

Morell Mackenzie and Crown Prince Frederick: an unpublished manuscript from the Royal Society of Medicine Library

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Abstract

The story of Morell Mackenzie and his involvement in the case of Crown Prince Frederick III (the future Emperor of Germany) is as well known as it is controversial. The consequences of the case were profound, both medically and politically. Most documents concerning the case are affected by varying degrees of bias, and as a result our understanding of the true events is incomplete. We present a brief summary of the case, and review an unpublished manuscript which adds to our understanding of the events. This manuscript is supportive of Mackenzie's early management of the Crown Prince's illness and acknowledges the importance of the case in medical history.

Key words: History of Medicine; Otolaryngology; Laryngeal Neoplasm

Introduction

Morell Mackenzie (Figure 1) is considered the father of British laryngology.¹ He was born in 1837 in Leytonstone, East London and studied medicine at The London medical school, qualifying in 1858. He completed two further years of training under Czermak, of Budapest, and Türck, of Vienna; considered the founders of clinical laryngoscopy, following Garcia's discovery of indirect laryngoscopy.²

In 1865, Mackenzie established the 'Hospital for Diseases of the Throat' at Golden Square, London; this was the first specialist throat hospital in the world. He published *Diseases of the Throat and Nose* in 1880, which became recognised throughout the world as the standard textbook of laryngology. In 1887, he co-founded *The Journal of Laryngology & Otology*, with his assistant Norris Wolfenden.

The case of Crown Prince Frederick

Crown Prince Frederick III (Figure 2) was born in Potsdam in 1831. He was the eldest son of Prince William I of Prussia. His illness began in January 1887, at the age of 55 years, with a persistent dysphonia. In March, Professor Gerhardt, professor of clinical medicine at the University of Berlin, diagnosed a left vocal fold polyp. He subsequently applied

repeated galvanic cautery. The lesion failed to heal and malignancy was suspected.

On 17 May 1887, Professor von Bergmann, professor of surgery at the University of Berlin, suggested thyrotomy or laryngofissure, in order to explore and remove the cancerous growth. Von Bergmann underplayed the seriousness of this operation; declaring it 'not dangerous'.³ However, it was known that this surgery carried significant mortality, so much so that Semon in 1886 had suggested that 'thyrotomy yields very bad results ... and should not be attempted'.² A collective decision was made to seek the opinion of a laryngologist, and Mackenzie was chosen.

Mackenzie arrived in Berlin on 20 May 1887. His examination found a papillomatous growth affecting the posterior part of the left vocal fold, with subglottic extension and sluggish motility.³ Mackenzie felt there was insufficient evidence of cancer, and recommended biopsy. He performed four biopsies in May and June. The specimens were analysed by Rudolph Virchow, who reported no evidence of malignancy and suggested a diagnosis of pachydermia laryngis.³ Frederick's voice improved, and Mackenzie was knighted for his services to Queen Victoria's son-in-law.

However, in October 1887, the Crown Prince's condition deteriorated during convalescence in San

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FIG. 1
Sir Morell Mackenzie (1837–1892).

Remo, Italy. Mackenzie performed another laryngoscopy on 5 November and found a mass below the left vocal fold. He informed Frederick that it had the appearance of cancer. The Crown Prince's condition continued to worsen, and a tracheotomy was performed on 9 January 1888. On 9 March, William I, Emperor of Germany, died. Frederick became Emperor, and promised 'a close and lasting friendship' with Britain. Emperor Frederick III died on 15 June 1888; having reigned for only 99 days. This allowed Frederick's son William to ascend to the German throne, who led his country down an imperialistic path, laying the foundations for the First World War.

Mackenzie was subjected to considerable criticism immediately following the Emperor's death, in both the lay and medical press of Germany and Britain.³ The official report of the German doctors who attended Frederick was published on 11 July 1888. Mackenzie was criticised for unwarranted optimism and raising false hopes, which led to postponement of a possibly curative operation. The document also accused Mackenzie of clumsiness during the second biopsy, resulting in damage to the healthy right vocal fold.

Mackenzie's response to these criticisms was to write a book defending his management, *The Fatal Illness of Frederick the Noble*. It was an instant best-seller, with 100 000 copies sold within two weeks of



FIG. 2
Crown Prince Frederick III (1831–1888).

publication.³ However, the book was considered unprofessional and unethical, containing personal attacks against reputable German doctors and violations of professional confidences. In Germany, it became the subject of a judicial embargo. In Britain, the medical establishment reacted sternly. Mackenzie was forced to resign from the Royal College of Physicians following a threat of censure. The Royal College of Surgeons of England and the British Medical Association expressed regret. Mackenzie's reputation was destroyed and his practice was devastated irreversibly.

The manuscript

The manuscript which is the subject of this article (Figure 3; shown in full as Supplementary Figure 1) was discovered in 1997 in the Royal Society of Medicine library by Mr Robert Greenwood, assistant librarian in charge of rare books, whilst cataloguing documents. It is an 11-page document of 1330 words. We believe that this manuscript was written between July and November 1887. It is entitled 'The Case of the German Crown Prince and its treatment by Sir Morell Mackenzie – By Dr Wilhelm Meyer and Dr Holger Mygind'. The manuscript is a transcription by Dr James Donelan, an assistant of Mackenzie and future President of the Section of Laryngology of the Royal Society of Medicine (1918–1919). The document is stamped as having been received by the Royal Society of Medicine on 22 December 1953. It was accompanied by a letter

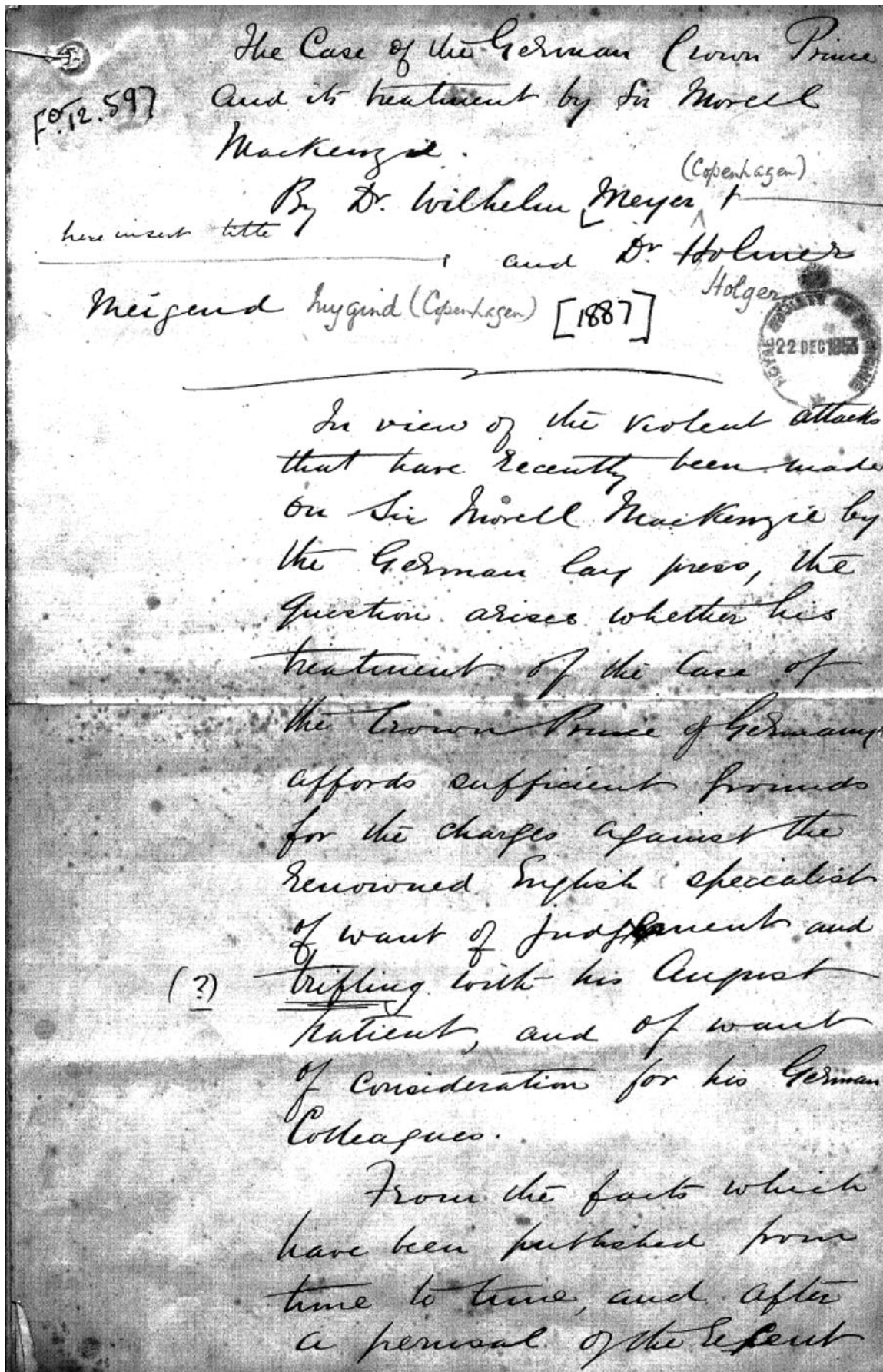


FIG. 3

Front page of the manuscript. Reproduced with permission of the Royal Society of Medicine.

(Supplementary Figure 2), dated 20 November 1887, from Donelan to Mackenzie, suggesting the use of the document to defend Mackenzie's management.

The authors of the original document on which Donelan's transcription was based were two Danish laryngologists of Mackenzie's time. Dr Wilhelm Meyer (1824–1895) (Figure 4) is considered to be the father of Danish otorhinolaryngology. He is famous for his discovery of the adenoid, and performed the first adenoidectomy in 1867 using a ring knife. Dr Holger Mygind (1855–1928) (Figure 5) was Meyer's assistant. Assuming an accurate transcription by Donelan, we consider this document to be a reliable source, the authors being impartial and sufficiently close to the events to provide an accurate reflection of what occurred. Indeed, Meyer and Mygind state in the manuscript that they attended a meeting of the Berlin Medical Society in July 1887 and heard Virchow discuss the case of the Crown Prince.

Analysis of the manuscript allows a number of conclusions to be made, which are generally supportive of Mackenzie's early management of the case.

The following manuscript excerpt provides evidence of the existence of harsh criticism of Mackenzie from an early stage of the case.

"In view of the violent attacks that have recently been made on Sir Morell Mackenzie by the German lay press, the question arises whether



FIG. 4
Dr Wilhelm Meyer (1824–1895).

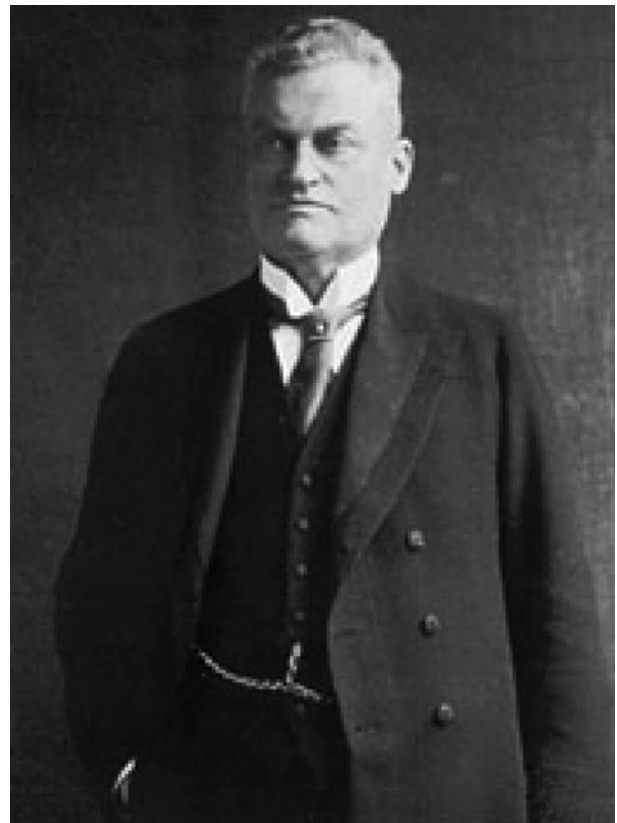


FIG. 5
Dr Holger Mygind (1855–1928).

his treatment of the case of the Crown Prince of Germany affords sufficient grounds for the charges against the renowned English specialist..."

Much is known of the criticism of Mackenzie after Frederick's death and after the publication of Mackenzie's controversial book, *The Fatal Illness of Frederick the Noble*.² However, there has hitherto been little published evidence of early criticism of the case, to which Meyer and Mygind refer.

Meyer and Mygind appear supportive of Mackenzie's clinical management, and they infer the existence of more widespread support from the broader medical community:

"We at this time [i.e. during the meeting of the Berlin Medical Society, 27 July 1887] had the opportunity of hearing the opinion of many impartial specialists who all approved of the treatment then being pursued, while at the same time communications from the most trustworthy sources convinced us that Mackenzie was conducting the case with the most conscientious care, and that he was showing a high degree of dexterity in his operations".

It is interesting to consider the basis of the 'violent' criticisms of Mackenzie's management, given the apparent medical support even amongst the Berlin medical establishment. Possible causes for this are suggested by Meyer and Mygind in the following manuscript excerpt, together with their belief regarding the importance of the case in medical history.

"We have little doubt that when the wave of national antagonism and professional jealousy has rolled by, the impartial judgement of competent judges will be in favour of the English specialist and that in future years Sir Morell Mackenzie will be able to look back with satisfaction on his share in the treatment of the most important and eventful case in the history of medicine".

In more specific defence of Mackenzie's management, the manuscript attests to the importance of laryngeal biopsy and criticises the German doctors who were attending Frederick for not performing it earlier:

"Mackenzie acted entirely in accordance with the generally accepted surgical principle, i.e. not to undertake any serious operation for the removal of the supposed malignant growths until they have been microscopically examined. ... It appears to us that a grave fault was committed by the German doctors in not taking these steps before Mackenzie was called in".

The manuscript refutes the claim, made by Professor Störk, that Mackenzie had damaged Frederick's healthy right vocal fold:

"It is absurd to suppose that the treatment carried out by Mackenzie can have had injurious effect on the patient. ... the remarks of the Professor [Störk] would appear to have more of passionate animosity than of scientific reasoning".

The final conclusion that can be drawn from the manuscript relates to Virchow's apparent confidence in his benign diagnosis of the specimens he received from Mackenzie.

"The utmost support to Mackenzie's views was derived from Professor Virchow's lecture delivered at the Berlin Medical Society on July 27th. ... 'local growth is of a benign nature, from which no mischief may be expected to arise later on.' [the manuscript quotes Virchow, Berlin Medical Society meeting, 27 July 1887] ... It will thus be seen that the repeated microscopical examination (by Virchow) absolutely confirmed the idea that the disease was benign and fully justified Mackenzie's treatment".

Discussion

It must be remembered that this manuscript probably pre-dates Frederick's deterioration in October–November 1887 and his eventual death in June 1888. At the time we believe the manuscript to have been written, the Crown Prince's health was good, in keeping with the benign histology of the samples submitted to Virchow by Mackenzie. It is questionable whether the support of Meyer, Mygind and the wider medical community remained so unreserved as Frederick's condition deteriorated.

In addition, although the importance of biopsy was supported by Meyer and Mygind, the quality of the biopsy in achieving a representative sample of the

lesion cannot be comparable to today's biopsies, performed with the aid of general anaesthesia. Semon's and Butlin's warnings against the significance of the 'negative biopsy' may have been well founded.^{4,5} Indeed, the dilemma of the 'negative biopsy' remains problematic in contemporary practice.

Unfortunately, it is likely that we will never know whether there was underlying cancer in Frederick's larynx at the time of Mackenzie's initial biopsies, or whether this developed subsequently.

Conclusion

Donelan's transcription of Meyer and Mygind's document adds to our knowledge of arguably the most important case in medical history. It suggests the existence of widespread support amongst the medical community for Mackenzie's early management of the case, and dismisses criticisms as being founded on 'national antagonism and professional jealousy'. Mackenzie's belief in the importance of biopsy, an opinion not shared by his German colleagues, is endorsed by Meyer and Mygind, and is recognisable as a fundamental concept of contemporary oncology.

Supplementary figures

Supplementary Figures 1 and 2 are available on *The Journal of Laryngology & Otolaryngology* website: www.jlo.co.uk. These Supplementary Figures are reproduced with the permission of the Royal Society of Medicine.

Acknowledgements

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