

## Hieronimus Brunschwig (c. 1450–1513): his life and contributions to surgery

R. Shane Tubbs · Anand N. Bosmia ·  
Martin M. Mortazavi · Marios Loukas ·  
Mohammadali Shoja · Aaron A. Cohen Gadol

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### Abstract

**Introduction** The objective of this paper to offer an overview of the life and contributions of Hieronymus Brunschwig (also known as Jerome of Brunswick), a German surgeon of the fifteenth century, whose works have provided insight into the practice of surgery during his lifetime.

**Conclusions** There is disagreement among academics about certain biographical details of Hieronymus Brunschwig's life. Regardless, Brunschwig's productivity as an author distinguishes him as a scholar in the field of surgery among the community of German surgeons in the fifteenth century. His work offers important information about the practice of surgery in fifteenth-century Germany. Certainly, Brunschwig took advantage of the recently invented printing press to gain a wider sphere of influence and was the first to make use of Italian and French surgical sources. Lastly and as evident by his text, Brunschwig practised cranial surgery.

**Keywords** Hieronymus · Brunschwig · Sigerist · German · Surgery · Trepanation

Henry Sigerist, the esteemed historian of medicine, makes a brief note of the history of surgery on the European continent, writing that surgery began in Italy during the twelfth century and gradually spread to France and Germany [4]. The German surgeons absorbed the discoveries and teachings of the Italian and French surgeons, and these teachings became more accessible to the Germans when German translations of the original Latin texts became available in the fourteenth century. German surgery remained purely receptive until the fifteenth century, when attempts at literary achievement on the part of German surgeons become visible [4]. Sigerist cites the example of Heinrich von Pfalzpeunt, a Teutonic knight whose works, based on his experiences as an army surgeon, provide insight into the practice of surgery in the military, vocalize the growing concern of gunshot wounds, and evidence the influence of Italian surgery on German practitioners [4].

In contrast to Pfalzpeunt and other surgical authors, Hieronymus Brunschwig set himself apart from his colleagues through his scholarship and prolific writing. His work has literary merit, which Sigerist implies is devoid in the works of other surgical authors from Germany, such as Pfalzpeunt. Brunschwig drew from the influences of Italian and French surgeons to write about the practice of surgery and thereby produce commentary and analyses aimed at advising surgeons in the treatment of various wounds. Sigerist praises Brunschwig for taking advantage of the scholarship of his European neighbours and emphasizes his distinction as an author: The achievements of the Italians and French are the brilliant models to which these German writers never attained and which did not influence them to any great extent. All the more startling, therefore, is the contrast offered by Brunschwig's work. For a long time, he was thought to be the first German surgical author. However, he is the first who wrote an important manual

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R. S. Tubbs (✉) · A. N. Bosmia · M. M. Mortazavi  
Pediatric Neurosurgery, Children's Hospital,  
ACC 1600 7th Avenue South,  
Birmingham, AL 35294, USA  
e-mail: shane.tubbs@chsys.org

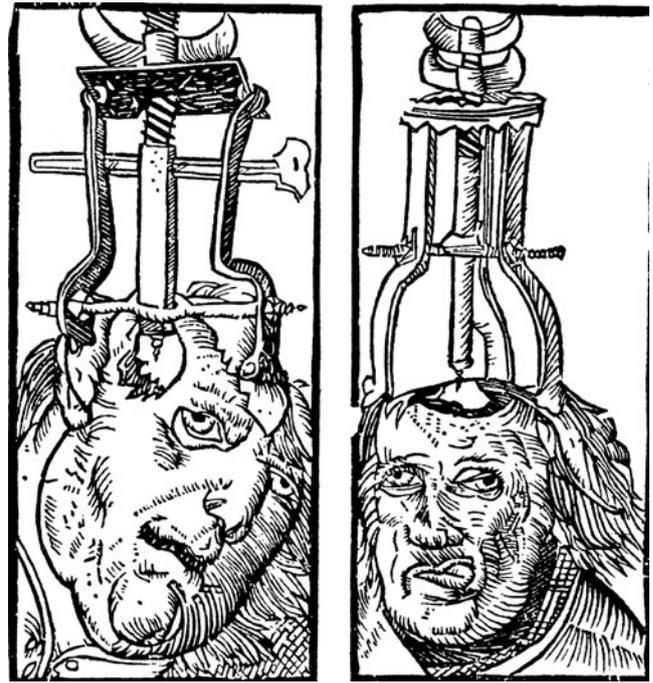
M. Loukas  
Department of Anatomical Sciences, St. George's University,  
St. George's, Grenada

M. Shoja · A. A. Cohen Gadol  
Goodman Campbell Brain and Spine,  
Department of Neurological Surgery, Indiana University,  
Indianapolis, IN, USA

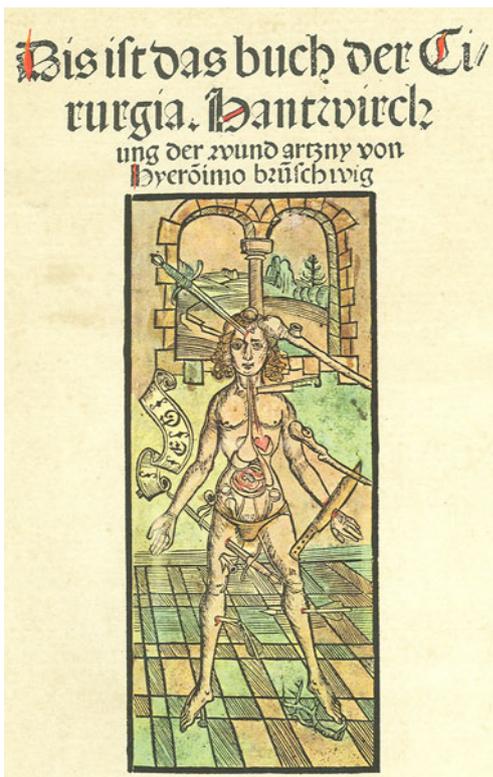
that far surpassed the average productions and the first German surgeon who took advantage of the recently invented printing press to gain a wider sphere of influence. He was also the first who amply made use of the Italian and French sources [4]. Brunschwig obviously performed cranial surgery as evident by descriptions and illustrations found in his text (Figs. 1, 2, 3). Examples of elevators used by Hieronymus Brunschwig for depressed skull fractures and patients with cranial nerve palsies are evident in his text [5].

His hometown of Strassburg provided a means for his talents as a writer to flourish, and on July 14, 1497, the Grüninger printing house printed his first book, *Buch der Chirurgia, Hantwirckung der Wundartzny*, which serves as a guide for practitioners of general surgery and guide apprentices in their training, and not as much an appeal to the scientific public [4]. The contents of this work not only illustrate Brunschwig’s extensive knowledge of surgery, but also of the social impact of his work. He discusses the importance of special care for certain injuries, as those injuries may have ramifications for individuals. For example, an injury to the cheek must be tended to carefully, as the patient may be mistaken for a criminal following the healing of the wound, as criminals were branded on the face as punishment during Brunschwig’s lifetime [4].

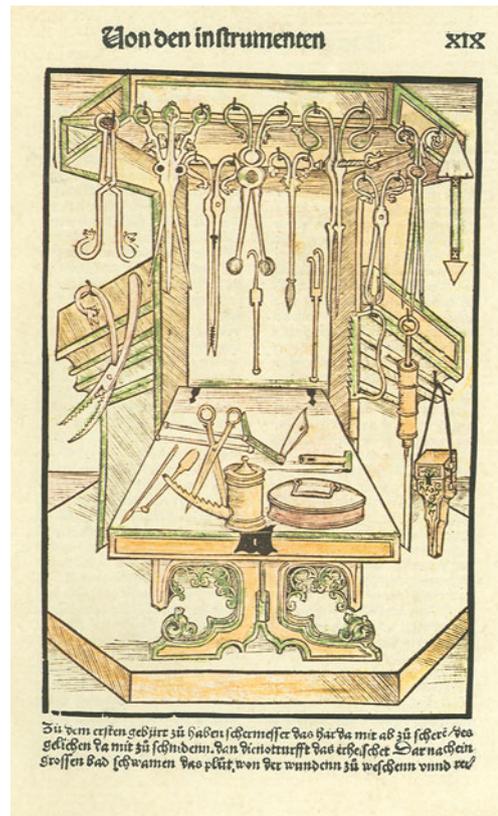
The *Cirurgia* is characterized by Brunschwig’s professional acknowledgment of the successes of his colleagues



**Fig. 2** Two illustrations from Brunschwig’s textbook demonstrating the use of a specialized tool for elevation of depressed skull fractures. Note the multiple cranial nerve palsies depicted in the patients



**Fig. 1** Title page of Brunschwig’s textbook of surgery



**Fig. 3** Surgical tools as illustrated in Brunschwig’s textbook

and superiors and his warranted criticism of their mistakes as surgeons. Sigerist notes how Brunschwig draws from the knowledge of the ancient practitioners of surgery, such as the Arabs, he was exposed to through his readings of the Italian and French surgical literature. Yet Sigerist makes it a point that Brunschwig was not a bookish academic mired in the realm of ideas and theory, but brought to his authorship his personal experiences as a surgeon, citing individual cases he managed to elucidate for his reader the various protocols addressed in his work.

Sigerist writes: Of Brunschwig's life we know but little, and only what he tells us himself in his works. He was born about 1440 and came from Strassburg.... His sphere of action was more probably Alsace, Suabia, Bavaria, Franconia, and the Rhine countries as far as Cologne.... He was not an army surgeon like his countryman, Hans von Gersdorff. Nearly all his cases are taken from civil practice, where there was also no lack of violent accidents. That he took part in the wars of Burgundy is an unfounded statement [4]. Billroth contends: Brunschwig was educated in Bologna, Padua, and Paris and was not a graduate physician, rather belonging to the group of wound surgeons. It is not known in what battles he took part and whether he really had much personal experience with the surgical therapy of war wounds [1]. Sigerist denies that Brunschwig was present in Bologna, Padua, and Paris [4].

However, author A.J. Brown supports Brunschwig's identity as an army surgeon: Jerome of Brunswick was an Alsatian army surgeon who was born about 1450 and died in 1533 [2]. Sigerist suggests that Brunschwig died in 1512 or 1513 [4]. Perhaps the *Cirurgia's* discussion of gunshot wounds, which had become more prevalent due to the increasing employment of firearms in wars fought during the fourteenth and fifteenth centuries, has contributed to what Sigerist contends is the false view of Brunschwig as an accomplished army surgeon. During Brunschwig's time, gunshot wounds were thought to be poisoned wounds, with gunpowder viewed as the source of the poisoning. Brunschwig contends that gunpowder poisons the wounds and discusses a means by which to treat them. However, Sigerist argues that this article clearly shows that Brunschwig was no army surgeon. He does not mention a single case that came under his own experience, but explicitly names his authorities, such as the surgeon Hans Ulrich of Baden. The new wounds and their treatment were a current theme of conversation among surgeons [4].

A.J. Brown provides a concise summary of the content of the *Cirurgia*, which was translated into English as *The Noble Experience of the Virtuous Handiwork of Surgery* and printed in London on March 26, 1525, and has the distinction of being the first illustrated work on surgery printed in the English language [2]. Brown writes: The work itself may be divided into three parts. The first is a

review of the then known anatomy of the body, and the necessity of a comprehensive knowledge of anatomy is stressed in the prologue. The second part includes the surgery proper. Being the work of an army surgeon, it deals with wounds, fractures, and dislocations only. His account of gunshot wounds is the first detailed account in medical literature. Preceding each of the three divisions, wounds, fractures, and dislocations, is a description of the treatment of the condition in general followed by the classification of the various types of each and a description of the treatment applicable. The third division of the work, the *antidotharium*, describes in detail the method of making plasters, ointments, etc., recommended for use in the text [2].

Sigerist comments on the idiosyncratic artwork that accompanies the text of the *Cirurgia*: The pictures with which the book is so richly provided are not for the most part scientific illustrations. They do not serve to explain the text, but are merely intended to adorn the book...the connection with the text is a very vague one...but there is a series of small illustrations strewn in among the text and made from drawings by the author, which serve to explain certain parts of the text, such as pictures of instruments, the fixing of the fractured maxillary bone, and others [4].

Brunschwig's acumen was not limited to the field of surgery. He also published works on the subject of pharmacology. Indeed, with the publishing of the *Cirurgia*, Brunschwig had established himself as the means through which the Grüninger printing house could expand its medical department and profit from medical texts. This success led to the publishing of another work, as Stata Norton notes: One of the most popular books on remedies in the sixteenth century was by Hieronymus Brunschwig, whose first printed edition was published in 1500 as *Kleines Destillierbuch*, or *Little Book on Distilling*. This popular book on how to distil remedies from plants went through several editions and was widely used in Europe in the sixteenth century [3].

Not long after the publication of this work, Brunschwig published on August 18 of the same year a book on the plague. Sigerist notes: The general treatment of those attacked by the plague was left to the physician. The surgeon's role was limited to the opening of the plague sores. If therefore Brunschwig, the surgeon, undertook to write a book on the plague, it had need of some justification. He vindicates himself in the preface in a manner that is indeed not much to the physician's credit [4]. Brunschwig, who had lived through the plague of 1473, justifies his writing of this book with the contention that because the surgeons remained in the areas affected by the plague while the physicians fled to avoid becoming infected, the surgeons had the right to give their opinions on the issue. Brunschwig does not deny that the treatment of the plague is first and foremost the physicians' affair. However, he argues for cooperation between physicians and surgeons [4]. Brunschwig's last

work was printed on February 12, 1512, and is titled *Large Book on Distillation*. It is a large manual of pharmacological therapeutics. Brunschwig brought together his entire medical knowledge in this book [4].

While there is disagreement among academics about certain biographical details concerning Brunschwig's life, what is more important to appreciate is the scholarship that Brunschwig displayed during his career as a surgeon. His literary merits and productivity established him as a respected scholar of surgery during his lifetime and in the setting of German medicine, which was not up to speed with the medical advances of the Italian and French communities.

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