

REFERENCE BOOKS IN THE HISTORY OF DENTAL MEDICINE PIERRE FAUCHARD AND HIS HANDBOOK OF THE TEETH (1728)

(II)

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ABSTRACT

The journey into the world of books about the history of dental medicine, proposed by our paragraph, debuted in the first number of the review in 2014 with the book of Pierre Fauchard (1679-1761), *Le Chirurgien dentiste ou Traité des dents*, which had the first edition in 1728, the second in 1746 and the third in 1786. In the last article our journey was about the life, the personality, the current international appreciation and the structure of the first volume (partly compiled). We suggest the reader to stop now on the content of the second volume, work with an original character, the creativity and the professional passion of the Parisian doctor taking place here. The rigorous, precise, scientific language, reveals the value a universe of knowledge of the anatomy of the mouth and dentition, throughout its evolution, its encountered pathology, its interventions of surgical nature, descriptions of the surgical techniques used, but especially descriptions as precisely as possible of the medical instruments used in the dental surgery, mostly invented and designed by the author.

Keywords: the history of dentistry in the 18th century, history of orthodontics, history of odontology, prosthesis, Pierre Fouchard, *Le chirurgien*, dental instrument set, dental technique and technology, French dentistry

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In the absence of the first edition, almost impossible to find, we read patiently this

second volume of the 1786 edition, opened with the King's privilege from 1723, that allows the bookseller Mariette "to print again and to give the public" a volume with 42 illustrations of significant and not less than 26 chapters, with innovative information at the time of editing and who now represents a stage in the history of the domain.

If the first volume is structured around two coordinates, anatomy and pathology, the second has strict interests in methodology, technique and dental technology, this volume opens the professional dialogue with the colleagues: the author brings arguments demolishing the opinions of contemporaries who felt that the tools of iron or steel damaged teeth (II, § I); he considers them resistant, though not all are suitable; so some of them he improves, and when, for a certain surgery, it misses the object, he invents it and manufactures it; then he draws and describes it in detail in his book.

Considering that his professional activity is necessary as people are not aware of the importance of oral health and offer no time to oral care, Pierre Fauchard started a campaign of convincing (I, chapter V) the colleagues, clients and the reader that the deposits and the plaque determine alteration of teeth. So, they must be removed with the appropriate tools; most of the 42 drawings include dental surgical instruments (on each drawing are more pieces, each of them being described in detail). The tartar must be systematically removed, but gently ("*manière d'opérer méthodiquement*") not to alter tooth enamel ("*sans interesser l'émail des dents*") (II, chapter I-III). For severely affected teeth, there are many grinding techniques, which he describes in detail from his own professional experience and the ways in which he intervenes (II, chapter IV). When the process of alteration evolved and formed caries, it proceed to scrape the damaged part with the right tools, whose description is formed by

the composition of another chapter (II, chapter V). Another stage, not neglected is filling with suitable instruments, described also in details, but the procedure will be applied with necessary prudence and circumstances for success (II, chapter VI). In the case the area presents deep lesions, the surgeon will apply the technique of cauterization of the teeth (II, chapter VII). For different reasons, the denture is not uniform: the teeth overlapping, fold, bad arranged and displaced, should be the subject of a specific activity; they can be straight and align using other tools. These as solutions for surgeries are the subject to the chapter VIII.

Without naming it as is customary today, periodontitis, Fauchard, considers that also the teeth that are moving ("*les dents chancelantes*") can be treated and offers his experience related to this disease (chapter IX): "the causes that make teeth moving are generally the tartar, blows, violent efforts or any significant bad habits of the blood mass. If it is recognised that these causes came from tainted blood, there should be used the general remedies and at the same time to work on strengthening the teeth" ("*Les causes qui rendent les dents chancelantes sont en général le tartre, les coups, les efforts violents ou quelque vice considerable de la masse du sang. Si l'on reconnoît que ces causes proviennent de la masse du sang vicié, il faut avoir recours aux remedes generaux, et en meme tems travailler au raffermissement des dents*").

It appears so far that at the beginning of the 18th century, each cleaning operation for prevention or oral intervention has the adequate instrumental set for the action in question. Other tools this time used in extracting the teeth ("*déchaussoir, poussoir, pincettes ou davier, et levier*") are not only described but it is also explained their use (chapter X).

The next section of the book is considering

several types of dental forceps: a new type of dental forceps ("*pelican*") and "imperfections" of those who used it before (chapter XI); the uses of the "*pelican*" for the extraction of teeth, which cannot be removed as easily with other tools (chapter XII).

Beyond prevention, hygiene, prophylaxis or treatment (debridement, caries, filling), Pierre Fauchard shows a major interest in partial or total edentation. Concerns about manufacture of the prostheses to replace bone losses are much older than Fauchard. His research in this area undertakes identification of new materials, methods of processing the material so that the final product will be better than the previous, innovates procedures, techniques and new technologies for the beginning of the 18th century: missing teeth must be replaced with others made with better aesthetic ("*artistement figurée*") (chapter XIII); invents a process of bleaching bones at the feet of calves and subsequent preparation for creation of prosthesis or part of dental prosthesis ("*ou partie de dentiers artificiels*") (chapter XIV); other instruments are invented, described and is shown the way of work with them for manufacture of teeth or some parts, and repair of caused defects by natural tooth loss (chapter XV).

Before implantation of artificial teeth, Fauchard underlines the need for the spirit of observation for the surgeon: he shows what must be observed for drill (percer), place or attach to natural teeth or to a part of them artificial pieces: the most suitable sizes of each part, which serves to assembling these parts (chapter XVI). Moreover, he describes and explains the use of a device ("*d'une machine*") which is actually an upper dental prosthesis. For its manufacturing, the inventor has special aesthetic concerns (*artistement composée*). The device consists of a play mounted with bows, of gold or silver, which includes teeth, with two semicircles and two loops of lower jaw (chapter XVII). Another

prosthesis has a double character: the upper part combines with the lower part by bows (chapter XVIII).

We return to Pierre Fauchard's concerns of dental aesthetics. We saw that whitening of the teeth with different substances has been handled in the previous volume. Now he presents a way to enamel (*émailler*) the teeth, but also the artificial dentures, before offering a more orderly and pleasant appearance (chapter XIX).

More than just concerns of the prosthesis, with technique and specific technology at the time of publishing his treaty, Fauchard manifested a special interest, over the course of four chapters, for what he called *obturateur* (construction and use): description and use of the obturator of the Palace with two parallel wings, with hinge, attached with a screw, and which is positioned this obturator (chapter XX); description and use of a less complicated obturator, whose wings are set differently from the other obturators and without hinges (chapter XXI); description and use of the third obturator without rod, in part prosthesis, whose wings are different from the previous, and attached by a screw of a particular structure. Also the description of a fourth smaller obturator (chapter XXII); description and use of a fifth obturator with bone plate just like previous, in part prosthesis, constructed from several pieces, without rod, having two wings, one of which turns to the right and the other to the left (chapter XXIII). The Fauchard's material about this subject was examined by a group of British researchers in 2005 (C. D. Lynch, C. T. MacGillycuddy, V. R. O'Sullivan, *Pierre Fauchard and his rôle in the developement of obturators*, in „British Dental Journal”, v. 119, nr. 9, November 12, 2005).

In the Pierre Fauchard's vision, a complete prosthesis is a real piece of work, of whose invention is proud: "the description of all the

parts that make a whole new invented machine, suitable to bear the teeth in the lower jaw, to support and maintain the superior one an artificial prosthesis; and the description of this prosthesis" (chapter XXIV). Another type of prosthesis forms the structure of the next chapter: "the description of an upper entirely artificial prosthesis, attached with a lower prosthesis, partly artificial, which match with the natural teeth that are still in mouth" (chapter XXV).

Beyond the impressive scientific character for the time of publication, that would bring the author over centuries deservedly title of "father of modern dentistry", the present volume also impresses through a truly modern element: what the author calls the *Table des matières* is a combination of how useful can be to the reader the index terms associated with page, and dictionary of the specialized terms explained in detail. The 1786 brings a touch of unquestionable scientific authority: the *Approbation*, signed in the name of the most representative of the Parisian dentistry of 1725-1746, among them Philippe Hecquet, Helvetius, holding the title of „docteur-régence en la Faculte de Medicine de Paris”, is in fact a real list of referees, of which cannot do without the recommendation „de messieurs les chirurgiens-jurés de Paris”. The latter found his contribution to the development of dentistry Fauchard, towards the public good: „que cet ouvrage étoit très essentiel à la chirurgie et que cet auteur a écrit avec beaucoup d'intelligence sur une matière qui étoit restée jusqu'à présent dans l'obscurité”.

Passing in review the composition of this volume, we found that the author's perspective on the field is extremely wide for his composition period: sanitizing the mouth

through the removal of tartar and of the affected teeth by the destruction, sawing (refining), removing decay and filling, strengthening of the "moving teeth", replacing the partial or total bone loss through prosthesis and, of course, making an aesthetic work. Of all these, we should admit that the prosthesis is the field in which the contribution of personality and author's inventiveness is manifested in the evidently way. These two volumes, the variety of areas approached and, especially, by inventing new methods, of a specialized technology, through detailed descriptions, which are in essence recommendation of usage for the contemporaries for those to come he deserves the title given by the author: Handbook on the teeth.

This professional devoted to his work and welfare of the humanity had no luck in seeing his son (Jean-Baptiste) to take over the experience, knowledge and, eventually, to take them to a higher level, as he had hoped for a long time. On how disciplined he was the father, so the Bohemian son, got himself an actor and writer, but nominally Dumesnil (see Xavier Deltombes, in „Actes. Societé française d'histoire de l'art dentaire”, 2011, nr. 16, p. 15-19, www.biusante.parisdescartes.fr/sfhad/vol.16/2011_04.pdf). The sorrow would have been lower had he known that, after the publication of his Handbook of teeth after the year 1750, French dentists will caste multiplied considerably, for he had now a bedside book in which they can practice that for two centuries will be translated not only in Europe but also in the "New World", and we, at nearly 300 years after the first edition, still look forward to his indefatigable devotion.

**LE CHIRURGIEN
DENTISTE,**

OU

TRAITE' DES DENTS,

OU L'ON ENSEIGNE LES MOYENS
de les entretenir propres & saines, de les embellir, d'en réparer la perte & de remédier à leurs maladies, à celles des Gencives & aux accidens qui peuvent survenir aux autres parties voisines des Dents.

Avec des Observations & des Réflexions sur plusieurs cas singuliers.

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Par PIERRE FAUCHARD, Chirurgien Dentiste à Paris.

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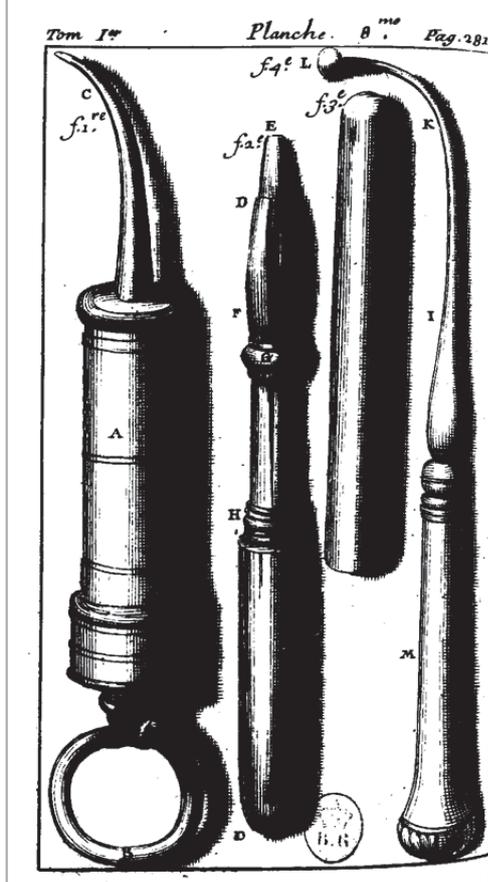
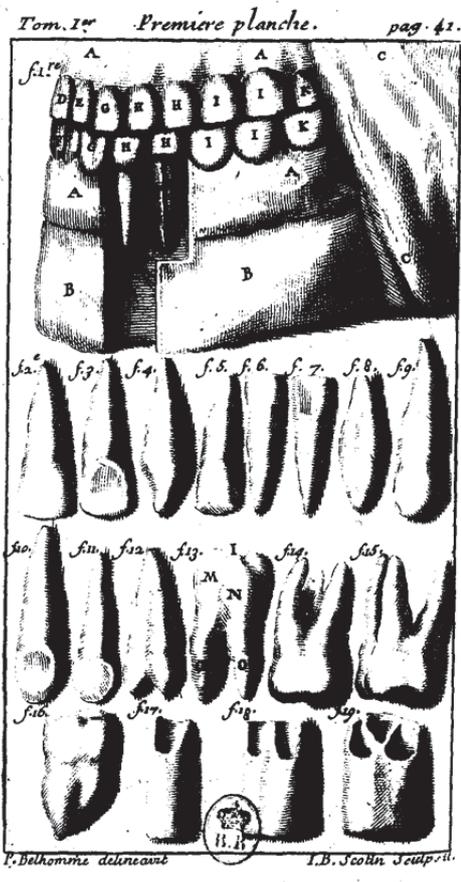
**TRAITE' DES MALADIES
des Dents, des Alvéoles,
& des Gencives.**

CHAPITRE PREMIER.

De la structure, situation & connexion des Dents, de leur origine, de leur accroissement, &c.

POUR donner une intelligence parfaite de la matière dont je traite, il paroît nécessaire d'expliquer la structure, la connexion & la mécanique particulière des dents.

C'est sur la connoissance de ces parties que j'établirai ma théorie & ma pratique; & que je tâcherai ensuite de
Tome I. A



LE
**CHIRURGIEN
DENTISTE**
OU
**TRAITE' DES MALADIES
des Dents, des Alveoles,
& des Gencives.**

CHAPITRE PREMIER.

*Dans lequel on combat l'erreur de
ceux qui croient que les instru-
mens de fer ou d'acier, sont
préjudiciables aux dents.*

A VANT que de traiter de la
manière de nettoyer, limer &
plomber les dents, je vais
combattre l'erreur de ceux qui
croient que ces opérations sont dange-
reuses, qu'on ne doit point les entre-
prendre, que par-là on dechausse les
Tome II. A

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