

## OBITUARY

## Penrhyn Francis Thomas 1918–2010

Contact lens pioneer, innovator and entrepreneur

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Contact lens pioneer, Penrhyn Thomas, died on 2 May 2010, while living independently at the age of 91 years in Menai, Sydney, with his wife Trish.

He was among the first contact lens practitioners in Australia and perhaps foremost in encouraging optometrists to fit contact lenses as a routine part of optometric practice. He was a driving force in the development of corneal lenses.

Pen Thomas was born on 25 October 1918 in Pymble, NSW. His father was Welsh, born near Penrhyn in North Wales, from which we can presume came Pen Thomas's name. His father had immigrated to Australia in 1882 and married into the Badgery family, who were 18th Century free settlers with properties in New South Wales and Queensland and who were prominent in public affairs.<sup>1</sup>

At high school, Pen exhibited aptitude in technical skills and drawing, the former being a building block for his career in optometry and the latter the basis for his leisure in later life.

Pen studied optometry at the Sydney Technical College and graduated with his Associateship of the Sydney Technical College (ASTC) in 1939. He later obtained his BSc in optometry from the University of New South Wales in 1956.

**Penrhyn Thomas**

He became a Fellow of the American Academy of Optometry in 1968.

Initially, he practised in Kogarah in the southern suburbs of Sydney, before establishing his practice in the central city. He married and grew a moustache to present a more mature image to his patients. Almost immediately, he embarked on fitting contact lenses. Following the lead

of WG Kett, an esteemed optometric leader of the day,<sup>2</sup> he fitted Zeiss glass haptic lenses at a time when very few optometrists did so. In Melbourne, the only optometrist known to be fitting contact lenses was Ernst Goetz, who fitted glass haptic lenses from the late 1920s.<sup>3</sup> Plastic and corneal contact lenses were yet to be invented.

Pen Thomas the innovator was soon to emerge. In 1942, he manufactured and fitted the first Australian made plastic haptic lenses. This was the developing era of plastics. The chemistry of polymethyl methacrylate had been discovered in 1877 but it was not until 1933 that Plexiglass was patented as a commercially viable safety glass and not until the Second World War that it gained widespread use in canopies and windscreens. By 1946, Pen was manufacturing plastic haptic lenses for interested optometrists from across Australia and New Zealand and he provided tuition in his rooms to spread his knowledge and teach his techniques, something he willingly undertook throughout his professional career.

Pen quickly became an acknowledged expert and was asked by the New South Wales Institute of Optometrists to report on the status of contact lenses. He recommended additional education and the formation of an interest group. In Adelaide in 1947, he gave a paper on contact lenses in the Optometry Section of the annual congress of the Australia and New Zealand Association for the Advancement of Science (ANZAAS). This was the first to be presented at such a meeting and again he recommended that a special interest group for contact lenses be formed. Travel was not as easy in the 1940s as it is today. Distance between practitioners and the lack of quick and easy communication thwarted the development of a society. It was not until 1961 that Hamlyn Brier and some of his Queensland colleagues reignited the interest group now known as the Cornea and Contact Lens Society of Australia. Pen was a member of the NSW committee that helped form the society.<sup>4</sup>

Pen was also an entrepreneur. He founded the Corneal Lens Corporation Pty Ltd in 1949 for commercial production of contact lenses in Sydney and in 1951, the company began the manufacture of corneal microlenses, the first in Australia, based on the Tuohy design and manufactured in perspex type plastics. Always restless for progress, Pen pursued improvement in tear flow by modifying the peripheral curves. He also promoted the Dickinson Microlens, which was con-

sistent with his thinking and this led to his research for the Conoid lens.

An entrepreneur is also a promoter. Joy Turpin, a star in 'Kiss Me Kate' at the Theatre Royal in Sydney in 1952, had been provided with contact lenses by Pen Thomas. She was highly myopic and had never seen her audience until the night of Saturday 22 November, when she wore her contact lenses during a performance for the first time.<sup>5</sup> Her optometrist, Pen Thomas, was in the audience that night. Somewhat akin to product endorsement by a sports star today, Joy Turpin became a marketing tool for corneal lenses and for Penrhyn Thomas. He also featured in a 1948 British Pathé newsreel demonstrating the moulding of an eye for a haptic lens.<sup>6</sup> The British Pathé cataloguer of the film clip comments: 'This looks horrible! Yeuch! This should be avoided by squeamish people.'

The principles of the Conoid lens design evolved from patents taken out in 1962 and the lens was launched to optometrists in 1964. I was one of the final-year students at the University of New South Wales exposed to Conoids before their official launching. The peripheral zone was tangential to the spherical optic zone, changing the tangent angle by altering the optic zone diameter. Pen's guiding principle was to have a controlled pressure gradient in the lens periphery to provide less nerve stimulus on the peripheral cornea. The central optic zone was usually fenestrated to aid tear exchange. Following the publication of his book *Conoid Contact Lenses* in 1967 some design features were modified, mainly the diameter and the Clitan lens design was born (Contact Lens International Tangent Cone). The second edition of Pen's book was published in 1970 with the assistance of Tom Willis, who worked with Pen, and was translated into French and German.

In 1968, the Corneal Lens Corporation moved to larger premises with a staff of over 30. Pen was in demand to speak to groups, associations and the corporations of those days and took optometrists into his rooms for individual training. By this stage, Pen had travelled extensively within Australia and across to New Zealand to

teach contact lens fitting and to establish professional and business associations. Also in that year, Pen and his wife travelled to Europe by sea to conduct a grand tour to promote Conoids in the UK, Scandinavia, Germany, Switzerland, France, Belgium and the Netherlands, communities of differing interests and with different optometric backgrounds. Pen attended an international meeting in Athens in 1968, which was actually a cruise from Piraeus with 80 delegates, spreading his Conoid message. In Pen's frequent and rather extended absences his patients were cared for by his colleague, Tom Willis.

Soft contact lenses trickled through in the late '60s to a few who ordered them directly from Otto Wichterle. They showed huge variations in manufacturing tolerances. Pen readily signed a licensing agreement in 1970 with Griffin Laboratories of Buffalo, New York, for their soft lens product named the Naturalens, made from Bionite material, which allowed local manufacturing from buttons of material supplied in dry form. This permitted further expansion of the business of Corneal Lens Corporation and led to a change of the company's name to the Australian Optical Corporation and ultimately to the International Optical Corporation. Those company structures allowed branches in each state in Australia for distribution of Bionite lenses and to expand the business to a comprehensive optical supplier of spectacle lenses and frames.

Through the supply of lenses to United Kingdom, Pen acquired a controlling interest in Contactalens in England. He had also established distribution agreements in New Zealand and Asia. In 1977, a toric lens design was patented from work done by Don Noack and Pen. When the Corneal Lens Corporation Philippines was sold to Hydron, Pen was appointed Hydron Research and Development Manager Australia and from that the Hydron Zero 6 contact lens was born in 1978.

Pen was a lecturer and clinical supervisor at the Sydney Technical College from 1948 and when the optometry course was transferred to the University of New South

Wales he continued to teach until 1972. He presented three papers to one of the early Contact Lens Society of Australia's congresses held in 1966 at the University of New South Wales. He spoke about Conoids, as might be expected, but also about the contact lens management of keratoconus and moulding techniques in prescribing microlenses.

I was a student at the time and with my fellow students had the privilege of witnessing the skills of contact lens fitting and the different approaches of Pen Thomas and other the leading contact lens figures of the day when contact lens technology was evolving rapidly and contact lenses were moving from the domain of the specialist to mainstream practice.

Pen could best be described as dapper, in dress and presentation, with his pencil moustache and pipe, often unlit, and his double-breasted suit. He had a manner of holding himself with a casual confidence and when a question was posed he would arch his back and lean slightly backwards in contemplation, always with a faint smile, before coming forward with his answer, the pause perhaps to reinforce the thought and certainty implied in his answer.

Pen retired from practice in 1996 at the age of 78. Here was a man who enjoyed what he did and was not in a hurry to leave it. His practice was continued by Charles McMonnies and more recently by Gavin Boneham.

I had the honour of visiting Pen only a few weeks before his passing to present him with Honorary Life Membership of the Corneal and Contact Lens Society of Australia, an honour well earned.

Penrhyn Thomas is to be remembered as a pioneer of corneal lenses in Australia, for putting Australia on the international stage and for willingly providing specialist training for optometrists keen to learn. He brought contact lenses into mainstream optometry in Australia.

In writing this obituary, I am indebted to Joe Garvin, a fellow student with Pen in 1939; Brian Smith, who attended one of Pen's early training tutorials; John Strachan, fellow specialist contact lens practitioner and clinical lecturer from Melbourne; Don Noack, who worked with

Pen from 1972 to 1977; Dr Lewis Williams, optometry archivist; Lloyd Owens, who attended Pen's tutorials and Sue Hickey, Pen's daughter.

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