Dentistry in 18th- and 19th-century Europe

In Europe, dentistry as a separate discipline emerged in the 19th century. Before this, if we can believe 18th-century genre pieces and engravings, dentists seemed to be extravagant, fraudulent figures who could only pull teeth. However, this image needs to be much more nuanced.

Evidence of the techniques and practices of the dental practitioner of the past survives in the collection of the University Museum Utrecht in the Netherlands. With 30,000 objects, it is one of the largest and most diverse collections of dentistry in the world. Some instruments displayed in the present exhibition are owned by the Royal Dutch Dental Association (founded in 1914) and belong to the Kalman Klein Collection. Klein (1885–1947), originally a Hungarian, practised dentistry in the Netherlands and assembled an extensive library of rare books about dentistry, as well as collecting several hundred dental engravings and many fine dental instruments, all of which tell us much about the history of dentistry. One of those instruments, designed to extract teeth, is the pelican, named after the resemblance of the instrument's claw to the beak of the bird of the same name. These instruments were used by barbers or surgeons from the late Middle Ages onwards. The claw was placed over the crown and the bolster against the gum. It is likely that the strength and movement needed to extract the tooth would damage adjacent teeth and gums (see page 71). Whether the tooth key, introduced in the middle of the 18th century, offered any relief is questionable. Here the claw was placed over the crown, and downward pressure elevated the molar laterally. Both instruments—the pelican and the tooth key—were used side by side for nearly two centuries.

The root screw also offered assistance with tooth extraction. This instrument was mainly used when only one stub of the incisive or cuspidate was still standing, so the key or forceps could no longer grip the tooth. In historical literature, invention of the root screw is attributed to Johann Serre (1759–1830), who came up with the idea of an instrument to reduce the patient's suffering during extraction. With this instrument, the pain was intense, but relatively brief. In England, the root screw was cited as one of the most valuable auxiliaries to the scientific practice of dental surgery, but by the end of the 19th century it was being described as obsolete.

Germany and France, in particular, were at the forefront of dentistry in the late 18th and early 19th centuries. In France this was probably initiated by the 1728 publication of the book *Le chirurgien dentiste* by Pierre Fauchard (1678–1761). This Frenchman, considered to be the founder of modern dentistry, based his work on a knowledge of anatomy and pathology. For example, he was the first to describe the connection between caries and the consumption of sugar.

Cat. 260 ***Dentistry: Sense of feeling***, 1650, after the engraving *The dentist*, 1523, by Lucas van Leyden (Dutch, 1494–1533), ivory, 9.7 × 8.5 × 0.3 cm. KNMT K-262, Royal Dutch Dental Association.

During this period, an elite social class emerged in France, whose members paid much attention to physical appearance. Their particular ideal of beauty included having radiant white teeth. Thanks to a greater attention to oral hygiene, the toothbrush was introduced; the first toothbrush factories were soon established.

It is well known that Napoleon Bonaparte was very concerned about his oral health and teeth. He often used toothpicks; as a result, toothpicks and toothpick boxes became popular among his entourage. Boxes of ivory or tortoiseshell covered with gold were manufactured and purchased by this elite, to demonstrate their good taste. Napoleon even gave his second wife, Marie-Louise, Duchess of Parma (1791–1847), a box containing various dental instruments suitable for surgical interventions and oral hygiene. This was lost in the turmoil of the period but was subsequently replaced by a similar set (see page 186). These beautifully crafted instruments are covered with a thin layer of gold and decorated with a crown and the initials *M.L.* The precious box comes with a document bearing various visas that allowed Marie-Louise's court dentist, Ferdinando Mercure, to cross national borders. Unfortunately, nothing is known today about the condition of Marie-Louise's teeth, but the instruments show no signs of use, so it does not seem likely that the dentist Mercure had to treat the archduchess frequently.

In the mid-19th century, knowledge of dentistry in Anglo-Saxon countries increased rapidly. John Tomes (1815–1895) published his treatise on the dental forceps in England in 1841. Together with his instrument maker, Jean-Marie Evrard, Tomes devised forceps for extraction based on dental anatomy. These forceps became the standard and are still used today.

This was an exciting time, in which important inventions came one after another: anaesthesia became available thanks to the American dentist Horace Wells (1815–1848), while Charles and Nelson Goodyear introduced vulcanised rubber, which eventually replaced ivory and gold dentures, thus making dentures accessible to the masses.

In the 19th century, dentistry evolved into a profession that could no longer be compared to the extravagant tooth-drawers depicted in engravings. Rather, it became a speciality based on scientific knowledge, and would eventually develop into a field that is indispensable in health care today.

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Cat. 265 Meissen Porcelain Factory (Germany, est. 1710); Johann Joachim Kaendler (1706–1775) (sculptor); ***The tooth breaker***, 1741, porcelain, 19.0 × 25.0 × 16.0 cm. KNMT K-770, Royal Dutch Dental Association.