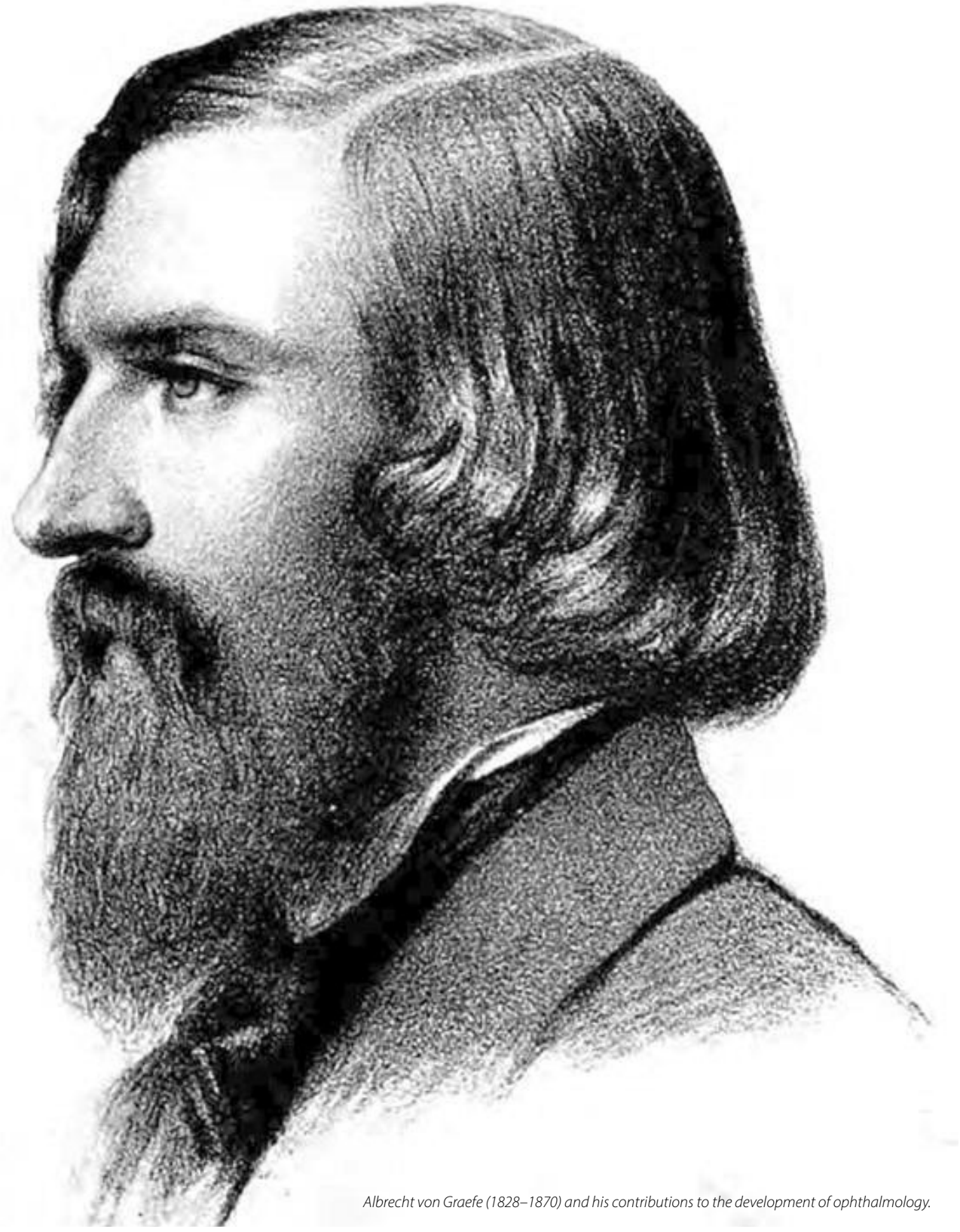
RANZCO Eye Museum



Albrecht von Graefe (1828–1870) and his contributions to the development of ophthalmology.

The Legacy of Albrecht von Graefe (1828-1870)

Albrecht von Graefe, the German ophthalmologist, was the first to describe iridectomy as a surgical treatment for glaucoma.

He made significant contributions to neuro-ophthalmology, describing Ushers syndrome and providing early descriptions of optic neuritis, papilledema and chronic progressive external ophalmoplegia.

He is best remembered for the design and use of the von Graefe knife, which was used in cataract surgery for over 100 years. The design of the knife introduced at the limbus provided an ab interno approach to perform the section. Skillful use of the knife required entry from the temporal side of the eye, thus the surgeon had to be ambidextrous. Ophthalmophanotomes were introduced using pig eyes for practice as a poorly performed von Graefe section could be the source of serious complications.

Knives were sharpened by the in-house instrument technician and tested on a kidskin drum for sharpness by resting the knife vertically to pierce the drum. The design of the knife prevented leakage from the chamber while in use and skillful surgeons could complete the operation very rapidly. As the wound was unsutured, the patient was often double padded, lying prone with their head in sandbags for a considerable period.

In von Graefe's time, many different knives were designed such as the Beers knife. However, the von Graefe knife endured and can still be found in Indian instrument catalogues.

I was recently told an anecdote that in the time when cleaning and sterilisation of instruments was rare, a surgeon might slide the knife through their lips between cases. Dr Dick Galbraith, former RANZCO President who had performed many hundreds of these operations, found that his theatre nurse named von Graefe was in fact a descendent of the great man. Dick found a von Graefe knife in long forgotten storage at the Royal Melbourne Hospital and, assisted by nurse von Graefe skillfully performed the cataract to my wonderment.

A description of Claude Monet's cataract surgery by this method can be found in the **RANZCO Eye Museum** presentations.

Tragically, von Graefe died at age 42 of tuberculosis.

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Dr David Kaufman
Curator

The von Graefe knife

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