s 6-inch refractor (which is the focus of a later section of this paper) and three carefully calibrated chronometers. He published his observations in the *Monthly Notices of the Royal Astronomical Society* (Thomson, 1895).

Thomson established an observatory at his home, ‘Alsatia’ in Dornoch Terrace, South Brisbane (West End/Highgate Hill) on the north-west corner of the overpass with Boundary Street. Newspaper reports (Anon., 1899; Anon., 1901a; Anon., 1901b) of his observations of sunspots and comets mention the observatory and an equatorially mounted telescope, but do not provide details. In 1904 or 1905, Thomson left the Dornoch Terrace house. The electoral roll for 1908 has him living at Wood Street, barely 200 metres from his previous residence. It is not known whether the observatory was re-established there.

Thomson was involved in the formation of the Australasian Association for the Advancement of Science (MacLeod, 1988). He wrote more than 200 scientific papers and was instrumental in the adoption of the zonal system for reckoning time in Australia (Kitson, 1990). In 1900 the Queensland Branch of the RGSA named its foundation medal after him (Figure 7), and in 1901 he was its first recipient. Other honours included the Peek Award in 1902 from the Royal Geographical Society (London), and an honorary LL.D. from Queens University in Canada (1903). His book *Round the World* was published in 1904. There were further honours and achievements, including a CBE in 1920. Thomson retired from the Public Service in 1922 but continued to work tirelessly for the Queensland Branch of the RGSA.

After entering the Public Service in 1885,

Thomson rose slowly through the ranks of draftsmen until his retirement in 1922. He wasn’t listed as heading any specifically tasked Sections, and we venture that he may have been employed on special projects as the occasion arose. For example, in 1909 he successfully identified Burke and Wills’ most northerly camp in the Normanton area, Gulf of Carpentaria, and used astronomical observations to determine its position. He published a report on this in the journal of the Queensland Branch of the RGSA (Thomson, 1910).

Thomson was recognised as being an asset to the Survey Office (Kitson, 1990; Kitson & McKay, 2006) and was on good terms with many prominent citizens, probably in part due to his long association with the RGSA.

While living in Australia, James Park Thomson married twice, first to Grace Winter on 20 December 1880, and then, as a widower, to Ada Gannon on 29 June 1887. An accomplished horsewoman, Ada was also involved with the RGSA.

Figure 7. The Royal Geographical Society of Australasia’s James Park Thomson Medal, which shows Thomson’s likeness. In 1901 he was the first recipient (Source: Museums Victoria).



Later Life

After his retirement in 1922, Thomson seems to have moved at least once. The 1937 electoral roll records James Park Thomson at Woldene, via Beenleigh, Queensland. While working for the Lands Department and after retiring, Thomson travelled widely throughout Queensland, lecturing in such places as Charleville, Roma, Longreach, Blackall and Thursday Island. He raised the awareness of local people to their specific environments, while giving them a sense of union with the wider world.

Thomson died at Kilcoy, Queensland, on 10 May 1941 and was cremated. He was survived by his wife

Ada, their three sons and a daughter. Distinguished men wrote laudatory and affectionate tributes, among them Sir Douglas Mawson who extolled Thomson's energy and enthusiasm (Kitson, 1990).

Francis Drummond Greville Stanley and the Six-inch Grubb Refractor

This section deals with the Brisbane amateur astronomer Francis Stanley and his 6-inch telescope, which was to become the central focus of the newly formed Brisbane Astronomical Society. First we provide biographical information about Stanley, and then outline the basics of telescopes and observatories for those without an astronomical background, before describing Stanley's telescope and observatory.

Francis Drummond Greville Stanley (1839–1897) (Figure 8) was born in Edinburgh, Scotland. After studying and practising architecture in Edinburgh, he emigrated to Brisbane in 1861–1862, where he joined the Lands Department. He forged a successful career in the Queensland Government, finally rising to the post of Colonial Architect in 1873, but resigned in 1881 to concentrate on his highly successful private architectural practice.

Figure 8. Colonial Architect Francis Drummond Greville Stanley (Source: State Library of Queensland).



Stanley became the first President of the Queensland Institute of Architects in 1888. He was hard hit by the recession of the early 1890s and was forced into liquidation in 1895. The contents of his house and his observatory were to be auctioned on 30 April 1896, but he was able to retain the house itself. That same year he rejoined the Queensland Public Works Department as a temporary Inspector of Works. The following year he caught a chill at work, and three weeks later, on 26 May 1897, he died of pneumonia (Dictionary of Scottish Architects: Architect Biography report). His widow died in 1921. Throughout Queensland there are many buildings he designed: currently, nearly a dozen have heritage listings.

Telescopes and Observatories: An Introduction to the Terminology

There are two basic types of astronomical telescopes: reflectors and refractors. Refractors are of the 'spyglass' variety, with the main lens (called the objective) at the upper end and the eyepiece at the lower end of the tube. The resolution and light-gathering capacity of a telescope are proportional to the diameter of the main lens. For example, Francis Stanley's refractor had an objective 6 inches in diameter, which at the time was a very respectable size for a refractor owned by an amateur astronomer (Orchiston, 1997b). The most basic type of reflecting telescope – the Newtonian – employs a mirror which is located at the base of the tube, and the focus is commonly brought to the side of the upper end of the tube by a small, centrally placed diagonal mirror. The mirrors in reflecting telescopes often are much larger than the objectives in refracting telescopes. A reflecting telescope with a primary mirror 12 inches in diameter was associated with Dudley Eglinton. It is discussed later in this paper. At the time Eglinton and Thomson were active in Queensland astronomy, there were comparatively few amateur-owned reflecting telescopes in Australia with mirrors in excess of 12 inches in diameter (Orchiston & Bembrick, 1995), and we are not aware of any in Queensland.

Larger amateur-owned telescopes, be they reflectors or refractors, typically were not mobile and needed to be permanently mounted, preferably in an observatory. A hemispherical dome with an opening slot, or a building with a roll-off roof, enabled

the telescope to access most areas of the sky. Within the observatory, the telescope was supported by a mounting, often with a clockwork or motor mechanism (a 'drive' or 'clock-drive'), that compensated for the rotation of the Earth and ensured the object being observed remained in the field of view without the need for continual manual adjustment.

Another type of telescope common during the nineteenth and early twentieth centuries was the transit telescope, which was vital for establishing and maintaining an accurate time service. The transit instrument, nearly always a small refractor, was set in a mount carefully aligned so motion was only possible on one axis, from the northern horizon, through the zenith (directly overhead) and down to the southern horizon. The eyepiece contained one or more crosshairs so that the image of the target star could be accurately timed as it drifted across the meridian. To access the sky, a transit telescope only required a north-south slit in the roof of the observatory, directly above the transit instrument.

Six-inch Grubb Refractor

According to Holmes & Moy (1994) and Orchiston (1997b), Stanley's 6-inch telescope was built by Grubb, a famous telescope-manufacturing firm in Dublin (Ireland) in 1884 after being ordered by J. W. Sutton (ca 1844–1914) of Brisbane. Sutton was the owner of the Kangaroo Point Iron Works and, among other enterprises, was involved in shipping. He ordered the telescope on behalf of a client, John Potts, who paid £180 for it landed in Brisbane (White, 1921).

Potts (1828–1905) lived in Vulture Street, South Brisbane, and has been described as a scrivener (a professional or public writer, notary, etc.). He was also a successful land developer (Brown, 2017), sometimes in conjunction with his son 'Johnny', who in Anon. (1888) is described as a conveyancer. Not very long afterwards, Potts sold the telescope to Francis Stanley for £90, but only after he had already gone to the trouble and expense of building or starting to build an observatory for it. This loss of £90 in the purchase price would not have been large for Potts during the Brisbane land boom of the late 1880s (Brown, 2017).

Mr C. J. White, the Lecturer in Charge of the Sydney Teachers' College, appears to have been

the intermediary in this and other Queensland telescope sales. Potts told White that his son Johnny had fallen in love with a girl he did not approve of, and that: "If Johnny takes a liking to an Earthly Venus I do not approve of, he shall never see the heavenly Venus through my telescope" (White, 1921). John William Potts married Ethel Sarah Harcourt on 11 June 1888 and never did get to see the heavenly Venus. True to his word, Potts senior sold the telescope to Stanley.

Due to the financial depression of the early 1890s, Potts' residence, 'Chorlton Villa', was advertised for sale by the mortgagee in 1892 (Anon., 1892e). The description of the property also mentioned: "On a slightly-raised terrace, within a few yards of the veranda, a superb Marble Fountain with Large Masonry Basin and Base ..." It appears that the foundations of Potts' observatory had been converted into a fountain. In later years it was described as a 10'8" (3.25 metre) diameter fishpond (Steve Hutcheon, pers. comm., February 2019). This was a good, elevated observatory site close to the house. Potts sold the telescope before the 1892 mortgage sale, since it was not on the list of Potts' assets when his property was liquidated.

Stanley installed the 6-inch Grubb refractor in a square observatory with a roll-off roof near his ridge-top home 'Ardencraig' at Toowong (on the corner of Jephson and Golding Streets, using the present-day street names). Subsequently, Thomson (1895) published a description of the telescope. It was:

.... an equatorially mounted refracting telescope, 6 foot focal length, with object glass 6 inches in diameter, built by Sir Howard Grubb in 1884. It is the property of Mr. F.D.G. Stanley, F.R.I.B.A. The telescope rests on a hollow cast-iron column, 5 feet 9 inches in height and 18 inches diameter at the base, in which is placed the driving clock. The whole metal work is mounted on a stone and concrete foundation carried down to the solid rock 6 feet below the surface of the ground, perfect freedom from vibration being thereby secured.

The observatory ... is a wooden building 12 feet square with roof arranged so as to roll entirely off on a railway and framing built to receive it. There can be no doubt whatever that,

in a fine climate, this arrangement possesses many advantages to which I shall refer later on.

Included in the equipment of the observatory is a transit instrument, by Carl Bamberg, of Berlin (1879). This is placed upon a stone pedestal ...

The transit telescope was on loan from the Queensland Survey Office, and after Stanley's death it was returned to them (W. Kitson, pers. comm., 2020).

To place Stanley's 6-inch telescope in perspective, in November 1894 it was the equal-largest refracting telescope in Queensland. The late Edwin Norris (1829–1892) of Townsville and J. Ewen Davidson (1841–1923) of Branscombe (near Mackay) also had 6-inch Cooke refractors housed in observatories (see Orchiston & Darlington, 2017). Davidson's telescope returned to England in 1900 when he retired, but the other two 6-inch telescopes were only surpassed in aperture in 1918 when Dr W. E. McFarlane (1866–1919) purchased a 7-inch Cooke refractor that he installed in an observatory at Irvinebank a tin-mining town on the Atherton Tableland (Orchiston, 1985, 1997b). At a national level, in 1894 the only larger operational refractor owned by an Australian amateur astronomer was the 8-inch Grubb in John Tebbutt's Windsor Observatory, near Sydney (Orchiston, 2017). At this time, of all Australian astronomers, amateur and professional, Tebbutt had by far the most impressive international record when it came to publications and research (Orchiston, 2017), and his telescope also was significantly larger than Stanley's, so we cannot use him as the obvious 'role model' for Stanley. Nonetheless, a 6-inch refractor was capable of doing good work if placed in the right hands, and Davidson, for one, was able to demonstrate this (Orchiston & Darlington, 2017).

Thus, Stanley's Grubb telescope was capable of serious research, but the critical factor was the presence of an astronomer who could identify and successfully activate and lead a research agenda. This would prove the greatest challenge when the Stanley telescope was acquired by the fledgling Brisbane Astronomical Society, but a further factor would be the changing nature of astronomical research world-wide. Consequently: "With the emergence of astrophysics and the international decline of positional astronomy, refractors of extremely

modest aperture – by world standards – were no longer capable of contributing to astronomy in the same way that they had done during the nineteenth century" (Orchiston, 1997b).

The Brisbane Astronomical Society (BAS)

When Stanley's possessions were to be seized by his bank, he wanted the telescope to remain in Queensland. He offered to partially fund its purchase by a group of interested residents rather than see it possibly leave Queensland. Therefore, the telescope was not part of the auction.

At a meeting on 5 June 1896 at the North Brisbane School of Arts, an astronomical society was established to purchase Stanley's 6-inch Grubb telescope from Isles, Love & Co for £70. The 76 people who attended formed a Society of Ownership, each paying a "subscription" of £1.

Stanley contributed £20 towards the purchase of the telescope and consented to members using his observatory. The meeting decided the telescope would be used to stimulate interest in astronomy, and conjointly for scientific and general purposes. With the election of three trustees (J. P. Thomson, J. W. Sutton and W. Heath), five councillors and the 68 members, a Society of Ownership, the Brisbane Astronomical Society (henceforth BAS), was declared to be in existence (Page, 1959). F. D. G. Stanley became an honorary member, and Dudley Eglinton was elected Secretary.

The funding was on the basis of "personal debentures". Debentures usually indicate a fixed interest investment, but in this case the word was undoubtedly used to acknowledge a debt that may be repaid upon an event occurring at a later time. Such an event would certainly be the sale of the telescope, which occurred more than 20 years later, in 1917.

The Society had great plans, but they needed: a permanent site for the telescope; to decide who was authorised to operate it; to determine the rights of existing debenture holders versus new members (if allowed); and to resolve other ownership issues. These were discussed at a Council Meeting and at the following General Meeting on 7 August 1896, chaired by J. P. Thomson (Page, 1959). In retrospect, none of these issues was ever properly addressed.

One of the trustees, solicitor W. Heath, F.R.A.S., was an active observer, and with assistance from

J. A. Wheeler, carried out observations with the telescope to determine the latitude and longitude of the observatory. In the process they noticed there was a problem with the clock-drive, and at their 24 September 1896 meeting, the BAS Council authorised maintenance work by Mr A. Herga, a Brisbane watchmaker (Anon., 1896). Council also discussed the use of the telescope and the establishment of different sections to carry out distinct branches of astronomical work. Page (1959) elaborates on this:

Following the establishment of the Brisbane Astronomical Society ... proposals for the formation of a [*sic*] Meteor, Lunar, Solar, Planetary and Double Star sections were put forward. From a study of records available, it would appear that membership response to these proposals was shockingly poor and eventually little work in any one of these fields was accomplished.

Meanwhile, the BAS was concerned that the Queensland National Bank (which had sold Stanley's belongings) could at any time take possession of, or call for the removal of, the observatory. Following lengthy debate at a meeting of the BAS, Thomson moved that the telescope be handed over to the Royal Geographical Society of Australasia, Queensland Branch (of which he was President), with access provided to BAS members. This motion was carried in Eglinton's absence, but at an emergency meeting that he arranged soon afterwards, the motion was quashed and Eglinton successfully gained the necessary support to retain the instrument within the BAS. He also proposed raising £100 for the removal of the telescope from Stanley's observatory and its erection at a new site, but this did not occur and the telescope remained in Stanley's observatory. Fortunately, it appears the bank was not interested in claiming the observatory.

The first Annual Report of the Society on 6 August 1897 stated: "... in the twelve months of existence, the society can scarcely be said to have done anything." Page (1959) has suggested that the lack of leadership within the BAS at this time can partly be attributed to Stanley's death on 26 May 1897, but we have already seen competition emerging between Eglinton and Thomson. Both were capable, strong-willed men and 'key players' in the BAS, and they had already clashed over the issue

of telescope ownership. It would seem that they had different agendas and different astronomical objectives for the BAS: Eglinton was a teacher and an administrator and was committed to popularising astronomy; while Thomson, an experienced astronomical observer, recognised the potential of the 6-inch Grubb telescope and undoubtedly was inspired by what was occurring at the time in the dynamic Sydney amateur astronomical community (Orchiston, 2017). The Brisbane scene frustrated him: Brisbane lacked a Tebbutt (Orchiston, 2017), an Innes (Orchiston, 2015), a Merfield (*ibid.*), or any other prominent amateur astronomer with an international reputation to serve as a role model for those interested in observational astronomy.

Thomson was a pragmatic man. He realised that while some BAS members were genuinely interested in astronomy, others were prominent citizens who had contributed their £1 as a civic duty to keep the Grubb refractor in Brisbane, but they had no interest in research astronomy or in using the instrument. In a letter to John Tebbutt dated 6 June 1897, Thomson lamented that: "There is no room for such an institution [*i.e.* the BAS] here. Fifty years hence will no doubt be time enough for such a society" (Thomson, 1897).

In 1895 Thomson had delivered some astronomical lectures at the South Brisbane Technical College (Orchiston, 1997a) that may have stimulated Eglinton into doing likewise (*ibid.*). By April 1900 he had delivered seven public lectures that caused a resurgence of interest in the BAS and also raised funds. But this was short lived and only 10 people paid their annual subscriptions (Page, 1959), some maybe believing their original payment for the purchase of the telescope fully covered their obligations.

Some BAS members observed an occultation of Jupiter on 29 September 1900, but one year later only five members paid their dues and no meetings were held after the fifth Annual General Meeting on 3 October 1901 (*ibid.*). Eglinton continued to use the telescope for public demonstrations (Skertchly, 1905).

On 30 September 1911, a special telescope owners meeting was convened to determine the fate of the 6-inch Grubb refractor. It was claimed at one point that it was now useless for astronomical work. Cowley (1911) suggested it be donated to

The University of Queensland, but as Secretary of the BAS, Eglinton argued that the original purpose in purchasing the telescope was to prevent its removal from Arden Craig (Page, 1959). However, the real objective had been to keep the telescope in Brisbane, but not necessarily in Stanley's observatory. Members at the 1911 meeting suggested moving the telescope to a more central location, at Highgate Hill (ibid.). Currently, there is a high park with a fine vista, located at the corner of Dornoch Terrace and Hampstead Road, but whether or not this was the site suggested back in 1911 is unknown.

However, despite approaches to local Councils for support, nothing transpired, and Eglinton continued to run his public demonstrations at the same old address, using the Grubb telescope (Anon., 1915). By mid-1915 Australia was immersed in World War I, and these public astronomy nights were in support of the Belgian Relief Fund (Page, 1959). Money collected was donated through *The Brisbane Courier* by F. R. MacDonnell, the new

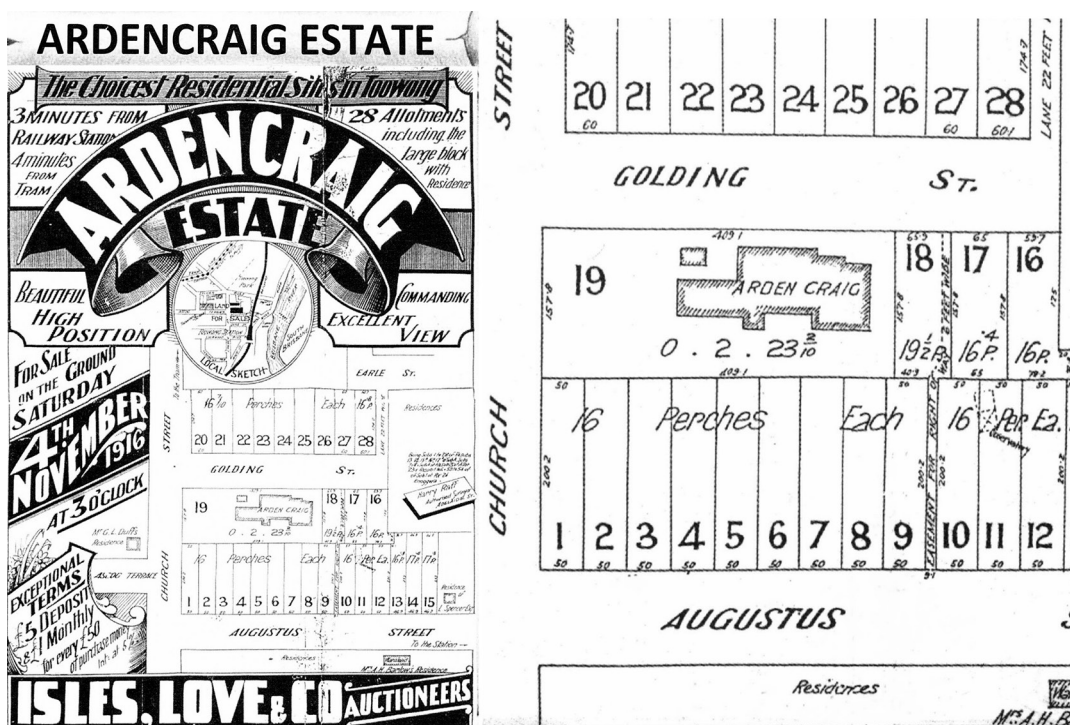
owner of Arden Craig, who was in residence by April 1915. Obviously, the telescope was in an operable condition at this time, as it was on 30 July 1916 that Eglinton and others viewed a partial solar eclipse (Anon., 1916a).

The telescope had remained in its original observatory for 20 years since the Brisbane Astronomical Society acquired it in 1896, and apparently no serious attempt had been made to relocate it. The Society had become moribund. Meetings were no longer held or subscriptions paid, and only Eglinton continued to use the telescope. Events were to take a dramatic turn.

Removal of the Grubb Six-inch Refractor from Arden Craig

Mr MacDonnell, who had bought Arden Craig, decided to subdivide the estate (see Figure 9), and on 7 October 1916 he advertised it for sale (Anon., 1916b). Although the auction was to be held on 4 November 1916, viewing nights with the telescope continued for a short while (Anon., 1916c).

Figure 9. The 1916 subdivision of Arden Craig estate, including a close-up of the location of the observatory (Source: Marilyn England).



A notice appeared in *The Daily Mail* (Brisbane) of 3 November 1916 regarding the auction the following day. The worrying aspect of this notice stated:

There has been a good demand for plans and buyers are reminded that the sale commences at 3 p.m. sharp with the buildings for removal and the galvanised iron, to be followed immediately by the sale of the allotments (Anon., 1916d).

In the subdivision plan, the observatory building and roll-off roof straddled Lot Nos. 10 and 11 (shown in the right-hand side of Figure 9).

On 4 November 1916, a notice appeared in *The Brisbane Courier*: “Owing to the sale of land at Ardencraig to-day, the Astronomical Society’s telescope will not be available to visitors until further notice” (Anon., 1916e). Arthur Page states that the public nights were:

... abruptly terminated by Thomson, acting now as sole trustee, who “surreptitiously” removed the objective from the telescope ... on the pretext that the sale of Ardencraig jeopardised the safety of the instrument, and with that action, the Brisbane Astronomical Society walked out of existence (Page, 1959).

But since Page carried out his research, historical newspapers have become readily available via Trove, revealing much additional information. For example, the following long article dated 21 March 1917 in *The Brisbane Courier* describes the actual sequence of events:

The Ardencraig Telescope.

More than ordinary interest attaches to the announcement of the sale in Brisbane next Saturday of a telescope. This is the instrument which has for many years been the property of the Brisbane Astronomical Society ... As Mr. Stanley, the then vendor, still lived at Ardencraig, the telescope was not removed, and Mr Stanley permitted the new owners to use his well-adapted observatory ... When the property was sold to Mr. Francis MacDonnell, that gentleman allowed the telescope to remain on the payment of a nominal sum for security, and proposed an arrangement by which it was used in aid of the “Courier” Patriotic Funds (which

benefited to the extent of over £25) till the land on which it was situated was again sold. Prior to the sale Mr. J. P. Thomson, acting in his capacity as sole remaining trustee, without the knowledge of Mr. Eglinton, who had virtually been custodian of the instrument for many years, took possession of the telescope “for safety.” A meeting of the shareholders of the society was subsequently held, and it was decided to sell it, Dr. Taylor [1840–1927; Chairman of the BAS] and Messrs. Eglinton and Thomson being appointed trustees with power to sell the telescope, which is now in the hands of the auctioneer. Mr. Eglinton does not concur in the proposal to sell, but has been overruled. Some of the surviving shareholders have assigned their interests in the telescope to Mr. Eglinton, and as that gentleman has in the past done much to promote the study of astronomy locally, it is hoped that he will be put in a position to secure the telescope and continue his work (Anon., 1917b).

The following day, a long letter in *The Brisbane Courier* from Dr W. F. Taylor advised:

... that at the last annual meeting of the members of the Astronomical Society, Brisbane, held about 10 or 12 years ago, he was elected chairman and Mr. D. Eglinton secretary, and they remained in office until November 24 last, because all attempts to hold meetings of the members proved futile. During that time Mr. Eglinton assumed charge of the telescope, and kept possession of the key of the house in which it was erected, but he consulted the chairman of the society (Dr. Taylor) on all matters requiring decided action. On October 27, 1916, Dr. Taylor had brought under his notice an advertisement for the sale of the Ardencraig land, on November 4, 1916. He saw that prompt action should be taken to protect the telescope, and started to ring Mr. Eglinton on the telephone, but found that he would not be at his residence ... Then he got into touch with Dr. Thomson, the only remaining trustee of the telescope who at once consulted his solicitor, and was advised to take immediate possession of the telescope, for when the land on which it stood was sold, the purchaser might raise some objection to anyone removing it. He (Dr. Taylor) thereupon

urged Dr. Thomson to act on his solicitor's advice, and get possession of the instrument as soon as possible. At a meeting of the members of the Astronomical Society, on November 24, 1916, the subject was fully discussed and the following resolutions adopted :—"That this meeting confirms the action of Dr. Thomson in removing the telescope under the circumstances of the sale of the site." Mr. Eglinton and Dr. Taylor having been appointed trustees to act in conjunction with Dr. Thomson, the following resolution was adopted :—"That the trustees be empowered to sell the telescope after advertisement to the highest bidder." This resolution was confirmed at the subsequent meeting of the members of the society on February 26, 1917. In conformity with the above, the trustees decided to place the telescope in the hands of Mr. A. S. Phillips, auctioneer, Queen-street, for sale, and sent him a letter of authority which all three signed (Taylor, 1917).

Then, in a letter printed immediately below Dr Taylor's letter, Mr MacDonnell, the owner of the land wrote:

Sir,—In your paragraph this morning concerning the Ardencraig telescope there are one or two sentences which may cause a wrong impression, and lead the public to think that I derived some pecuniary benefit from the money subscribed towards the "Courier" Patriotic Funds, which Mr. Eglinton and I collected at the observatory in 1915 and 1916 ... In April 1915, after I had come to live here, it occurred to me that the telescope ... might be used to ... benefit some of the funds which were then afoot. I consulted Mr. Eglinton, and he very enthusiastically approved my suggestion. He offered to pay me rent, but I agreed to allow it to remain rent-free while the war lasted, provided that the proceeds were to be devoted to the purpose indicated above. We agreed that he should pay a small sum, and that it should be one penny per month during the continuance of the war. This we considered sufficient to establish the relationship of landlord and tenant between us ... With regard to the telescope being removed "for safety," I may state that whilst being housed here, it could not

have been safer in the Bank of England. It was in a strong wooden structure, roofed with iron, and under lock and key. With its removal I had nothing to do. Had it been allowed to remain, Mr. Eglinton, I am sure, would have been only too glad to continue as before, during the war. Very few know except myself, the number of dreary nights he spent there in the dark, waiting for the patrons who failed to come, whilst I sat outside under the shelter of a friendly bush or tree to look after the signal lights, and guide the visitors to the observatory (MacDonnell, 1917).

MacDonnell's letter ignores the legal position when the land the observatory stood on was sold. MacDonnell was responsible for this situation, but maybe wanted to justify his position. From the letters there seems to have been a certain amount of controversy.

Why was the telescope removed and sold? The immediate impetus was the sale of the land on which it was situated, but more importantly, the Brisbane Astronomical Society had ceased to operate. In the 20 years since they acquired the telescope, the only person who regularly used it was Eglinton, and the BAS had not found a new home for it after the sale of Ardencraig. The obvious and sensible action was to sell the telescope and remove this continuing burden. Thomson seems to have been a pragmatic man, and just the person to do this. Whether he removed the whole telescope or just the objective, as Page (1959) states, it set the steps in motion, and it is now obvious that this was carried out under the proper authority and subsequently ratified by a meeting of the Society.

Page (ibid.) refers to the telescope as missing and that the Society formed in 1927 (its name soon changed to the Astronomical Society of Queensland) had a claim to it because Eglinton (now a Vice-President of the new body) managed to have the funds and property of the BAS transferred to it. The Astronomical Society of Queensland therefore regarded itself as the direct successor of the earlier Society. However, new information available through Trove tells a different story. As advertised in *The Brisbane Courier* on 17 March 1917, the telescope was to be sold by auctioneer A. S. Phillips on 21 March 1917 (Anon., 1917a).

Sale of the Grubb Six-inch Refractor, a New Observatory, and the Demise of the Brisbane Astronomical Society

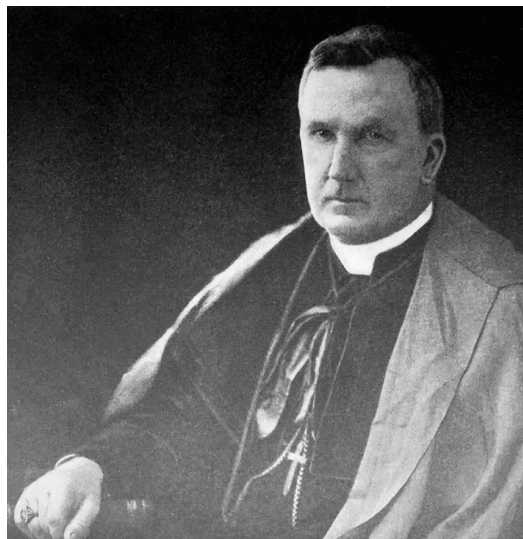
The following news item appeared in *The Brisbane Courier* on 26 March 1917:

The Ardencraig Telescope.

The fine 6in. astronomical telescope from Ardencraig, Toowong ... was disposed of at auction at Mr. A. S. Phillip's mart on Saturday morning, when it was purchased on behalf of Dr. Duhig, Roman Catholic Archbishop of Brisbane, for £85. Dr. Duhig states that the telescope will be mounted at one of the Roman Catholic colleges in the Brisbane district, where arrangements will be made for scientists, students, and the public to have access to it (Anon., 1917c.).

Note that James (later Sir James) Duhig (1871–1965) (Figure 10) had been appointed Archbishop that year (1917), the beginning of a long and illustrious career that would see Catholic churches crowning many hilltops in the Brisbane area.

Figure 10. Archbishop James Duhig (after Nudgee College 'Annual', 1924).



With this sale, the successors of the Brisbane Astronomical Society could lay no claim to the telescope, and soon after, the following public notice appeared in *The Telegraph* (Anon., 1917d):

THE BRISBANE ASTRONOMICAL SOCIETY.

The Committee have decided to distribute the proceeds amongst the original subscribers in proportion to their subscriptions.

No claim recognised which is not made before 1st August, 1917.

Address : ROBERT H. MILLS,
A.M.P. Chambers, Brisbane.

For 12 months after Archbishop Duhig purchased the telescope, it was in the workshop of Mr H. W. Valle (a well-respected Brisbane instrument maker who also sold and repaired surveying equipment), undergoing restoration (see Figure 11). He charged £45 for removal, restoration and storage, and £400 fire insurance (Catholic Church archives) – this surprisingly large latter figure possibly the estimated replacement cost.

Archbishop Duhig planned to install the telescope at St. Joseph's College on Gregory Terrace in 1918 in conjunction with a new Science Hall, but it was removed from Valle's workshop before the Science Hall was completed, and instead went to a new observatory at St. Leo's College on Wickham Terrace in 1919 (Head, 1991). Figure 12 shows that the building was rectangular and aligned N–S, E–W, and contained a dome and adjoining transit slits within the same roof line and building footprint. A 1924 Brisbane City Council plan shows a second 8-foot square room on the eastern side.

In detailing the history of St. Leo's College, Father Michael Head (1991) describes how construction of the observatory in 1919 was "... under the direction of Mr J. Beebe, a man greatly interested in astronomy, who gave a number of night lectures on the subject to college students". As an architect and former owner and builder of the East Bendigo Observatory in Victoria, John Beebe (Anderson, 2020; Martin & Orchiston, 1987) was an excellent choice to design the observatory and oversee the project. Researchers should note that Father Head incorrectly identified the Grubb telescope as coming from the estate of Clement Wragge (1852–1922); however, at this time the former Queensland Government Meteorologist was alive and well and living in Auckland, New Zealand.

In *The Ascent of Tabor: Writing the Life of Archbishop Duhig*, Father T. P. Boland (1986)

claims that the Archbishop saw himself as a patron of the sciences, and apart from St. Leo's College Observatory there were other examples involving plans for telescopes, observatories and the acquisition of scientific equipment, and their donation to church institutions.

Towards the end of the 1920s, the telescope fell into disuse and the "lenses" (presumably the eyepieces rather than the 6-inch objective) were stolen (Head, 1991). A 1946 aerial photo shows the observatory building still there, but around this time the land was added to the new Holy Spirit Hospital next door. A 1951 aerial photo shows the building gone, and in 1960 St. Leo's College moved to The University of Queensland campus at St. Lucia.

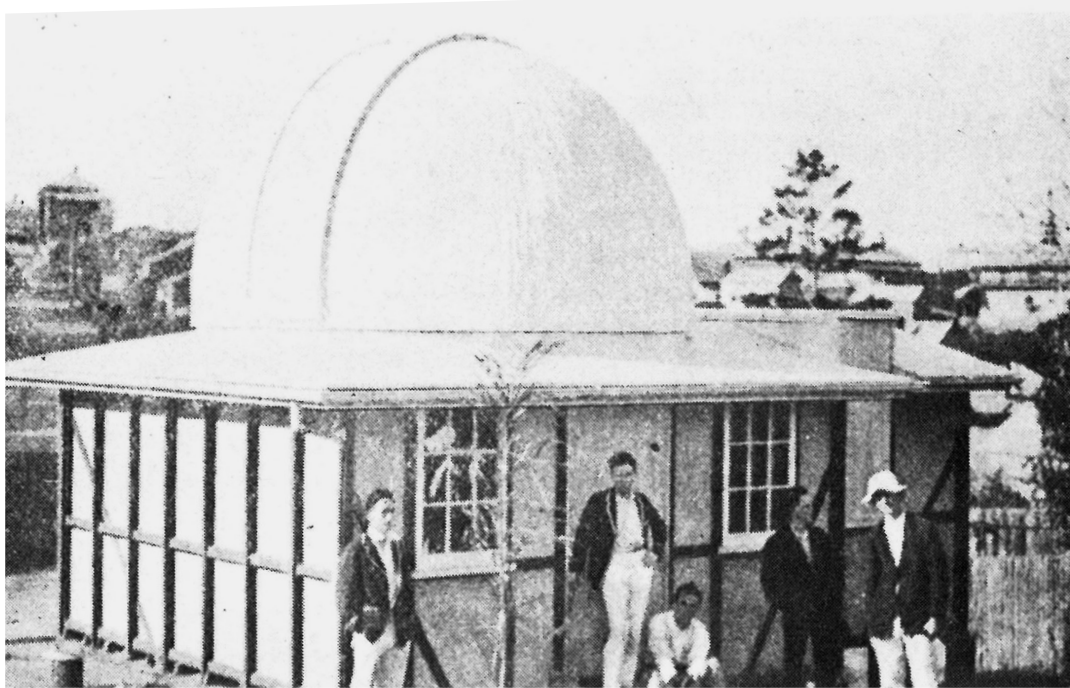
There is no published record of what happened to the 6-inch Grubb telescope after this. However, Bill Kitson (pers. comm., 2020) notes that on

24 April 1952 the well-known Brisbane long-range weather forecaster Inigo Jones gave a lecture to the Historical Society of Queensland titled "My Seventy Seven Years in Queensland". He described visiting Mr Stanley many years earlier, and he then referred to "... the Grubb telescope now at Nudgee College and which I was one of the first people to see through. Later His Grace Archbishop Duhig offered me the use of this instrument." We must presume Jones declined Duhig's offer and that the telescope was then transferred to Nudgee College. However, an extensive search by the college archivist failed to uncover any evidence of the telescope. It may have been placed in storage and not properly recorded (Kitson, pers. comm., 2020). Nearly 90 years have elapsed since the telescope was allegedly given to Nudgee College, so it is possibly still there, stored, neglected and long forgotten.

Figure 11. A view of part of Valle's workshop in 1917, showing the 6-inch Grubb refractor on the left (after Kitson & McKay, 2006).



Figure 12. The St. Leo's College Observatory in 1919 (after Head, 1991).



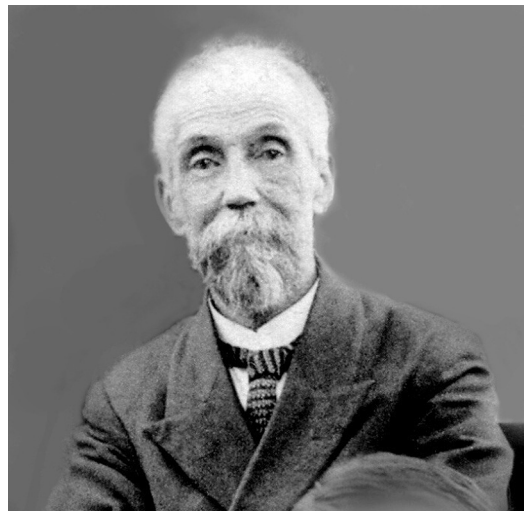
Meanwhile, research by Bill Kitson (pers. comm., 2020) has revealed that the St Leo's College Observatory transit instrument was made by William Wray (1829–1885), a well-known English telescope maker. After the observatory ceased to function, this instrument was at The University of Queensland for a period while surveying courses were conducted, and was then sent to the Queensland Museum of Lands, Mapping and Surveying.

The Queensland Popular Science and Art Society and the Twelve-inch Reflecting Telescope

Reports published in *The Telegraph* (Anon., 1919a) and the *Daily Standard Brisbane* (Anon., 1919b) state that on Saturday, 10 May 1919, Dudley Eglinton (Figure 13) held a meeting at his residence in Toowong, and the Queensland Popular Science and Art Society was formed. There were about 35 people present, including several dignitaries. Mr Herbert F. Hardacre (1861–1938), the Minister for Education and Secretary for Public Instruction, was the chairman. Those at the meeting were

informed that while astronomy would be the central pivot of the new Society, it would embrace all branches of science and art.

Figure 13. Dudley Eglinton in 1918, not long before he formed the Queensland Popular Science and Art Society (Photo courtesy of Richard Tassicker).



Those at the meeting also learned that “... Mr Eglinton had succeeded in purchasing an excellent telescope ...” (Anon., 1919c) with funds subscribed, and it would be the property of the Society (Anon., 1919d). Using Society subscriptions to purchase a telescope was reminiscent of the acquisition of the 6-inch Grubb refractor by the BAS back in 1896. This time it was a 12-inch reflector. Mr Hardacre promised to provide the Society with access to a large meeting room in the old Fire Brigade Building (Figure 14) that was under his jurisdiction (Anon., 1919c; Anon., 1919d).

Figure 14. The Old Fire Brigade Building, Ann Street, in 1891 (Source: State Library of Queensland).



Neither J. P. Thomson nor John Beebe was mentioned as present at the meeting of the new Society, which was not surprising given the clashes between Thomson and Eglinton over the 6-inch Grubb telescope and Beebe's involvement with the St. Leo's College Observatory.

The 12-inch reflecting telescope Eglinton purchased in Sydney for the new Society appears to have belonged to George Hoskins (1883–

1953) (Orchiston & Bembrick, 1997), a prominent British Astronomical Association (New South Wales Branch) member, who in 1917 had replaced it with an 18-inch reflector (Orchiston & Bembrick, 1995). After he acquired the 18-inch reflector, there was no further mention of the 12-inch telescope in Sydney, and we know from later events (ibid.) that Hoskins was in touch with Brisbane astronomers at this time, so the sale to the Brisbane Society is logical.

On 24 June 1919 *The Brisbane Courier* reported that:

... the large telescope purchased in Sydney would be forwarded by rail at once, and could be expected in Brisbane during the coming week. It is proposed to exhibit it in the windows of Messrs. Smellie and Co.'s shop in Queen Street for a few days. Arrangements will then be made for placing it on top of the Old Fire Brigade Station, near the Central Railway Station. Although this is not regarded as an ideal position, it will afford many advantages, at least temporarily, and will be very accessible (Anon., 1919c).

On 3 July 1919, *The Telegraph* reported on a meeting of the Council of this Society, and that: “As soon as the telescope is placed in position and safely housed, astronomical observations will begin, and public lectures on astronomy delivered by Mr Dudley Eglinton, F.R.A.S., under auspices of the society ...” (Anon., 1919d). On 28 July 1919, *The Telegraph* reported the display of the telescope; that it had been made by Calver (indicating its quality); that the mirror was being re-silvered; and that: “A platform and small house to protect the telescope are to be erected” (Anon., 1919e). The “small house” was Stanley's observatory that was relocated to the roof of the Old Fire Brigade Station (Steve Hutcheon, pers. comm., 2019).

But progress was slow in making the telescope operational (Anon., 1919f), and on 28 February 1920 Eglinton mentioned that “... its complete adjustment has not yet been effected, and some month or two must elapse before the telescope can become usable” (Anon., 1920).

Eventually the telescope was operational, and certainly by 21 September 1922 when *The Brisbane Courier* reported:

THE TELESCOPE AT THE OLD FIRE BRIGADE STATION.

Mr Dudley Eglinton, F.R.A.S., advised the "Courier" last evening that he would be at the telescope housed on top of the Teachers' Training College (old Fire Brigade Station), at the corner of Edward and Ann streets, this afternoon, between 3 and 5 o'clock, and would be pleased to see all who had subscribed towards the purchase of the instrument (Anon., 1922).

The time and date were not randomly selected, because that very afternoon a total solar eclipse swept across Australia. Brisbane was slightly north of the track of totality, but nevertheless 98.3% of the Sun's disc was covered at maximum at 4.15 p.m., leaving only a very thin visible crescent. Thus, Dudley Eglinton was once again using a telescope for a public demonstration.

After this date, there were few references in Brisbane newspapers to the Queensland Popular Science and Art Society or the 12-inch telescope, though Eglinton continued to lecture and write articles.

Dudley Eglinton became totally blind in 1924 or 1925, ending his involvement in public viewing nights. He had single-handedly occupied the position of 'demonstrator' for over a quarter of a century, first with the 6-inch Grubb refractor and then with the 12-inch reflector. It is believed no one could be found to fill his shoes.

The 12-inch telescope remained atop the Old Fire Brigade Building/Station for a number of years, largely unused. It was moved several times and refurbished, eventually coming to the Astronomical Society of Queensland, but it lacked a satisfactory permanent home. The Sir Thomas Brisbane Planetarium now has the primary mirror, other optics and some fittings, and these are on display occasionally. The main mirror is historic. Its rear is engraved as follows: "With of Hereford made me in February 1877" and "Corrected by G. Calver /04" (see Figure 15). Both George With (1827–1904) and George Calver (1834–1927) were well-known and respected English telescope makers (Marriott, 1996; Dall, 1975).

Figure 15. A close-up of the rear of the 12-inch mirror showing the inscriptions (Source: Mark Rigby).



Concluding Remarks

The period from 1890 to 1920 saw a flowering of interest in astronomy throughout Australia (see Haynes et al., 1996), but unfortunately the population base and demographics of Brisbane at this time were not sufficient to maintain a local astronomical society. Thomson made this point in 1897. Unlike in Sydney, Melbourne and Adelaide, there were no role models with international reputations who were committed to observational astronomy, and there was no government-funded professional observatory to foster amateur–professional relations and encourage serious observing programs (Orchiston, 2017). The BAS also was formed for the wrong reason – to keep a 6-inch refracting telescope in Brisbane, rather than to foster observational astronomy and telescope making, as occurred in other contemporary Australian astronomical societies (Orchiston, 1998). Consequently, the BAS went into a steep decline soon after its formation in 1896 and achieved very little. Even its centrepiece, the 6-inch Grubb refracting telescope, although later installed in a new observatory at St Leo's College, was only in operation there for a fairly short period before being lost forever.

The two main BAS protagonists, Eglinton and Thomson, memorably clashed in 1897 soon after the formation of the BAS, and again two decades later in late 1916, in both cases regarding the Grubb telescope.

Individuals like Thomson, whose main interest was not astronomy, were able to achieve much in their chosen fields. Thomson's own position with the organisation he founded in 1885, the (Royal) Geographical Society of Australasia, Queensland, was very similar to Eglinton's with the BAS, but in contrast, Thomson was successful. He actively promoted and supported the Society throughout his life, and it is still extant. Over the years, he received due recognition for his promotional work and his research, including an Honorary Doctorate and a CBE.

Eglinton doggedly and unsuccessfully supported the Brisbane Astronomical Society and later the Queensland Popular Science and Art Society. He employed the same formula he had used for the 6-inch refractor, to fund a 12-inch reflecting telescope for the latter Society. This telescope, when finally operational in 1922, was only in use for a very short period before Eglinton became blind, which put an abrupt end to his observational endeavours. There were then no further signs of life from the new Society. The overall impression is one of sadness at Eglinton's failure to maintain a viable astronomical society and produce useful scientific results, but he was not a research astronomer. He had the personal satisfaction of being appointed a Vice-President of the newly formed Astronomical Society of Queensland in 1927, and in 1935 being made an Honorary Life Member.

Acknowledgements

Research by Steve Hutcheon into the history of various late nineteenth and early twentieth century telescopes in Queensland prompted the first author's interest in the subject. Steve's continued dogged research provided much of the background for this paper. Mr. William (Bill) Kitson, Retired Senior Curator, Museum of Lands, Mapping and Surveying (Queensland Government), has been exceptionally helpful in providing information in his own sphere of expertise and has made a very valuable contribution to this paper. We also express our appreciation to staff at the State Library of Queensland for their assistance, and we are grateful to Richard Tassicker and Katie Eglinton (descendants of Dudley Eglinton), Marilyn England (Toowong History Group), Mark Rigby (Curator of the Sir Thomas Brisbane Planetarium), Museums Victoria, the Queensland Museum of Lands, Mapping and Surveying, and the State Library of Queensland for kindly providing images used in this paper. Finally, special thanks go to the Honorary Editor PRSQ, Angela Arthington, for her guidance and assistance.

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Peter Anderson has been President of the Astronomical Association of Queensland and its predecessors on five occasions since 1966. In addition to active participation in astronomical tourism, especially to observe total solar eclipses, Peter has been a guest lecturer on cruise ships for nine years presenting astronomical topics. He has also written many articles and is an active contributor in the field. For the last 40 years he has conducted astronomical research from his observatory at The Gap, Brisbane, specialising in the field of lunar and asteroidal occultation of stars. Peter maintains a strong interest in the history of Queensland astronomy.

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