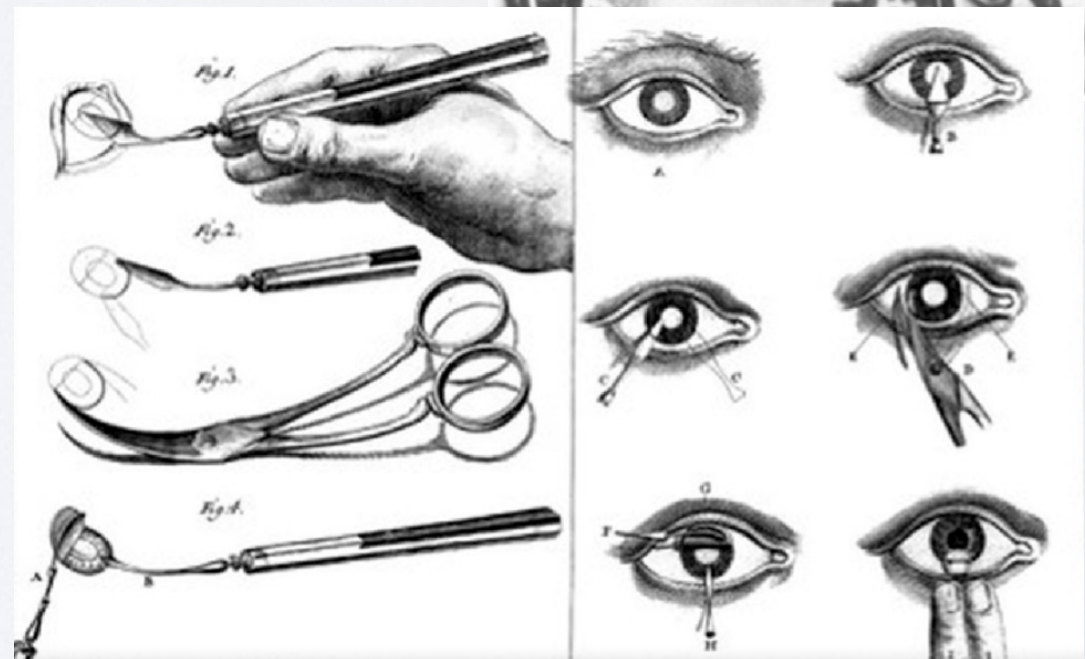


# EARLY OPHTHALMIC KNIVES FOR CATARACT SURGERY

Shirley Ma

# THE MODERN ERA IN CATARACT SURGERY

- French ophthalmologist Jacques Daviel performed the first extracapsular cataract extraction on April 8, 1747.
- First significant advance in cataract surgery since couching.
- His technique marked the beginning of the modern era in cataract surgery





- Remarkably, the intra-capsular method was born during this same period.
- George de la Faye (1752) and Samuel Sharp (1753) were credited with the first such procedures.
- Shortly thereafter, a more direct method was adopted by Richter (1773), who pushed the lens out after impaling its posterior pole with a needle thrust through the sclera. This method was also used by Beer and von Canstatt.

- From these first operations, for the next 100 years, many designs of knives were invented. According to Hirschberg, the historian:

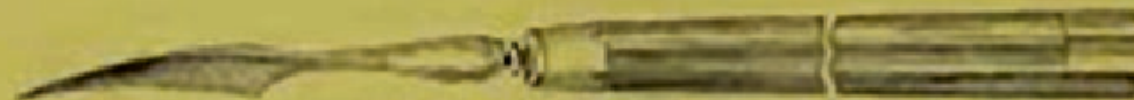
“... every reputable cataract surgeon invented his own knife and preferred it to any other.”

- Argument and debates raged, books were written about the best site of entry, best shape of knife, the size of section, the method of cutting the tissue, the entry of instruments and the extraction of the cataract.

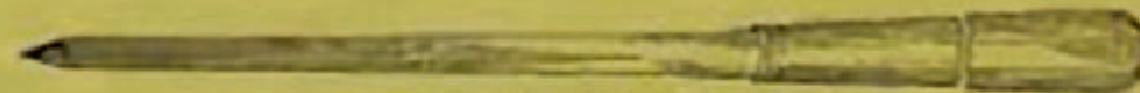




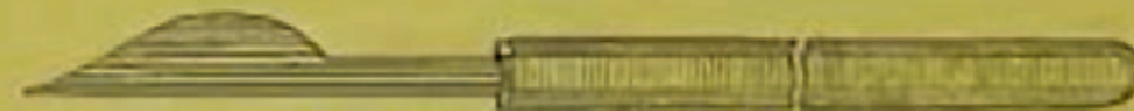
KNIFE OF DE LA FAY (1753)



KNIFE OF SHARP (1753)



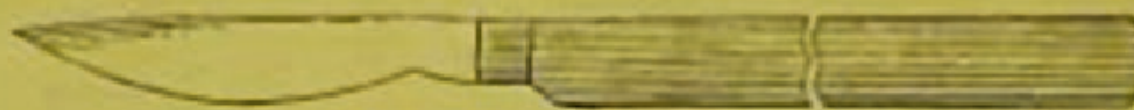
KNIFE OF POYET (1753)



KNIFE OF BERANGER (1756)



KNIFE OF TENON (1757)



KNIFE OF PAMARD (1759)

Plate IV.—First knives used in cataract extraction.

# GUERIN'S SPRING LOADED CATARACT KNIFE (1786)

- Notable variation on the norm
- The ring is firmly placed on the eye, holding it in position and causing the cornea to protrude.
- The spring-loaded keratome shaped knife, when released, cuts a large section in the cornea in a fraction of a second.





# BEER'S KNIFE & NEEDLE (1805)



- Used in intra-capsular cataract surgery
- Needle to impale the lens via scleral incision
- Lens directly pushed out of the eye via large limbal section made by knife



# VON GRÄEFE'S KNIFE (1865)

- Long, slender, straight knife with a sharp point and a cutting edge on one side
- It was not only the knife which was different for the cataract operation, but also the cutting of the section.
- Until the early 1940s, an essential part of cataract surgery was the mastery of the von Gräefe knife. It continued to be widely used 100 years later into the 1970s.

