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ART. VI.—OBSERVATIONS ON THE EFFECTS OF CONSTITUTIONAL AND LOCAL IRRITATION UPON THE FORMATION AND ERUPTION OF THE TEETH.

Read at a Meeting of the Medico-Chirurgical Society of Montreal, April 3, 1847.

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It is a general law of the animal economy, that all organs, whether osseous, nervous, or vascular, shall recover entirely, or in part, from injurious effects upon them: during their formation, whether these effects be local or constitutional; but to this rule, the teeth are an exception; from such injuries the dental organism never recovers; but, on the other hand, teeth so effected seldom escape for any great length of time the ravages of disease.

The teeth continue throughout life to exhibit marks of previous constitutional derangement, because, unlike the other bones, they have no reproducing powers of their own, so that whatever injuries they may receive from constitutional or other causes while being formed, they have not energies inherent in themselves sufficient to restore them to a state of health. It is this peculiar characteristic of the dental organs that enables us to judge of the innate constitution, whether it be good or bad; it also enables us to point out, with considerable accuracy, at what periods during the life of the subject the constitutional derangement has been most severe.

The form, colour, density, and vital energy of the teeth, depend entirely upon the perfectness of their formation; upon this too depends their capability of resisting the action of external agents; and upon this also depends more or less the success of those dental operations, which have for their object the restoration of these organs to a healthy condition.

If the functional operations of those organs which produce the different structures of the teeth have been impaired, either by a bad constitution or accidental derangement, then it is only necessary for us to know the different periods when their formation takes place, to be able to judge the condition of the general health from the time ossification commences upon the incisors of the temporary set, until the crowns of the wisdom teeth are formed, a period of about fifteen years, beginning in the fifth month of foetal life. If the derangement be the result of illness, of such a nature as to involve the whole system

in fever or other constitutional disorders, or of local irritation, such as is produced by fracture of the alveolus in removing the temporary teeth, alveolar abscess, &c., then that particular portion of the bony structure and enamel, which was being deposited at the time the accident occurred, will, when the tooth makes its appearance, be found imperfect, and we frequently meet with cases where parts thus affected are entirely wanting.

The appearance of the teeth will indicate correctly the nature of the irritation. If it be constitutional, then these organs will be marked in pairs, and in such a manner as to show their different stages of advancement at the time the accident took place; if local, then those teeth only suffer which are in the neighbourhood of the disease.

The following table shows the different periods in which ossification is commenced and completed, on the crowns of each individual tooth of both sets.

Ossification commences on the pulps of the	Ossification complete in crowns
Temporary incisors, 4½ months before birth.	1 month before birth
“ Cuspidate 4 “ “	“ at “
“ Molares 3 “ “	1 “ after birth
1st permanent “ at	3 years “ “
1st “ incisors lower jaw 2 mo. old	3 “ 10 months old
2d “ “ “ “ “	4 “ “
1st “ “ upper jaw 4 “ “	4 “ 3 “ “
2d “ “ “ “ 5 “ “	4 “ 6 “ “
“ Cuspidate lower jaw 7 “	6 “ “
“ “ upper jaw 16 “ “	7 “ “
“ bicuspidates under “ 34 “	7 “ 6 “ “
“ “ upper “ 4 years “	8 “ “
2d “ Molares under 4½ “ “	9 “ “
2d “ “ upper 5 “ “	9 “ 6 “ “
3d “ “ “ 10 “ “	15 “ “

As the commencement and duration of the process of ossification depends upon other circumstances than the age of the subject, this table cannot be correct in all cases, but as a general rule we believe it may be relied on.

We have this day witnessed an interesting case of imperfectly formed enamel, in the mouth of a girl about ten years of age. Across the crowns of the lower incisors, about half way from the gum to their cutting edges, was a deep groove, and the points of the cuspidati of the upper jaw were entirely gone. Similar marks were also discoverable on the other front teeth of both jaws. We remarked to the mother of the child, who was present that the appearance of the teeth indicated good general