

James Ware and his work “An enquiry into the causes which have most commonly prevented success in the operation of extracting the cataract”

G. Balanikas

INTRODUCTION

Life and Career

James Ware was born in Portsmouth, England, in 1756 (fig. 1). The son of a prominent shipbuilder in Deptford,



Fig. 1: James Ware, (1756-1815) from an engraving by Thomas Cook after a painting by Mather Brown

A' Ophthalmologic Clinic of Aristotle University of Thessaloniki, Greece.

*Corresponding author: G. Balanikas
e-mail: dioskouridis@yahoo.com*

after his basic training, he studied with the Royal Court surgeon Ramsay Karr. His service at Haslar Hospitals and later at St. Thomas in London, where he excelled for his care, endowed him with the knowledge that for his time was considered excellent and gave him career opportunities². In the last year of his studies, he served as an assistant in the Laboratory of Anatomy. Leaving St. Thomas worked with Jonathan Wathen, a collaboration that lasted 14 years. Jonathan Wathen (c.1728-1808) was an English surgeon, who specialized in diseases of the eye and practiced in London during the Georgian era. Wathen was an unconventional surgeon, devoting his time mainly to ocular diseases. The enthusiasm with which J. Wathen worked in this field inspired Ware to follow his partner's example and ophthalmic surgery became their passion. In 1791 Ware stopped working with Wathen and began practicing medicine in Portsmouth, initially as a general surgeon but soon turned to eye diseases. His experience as an ophthalmic surgeon was based exclusively on private medicine. There is no evidence of any collaboration with hospitals, or of any academic teachings.

In 1791 he translated the work of Baron Jacob de Wenzel (1755-1810) 'Traite de la cataracte' This treatise was written by the son of the famous baron Michael de Wenzel (fig. 2,3). The latter described his father's methods of cataract surgery and the creation of an artificial iris. The work includes several cases from the experience of Michael de Wenzel. Benjamin Travers (1783-1858), a student of Sir Astley Cooper, a surgeon at St. Thomas Hospital, and Saunders's

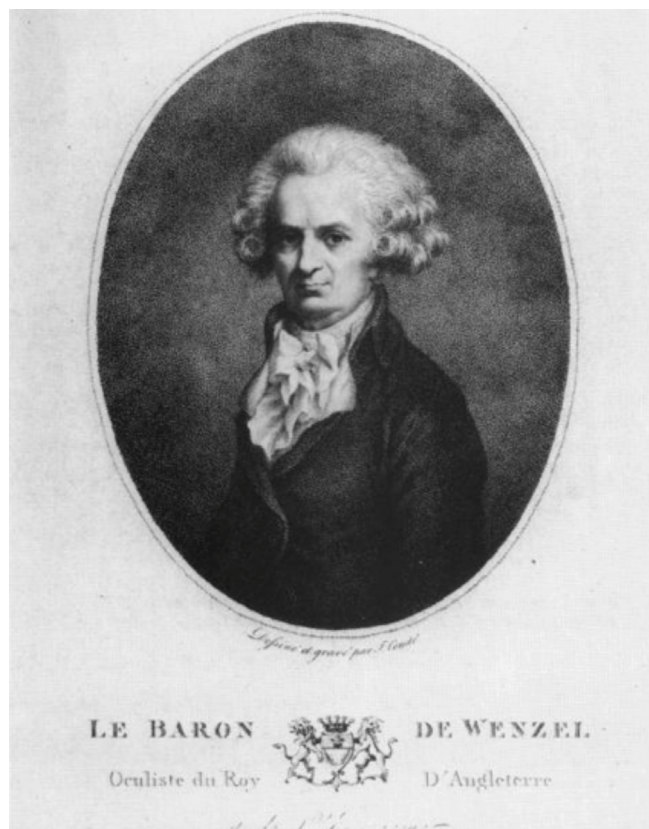


Fig. 2: Baron Michael de Wenzel (1755-1810) Famous French surgeon, personal ophthalmologist of King George III



Fig. 3: London Ophthalmic Infirmary, & c. Finsbury, gravure by Robert Acon, 1829. The famous Moorfields

successor, praised Ware for his translation (mainly for de Wenzel's work) in the second edition of his book.

The highest honor given to Ware was his election as a

member of the Royal Society in 1801. He was elected because of his reputation as an ophthalmologist and was the first in this field from Royal Society, and this election proved the selectors' respect to the area of Ophthalmology despite the objections of those who opposed to Medical specialization.'

METHOD

His Work and method for cataract surgery

In this treatise (fig. 4, 5), Ware described six cases of cataract extraction, recording them in detail, the surgical technique, and the patients' postoperative course. The

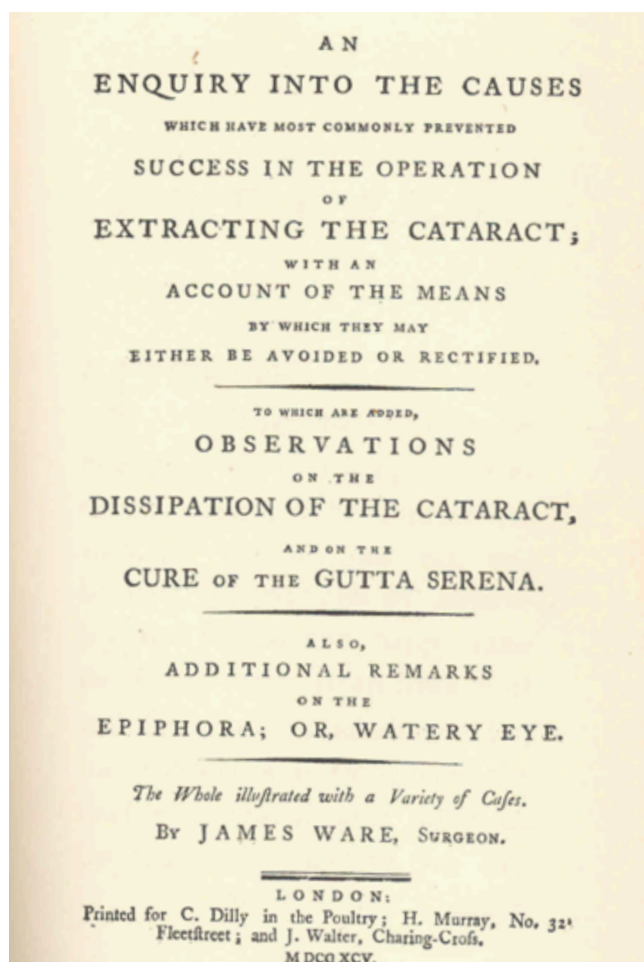


Fig. 4: Title page of the presented work: 'An Enquiry into the causes which have most commonly prevented success in the operation of EXTRACTING THE CATARACT', 1795

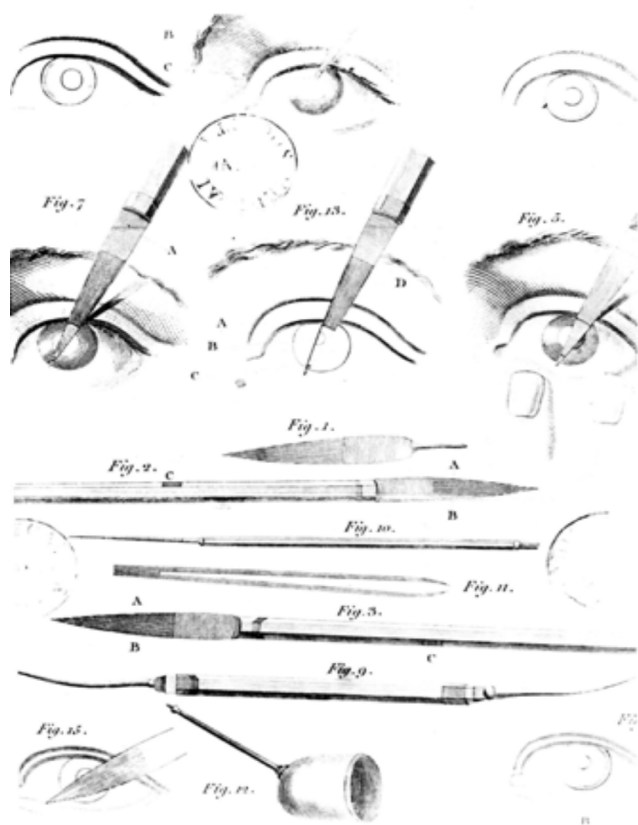


Fig. 5: Images of surgical tools and techniques of cataract surgery (Author's Collection)

meticulous step-by-step procedure was also a dominant feature of his methodology. He had a list of 24 mementos, as he mentioned that in every operation followed with reverence despite his experience, he probably did not need to consult them. This list included the most likely complications and their treatment during surgery.

Ware's highlights related to complications such as the small incision, which had to be expanded (Ware believed that the intersection should occupy 9/16 of the corneal periphery). Another possible complication is the iris injury. If the aqueous leaks fast from the incision is very likely the iris to injure by the knife. According to Ware, the incision should be carefully compressed with the fingertip and restore the iris.

The third complication is the vitreous outlet. After corneal incision, the surgeon should lift the upper eyelid with the finger of the other hand.

The fourth difficulty is cleaning the capsule of the lens from the phacic masses. Ware recommends careful pressure with the eyelid closed to mobilize the masses located temporally or nasally. This massage brings the masses towards the center and can be easily extracted. If the anterior capsule is opaque, remove this first, and the lens can be removed whether it is clear or not.

Ware used a few drops of ether solution (two parts distilled water, one ether) through the incision to dissolve the phacic masses on the 14th postoperative day and repeated it every second or third day. This preparation caused severe pain at first, but five weeks later the anterior chamber and the iris were clear.

Ware would place a piece of cotton, and then he applied a bandage that sealed the eye and changed daily until the fifth postoperative day. Then he removed the bandages but protected the operated eye from light. On the fourth day, the patient could get up for two or three hours. If he had no bowel movements after the operation, he was administering a mild laxative. In his papers, he had comments about the effect of various drugs in the treatment of cataract and the application of electricity to improve amaurosis.

Congenital Cataract

His contribution to the surgical treatment of congenital cataract was significant. That is the subject of the first of two works published in the announcements of the Royal Society. In this work, Ware referred to a seven-year-old boy he successfully operated on both eyes. That was a unique case, unique to the hitherto known experience for the treatment of the disorder, unique also for the patient's age, introducing a new method of treatment. Before this announcement by Ware, the definitive treatment was the delay of the cataract extraction until the child reached twelve to fourteen years. Elective surgery was the extraction of cataract, an operation that was impossible in infancy to be done for obvious reasons for the medical possibilities of that time. Until then, the advice given to parents indiscriminately was to wait. This theory was supported by de Wenzel but



Fig. 6: Percival Pott, The most famous Surgeon of 18th century with experience in Ophthalmology.

was also adopted by Ware. Percival Pott (fig. 6), in 1775, a famous surgeon at St. Bartholomew's Hospital (known for Pott's fracture), published among his other works a treatise about cataract treatment. In this work, he argued another gnome. He enthusiastically promoted that couching was the best technique and could safely be done from the earliest days of childhood.

James Ware recalled Pott's forgotten view and reviewed and modified it, presented this first work that established him in the Royal Society's circles. He had the experience of two similar cases.

In 1793 before this incident, he saw the six-month-old son of a clergyman diagnosed with congenital cataract and was given the usual advice to wait. Seven years later child's parents returned to London and, frustrated by the child's blindness, revisited Ware. To their surprise, Ware had changed his mind and had treated a month ago the child



Fig. 7: James Wardrop (1782-1869), He collaborated with J. Ware, known for his engagement with retinoblastoma.

from Portugal decided to intervene in the same way. So with the couching needle pierces the cornea and dissolves the lens in the aqueous. After a month, apply the same technique in the second eye. The results were more than excellent. After that, he presented his work in the Royal Society.

Cataract, Gutta Serena, Epiphora and Watery Eyes

Saunders reports that in London Infirmary of Diseases of the Eye between June 1806 and December 1809, sixty cases with congenital cataract operated in this way.

Reimarus's discovery of the mydriatic action of belladonna gave them a significant advantage for cataract surgeons.

According to Ware, the benefit of the method was that surgeon avoided the iris injury by the scalpel, a possible complication.

Ware was the earliest English surgeon employing the use

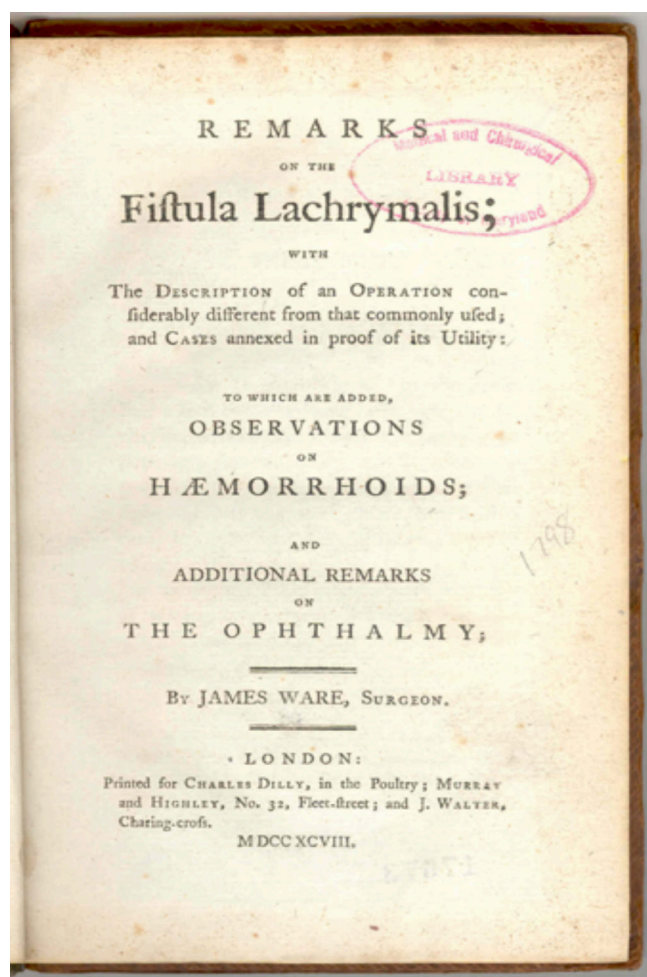


Fig. 8: Remarks of The Fistula Lachrymalis, 1798, by J. Ware (Author's collection)

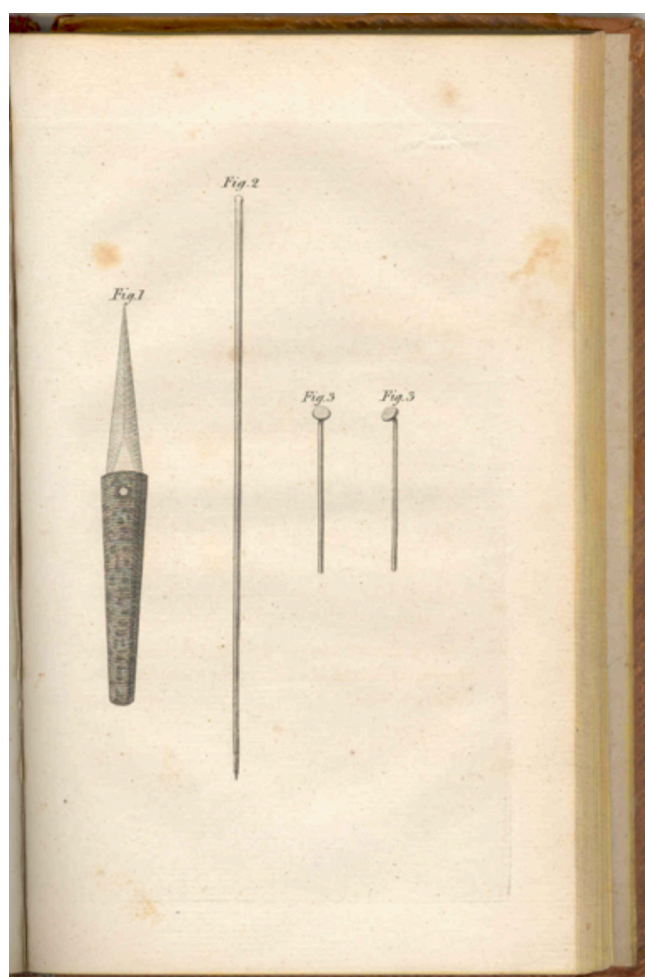


Fig. 9: Tools for Ware's technique about the Fistula Lachrymalis

of paracentesis. His work advanced by James Wardrop (fig. 7) in his 1808 publication ‘Observations on the effect of evacuating the aqueous humour in inflammation of the eye’.

A part of the book is dedicated to a condition called ‘Gutta Serena’ which refers to the sudden loss of the light in one eye. Ware describes eight cases with this disorder, four of them cured with electricity and four cured with ‘mercurial snuff’.

In his last work: ‘Remarks on the Fistula Lachrymalis’ describes the hitherto techniques for the treatment of lacrimal dacryocystitis by Pott, Warner, Heister, Benjamin Bell, Jean Francois Pellier and Wathen and the performance as well as his own proposal (fig. 8,9)

EPILOGUE

The complete title of Ware’s work is: ‘An Enquiry into the causes which have most commonly prevented success in the operation of EXTRACTING THE CATARACT’. Julius Hirschberg considered Ware a skillful surgeon and ophthalmologist, praised him for 1) his proposal not to delay operation for congenital cataract and 2) the wide incision of the anterior capsule with the needle which facilitated the absorption of the masses to the anterior chamber James Ware was a prominent English surgeon whose contribution to Ophthalmology was decisive. His rich clinical and authorial work contributed to the establishment of Ophthalmology as a



Ornament

separate surgical specialty despite the prejudice that existed at that time against the 'oculists'.

He died in 1815 in Turnham Green and was buried in Bunhill Fields in a family grave.

REFERENCES

- P. Dunn. "British Masters of Ophthalmology Series" Brit. J. Ophthalmol 1:(1917)401.
- J. de Wenzel: a Treatise on the Cataract. Translated from the French With Many Additional Remarks by James Ware. Surgeon, London: C. Dilly, 1791.
- B.Travers, A Synopsis of the Diseases of the Eye and Their Treatment. 2nd ed. London, Longmans, 1821, p. 329329
- T.H. Shastid. "James Ware" in: The American Encyclopedia and Dictionary of Ophthalmology. Vol. 18, Edited by C. A. Wood, Chicago: Cleveland Press 1921 σελ. 13984-5
- James Ware, An Enquiry Into the Causes which have most Commonly prevented Success in the Operation of Extracting the Cataract. London, C. Dilly in the Poultry, 1795.
- J. Hirschberg, The History of Ophthalmology. Vol. 3 "The Renaissance of Ophthalmology in the Eighteenth Century. Part One" Translated by F.C. Blodi. Bonn, Wayenborgh, 1984.
- R.R. James, Studies on the History of Ophthalmology in England Prior to the Year 1800. Cambridge: Cambridge University Press, 1933.
- The Chirurgical Works of Percival Pott, FRS and Surgeon to St. Bartholomew's Hospital, in Two volumes. James Williams, Dublin 1778.