

The beauty of the dentistry's tools in the 19th century

A fogorvosi műszerek szépsége a XIX. században

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Abstract:

We should like to introduce the aesthetic side of the tools of dentistry. The technical revolution had produced new inventions which made possible the mechanisation of manual activities in the dentistry and helped the autoimmunization of the factoring of the dental equipments. These instruments - from one aspect - are very practical for the everyday work of the dentist - but in the other aspect - their forms mirrored the aesthetical norms and forms of their ages, mirrored the material using of their times. The aesthetical factor - as we called: beauty - of the dentistry is not a tangential part of the history of medicine, but one of the most important factor of the social integration of the activity.

Keywords: history, dentistry, aesthetic, tools, surgery room, 19th century

Kulcsszavak: Fogászat, történet, esztétika, sebészeti rendelő, XIX. század

In this paper we would like to describe the beauty of the technical side of the dentistry. The dentistry during long centuries was only an activity which belonged to the barber's job. The dentistry became an independent profession when the necessity of the society specialised the medical sciences - the specialized doctors used specialised equipments - when the surgery became not a barber activity but a medical profession - at the end of 18th century - when the surgery became a subject on the medical universities - at the 19th century. Not only the output of the dentistry is the beauty but the beauty of the profession included the formal aesthetical level of the professional equipments, instruments.

There is some other fact which helped the developing of the dentistry. First of all the diffusing of the dental illness which follow the developing of civilisation. The technical revolution had produced new inventions which made possible the mechanisation of manual activities in the dentistry and helped the autoimmunization of the factoring of the dental equipments. The laboratories produced new materials, compounds which helped to solve the prosthesis dentistry. The aesthetical needs the restoration of original situation became not only the speciality of nobility but the third order, the bourgeoisie, too.

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As the population grew in the 19th century needed for dentists and dental equipment. Blacksmiths had provided a great deal of early dental equipment. Beginning in 1844, Samuel S. White became the pre-eminent maker of dental instruments and supplies into the 20th century. Some of the finest instruments ever made then became available incorporating such exotic materials as ebony, ivory, tortoise shell, and mother of pearl, etc. The iron extraction forceps is from the 16th century and probably made by a blacksmith, while the screw type ebony handled dental pelican from the 18th century. It was used for prying out the diseased tooth and probably was associated with a great deal of discomfort and local damage. The tooth-key was a very common tool for dental extraction in the 19th century.



1. picture Tooth-key with ebonit handled

The extraction of the painful tooth was made with a special key – it was the typical care during the last centuries. The instruments - which were called English key or pelican – lean on the next tooth, and it brooked out the bed crone of the ill tooth but the radixes remained back. Later - the first decades of the 19th century - this process was not conforming to the needs. The developing of anatomical knowledge made possible the making of the different extracting forceps to the different teeth, which extracted the bed tooth with its roots, without destroying the alveolus. The extracting forceps aimed the catching and pooling the teeth.



2. picture Forcept with bicuspis head

Mouth interpreting a huge force. It is necessary that the working part of the instrument touch the possible biggest surface of the relative little surface of the teeth. This need created the bicuspid extracted forceps to the molar teeth. The form of handle became conform to the catching by hand - with a huge force - and curved end leaned the hand. Only the last decade of the 19s century brought the one cusps molar extracted forceps. The inner part of the previous type extracted forceps were smooth the new one was grooved - tasking the catching of the tooth.

The ebony - the *Diospyros eben* - is a very dark and very hard tree which was imported to Europe. This kind of eben - handle was popular at the first part of 20th century.



3. pisture erector with ebonit handled

The extracting needed a very big force. The dentist fixed the head of the patient from the back side with his left hand or clawed the chin and extracted the teeth with his right hand. The richer groups of the society needs a conservation treatment.

But the conservation treatment needed longer time, light - and a special chair which fixed the head of the patient. The furniture of the surgery room mirrored the stile of bourgeoisie. So the dentistry chair - keeping the medical function too - became a piece of furniture. One of the first civil dentistry chair made in the middle of 19th century.

The first head restraints, adjustable and foldable structure of dental chair was prepared by James Smell in 1832. In 1868 James Morrison appeared on the market a new dental chair, tilt head and footrest, deep spittoons.



4. picture James B. Morrison's 1868

He changed all that in the 1870s with his innovative, fully adjustable chair, which made sit-down dentistry possible. Moreover, his monumental invention of the foot-powered drill allowed dentists to place restorations that were theretofore impossible.

In 1877 Wilkerson produced the first hydraulic, adjustable dentist's chair. The Wilkerson dental chair patented in 1877 was the first hydraulic dental chair. It sold for \$175. Other levers allowed the chair to rotate ("through the whole circle") and rock back and forth.(5. picture) In addition, minor movements were possible; such as the raising, or lowering, of the back and headrest, slight rocking of the seat, footstool length and height adjustment, and the small of the back support.



5. picture Wilkerson - chair 1877

The illumination produced a number of ingenious solutions, such as Grohnwald with stomatoscope, Steven Teltschow with special lights. The golden age of dentistry was the second half of 19th century the period of discovering and employing of different materials and lamp. The using of the lamp brought a new necessity: the bringing the mouth closer to light with a moving chair. The Teltschow- petroleum lamps of surgery room of clinics are hanged to the plafond. There are lamp-tripods too, together with an equipment-table, and spittoon



6. picture Teltschow lamp

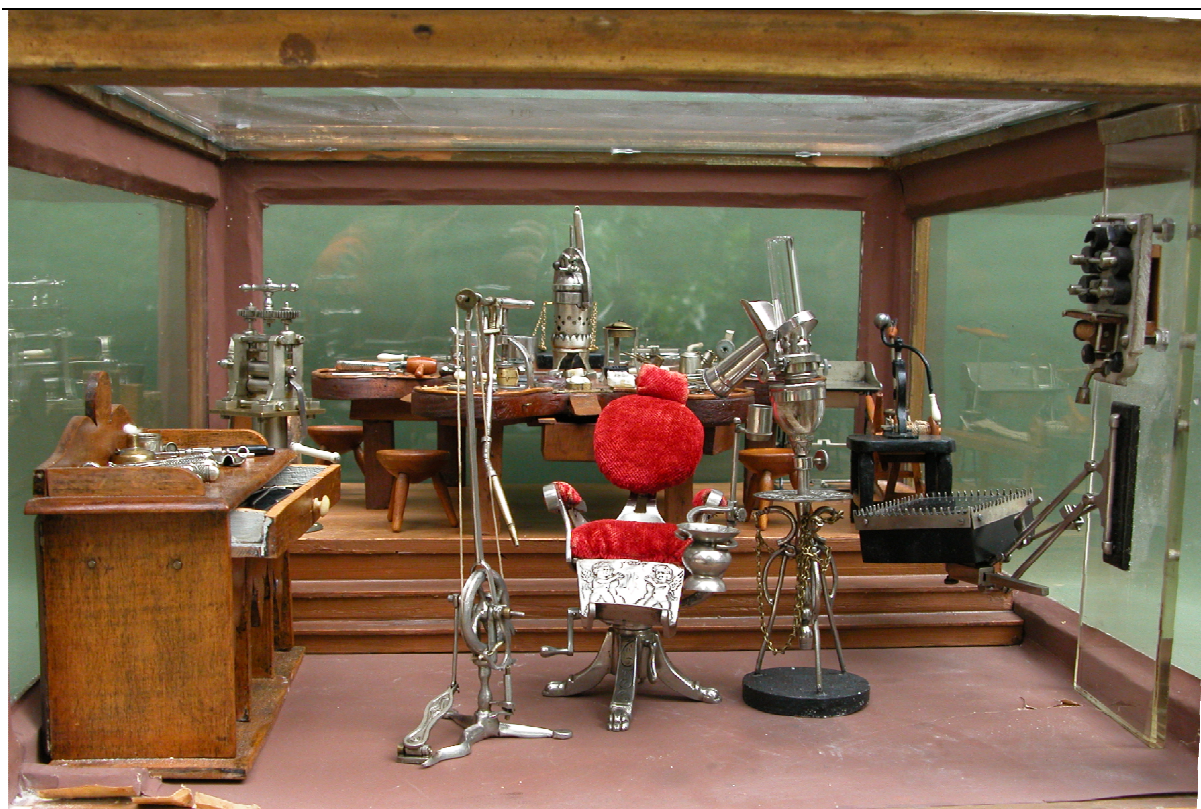
The new type chair was made from combined materials, moving parts were made from steel, but the sitting place conformed to the furniture's of the salons. The salon-image is a psychical effect toward patient.

The conservation treatment needed the drill. At first the dentist used a gimlet, rotated by his hand, but Morrison in 1871 discovered a drilling machine.



7. picture total office equipment

The world exhibition - on the one thousand anniversary of the Hungarian settlement in Carpat Basin - wanted to demonstrate the Hungarian industry agriculture and sciences in 1896. The diorama - exhibited in the Semmelweis Museum, Budapest - was made by a talented craftsmen and dentist Imre Rona. (In a glass box: 50 x 30x 40 cm) The picture shows a dentistry with a chair covered by wine red velvet, a fixed spittoon, and a non fixed, moveable drill machine. The diorama shows the technical equipments, machines and hand- instruments: spoon using for impression, balance for gold, and working table with occludor which helped for the development of non fixed applying.



8.picture diorama from 1896

Our most important experience: the aesthetical factor - as we called: beauty - of the dentistry is not a tangential part of the history of medicine, but one of the most important factor of the social integration of the activity.

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