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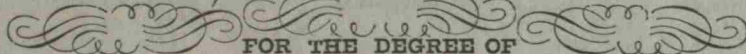
Odontalgia

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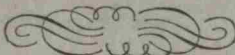
PRESIDENT, BOARD OF TRUSTEES, AND MEDICAL FACULTY

OF THE

UNIVERSITY OF NASHVILLE,



FOR THE DEGREE OF



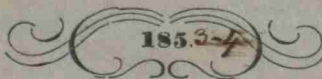
DOCTOR OF MEDICINE.

BY

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OF

Tennessee



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Odontalgia

This word, as most of our medical terms has its origin from two Greek words. ὀδους a tooth and ἄλγος pain. We are convinced that the teeth are not inferior to all organs. It being their function to masticate our food into small particles so as to be easily digested, and the injurious effects of imperfect mastication are of frequent occurrence. We will consider the teeth in their various forms structure & composition. 1st Formation Ossification commences much sooner than many suppose, at birth we will find the pulps of all the deciduous teeth ossified. The above is the opinion of most anatomists, but in dissecting a subject only four months of age, I found none but the middle incisors of the

Superior and inferior Maxilla & The
molars of The Superior maxilla.

Development, This process differs from
that of any other organ of The human
body, commencing with Germs or
Gemmas. The development of The teeth
differs much in different individuals
requiring from The fifth month until
The sixth year to acquire a full
set of milk deciduous or temporary
teeth. And as a general rule The in-
ferior incisors make their appearance
first, then The corresponding ones in
The upper or Superior Maxilla. The decid-
uous teeth are twenty in number, five
on either side of each jaw, consisting
of two incisors one cuspidate and two
molars. Though these teeth are only ada-
pted for The infantile state, and drop

out at about the sixth or tenth year
 and are succeeded by the permanent
 teeth which consists of twenty eight or
 thirty two. This we readily perceive is a
 wise provision in nature for adapting
 teeth for childhood, and a second set
 for adults. And in proportion as the
 bodies of the permanent teeth are completed
 and approach the gum the fangs of the
 deciduous teeth are absorbed until the
 body finally is fixed only mechanically
 in the gum, and are removed by a slight
 effort. The infantile or deciduous teeth
 seem to have no fang and is supposed to
 be so by those who have not investigated
 the subject sufficiently, but this is an
 erroneous notion, they have fangs but are
 mostly absorbed, before the regular period of
 shedding these teeth. We see the necessity

of a second set of teeth as twenty is not sufficient to fill the adult jaw. If at the age of six or eight none of the milk teeth have been shed or otherwise removed we will have from forty eight to fifty two teeth contained in the two jaws. These teeth are all more or less completely formed. As before stated the permanent teeth are thirty two in number, sixteen in each jaw, and are a little inside of where the deciduous teeth did exist.

Those of the inferior maxilla corresponding exactly with those of the superior. The teeth are divided into four classes, Incisors from the Latin word Incido to cut cuspidate from cuspis a spear. bicuspid, resembling two spears molars, from molaris a mill because they are adapted for grinding the food. And also the dentes sapientiae, is one

of the molares it does not begin to ossify
 until about the ninth or tenth year and
 is the last of all to make its appearance
 through the gum and hence its name
 dentes Sapiientiae. This tooth is of little ^{value} ~~x~~
 on account of its proneness to decay and
 should be extracted. Its fangs differing
 from the others, by its being three or more
 compressed together, and running
 obliquely backwards. The teeth are divided
 into three distinct portions, 1st That por-
 tion which projects beyond the gums is
 called the body or crown. 2^d That portion
 which is embraced by the gum is termed
 the neck. 3^d The portion which penetrates the
 alveoli socket is called the root, or fang.
 Each tooth when in a natural condition
 has an opening at the apex of the fang.
 This cavity exactly corresponds with the

Shape of the fang and is occupied by
 an artery vein and nerve. And it is by the
 exposure of this nerve we have true *causida*
dolorosa. The teeth of the Superior jaw
 are furnished by the infra orbital nerve
 a branch of the Superior maxillary nerve.
 Those of the inferior jaw from the inferior
 maxillary nerve, which as well as the first
 are from the fifth pair of nerves. Nerves
 and blood-vessels, have never been traced
 into the structure of the teeth. Goss. Bell,
 maintains that they do exist because
 says he, The tooth is endowed with a certain
 degree of sensibility, and injections have
 been observed in the teeth. Hunter says
 that he has seen the teeth coloured in
 young subjects by eating on madder. This
 last only shows that a portion of the madder
 was taken to form the teeth. And he does

not believe the body or bony structure to be
 endowed with nerves or blood-vessels This
 we will fix as an unsettled point among
 anatomists, though my opinion may
 not result to much, I believe that the
 bony structure is endowed with nerves and
 for blood-vessels I can not say but that nerves
 do exist we must admit, or admit that
 they do exist in some teeth, who so ever
 has had the Dentists file in his mouth
 knows how exquisitely sensitive it is
 when the enamel has been removed, I
 speak from experience I can not bear the
 dentist to even file upon the enamel
 as it produces the most intense pain in
 aginable, Tho, Bell, says, he has seen
 it in a patient who, died of jaundice tinged
 with a bright yellow, I have seen myself
 a young man who after having an attack

of, found one of his middle superior incisors was tinged with a deep yellow, and this certainly could not happen if the tooth was devoid of a vascular system. Composition of the teeth, Suffice it to say that according to most anatomists they are composed of phosphate fluat & carbonate of Lime, Soda, and chloride of Soda, phosphate of magnesia and free alkalis with a portion of animal matter. The teeth have a peculiar kind of matter called dentine which is firmer and more durable than any of the other bones. The crown of the tooth is covered with a vitreous substance differing materially from bone, and is called enamel. This substance is composed of phosphate of lime and some animal matter. This enamel covers the whole of the crown of

The crown about a line in thickness
 or perhaps more. being thicker on those
 portions most exposed to friction, gradually
 decreasing in thickness down to the neck.
 This enamel has no vitality or blood vessels
 or nerves, endowed with little or no sensibility
 consequently not subject to decay. When
 a portion of it is removed it is never re-
 placed. There is a substance commencing
 where the enamel stops and going in
 an opposite direction to the enamel towards
 the apex of the fang, gradually increasing
 towards the apex. This substance is called
^{in thickness}
 *
 crista fetosa or cortical substance. Miller
 regards this as being essentially the same
 as the tartar, existing in herbivorous an-
 -imals. After the teeth have all been ex-
 -tracted or lost by decay. The alveoli. Sock-
 -et is entirely closed leaving no trace by

which we could recognise the previous
 existence of teeth. There is sometimes an
 attempt in nature to restore the teeth by
 a third dentition, which it frequently
 does, often only partially, but sometimes
 a whole set. These teeth although not dif-
 fering in composition are characterized
 by the absence of the pang; They are injurious
 instead of as we might be induced to sup-
 pose beneficial. Causing a considerable
 amount of pain in cutting them, the gum
 which had become callous. By the act
 of mastication resists the forces of dentition
 with more force than ordinarily. Also of a
 singular precocity of a child being born
 with teeth and the reverse of some never hav-
 ing any teeth. Such as these latter defor-
 mities may be ascribed to the freaks of nature
 There is a deformity or irregularity which

often exists especially in this the case with the canine teeth which consists in these teeth growing within the socket of other teeth (that is internal to it) or external to them. In the former case the tooth interferes with the office of the tongue. The latter consists in protruding the lip so as to expose the other teeth. These deformities should always be remedied by the forceps or key - if great inconvenience be suffered by them. Also the fangs are often irregular, as usual being separated widely at the base and embracing a portion of the jaw bone and permitting a fleshy mass to grow between this is done by the apex of of the fangs coming in close apposition. Should these teeth be extracted there is danger of fracturing the jaw and tearing up the gum. The teeth frequently especially the incisors grow transverse or crosswise the

flaw instead of parallel, Caries. The
 ancients used caries as synonymous
 with necrosis, but by caries we mean an ul-
 ceration of the bone and by necrosis ^{death} the
 of the part. Then we define caries to be a
 disease peculiar to bones, and similar to
 ulceration of the soft parts. This was the op-
 inion of great Salus, Bones - like the soft
 parts are continually undergoing a slow
 but gradual decomposition of their bony
 structure, but are again repaired by nutrition
 When these parts fail to receive their proper
 nutriment, viz, then we have ulcerations ~~or~~ caries
 By a continued wasting away and is not re-
 newed, and are said to be deprived of vitality
 It thus continues to waste and thus the nerve
 is exposed. Then when any acrid substance
 either warmer or cooler than its natural temper-
 ature ^{coming in contact with it} it will of necessity produce true

Odontia-dolorosa, Causes of caries, It is obvious to every one that the most frequent cause is a hereditary predisposition, Wood says. The most frequent cause is some condition the bone has acquired during its formation, in consequence of some peculiarity of the constitution or state of health existing at the period of dentition. As persons, affected with scrofula & scurvy are prone to this disease. Gouty & rheumatic patients are frequently attacked with this disease, Women and children more liable to it than men. Women in pregnancy often affected with it. Acids depraved Salivary glands, Sour excretions or acids taken into the mouth, Saccharine substances are said to assist in the decay of the Teeth. We can not see that Saccharine matter can by any means effect the Teeth we acknowledge, that it may after

caries has commenced assist in the
 decomposition of the structure of the
 tooth. Percival's Mat. Medica & Therapeutics
 Vol. 1st pag 86. Says. Sugar is principally
 employed by man on account of its agreeable
 taste rather than as a direct source of
 nourishment. During the sugar season
 of the West India Islands, every negroe on
 the plantations & every animal even the
 dogs grow fat. It has been alledged that
 the eating of sugar spoils the colour and
 corrupts the teeth. This however proves to
 be a mistake for no people on earth have
 finer teeth than the negroes in ^{the West Indies} Jamaica &c.
 Then the popular notion of sugar having
 a tendency to injure the teeth seems most
 absurd. Though sugar is strongly to dental
 nerves, after they are exposed. Filth is one
 source of carious teeth by allowing small

particles of food to ^{remain} between and on the
 sides of the teeth unobserved until it
 putrefies and forms an acid which is very
 injurious to the teeth. Tartar or phosphate
 of lime collecting upon the teeth assists
 in producing caries. When the caries is
 slight that is when the nerve has not been
 exposed or has never ached, the diseased
 portion should be removed and filled with
 gold or Tin foil they may be filled with
 other metals but these are preferable. This
 might be called a prophylactic measure
 it acts by excluding the atmosphere and
 other irritating substances. But where
 the nerve has been exposed for some length
 of time and the tooth has ached, it should
 not by any means be filled it rarely if
 ever does any good abscesses will form
 under the plug and will of necessity have

to be removed. Destroying the nerve with Nitric-acid the actual cauterizing or some of the essential oils. These measures are objected to by many as it is thought that a tooth deprived of vitality would necessarily act as a foreign body. That abscesses would form at the apex of the fang. This may be true, but I know that it is not always the case as I have some three or four teeth which the nerve was killed some five years ago by the application of Kresote and these teeth have never pained me since nor can I perceive how teeth could be of more use than these are. It has been recommended to pull the tooth until loosened from its socket and replace the tooth and it will again become firm but will never ache thereby breaking up the narrow pulp. This may probably answer a very good pur-

pose. I have seen one done this way
 and it answers very well, it has never ached
 since and is firmly fixed in the socket
 Causes of. The pain in the teeth, Caries and
 some irritation is the most frequent cause
 The caries is confined principally to the
 molars though extending to the incisors, The
 teeth may ache without being in the
 least carious, from cold or inflammation
 or from excessive ptyalism. The pain
 is either heavy sharp, dull throbbing lanci-
 nating grinding or pungent. The pains
 may be regular intermitted or remittent in
 their occurrence. We will merely mention
 the different forms as, neuralgia & ~~the~~ ^{the} ~~stomach~~
 Tory. The affection may be seated in a single
 nerve or in the whole nervous trunk, not un-
 frequently the pain is in the jaw instead of
 the teeth, this is particularly the case in pregnant

women who may be attacked with what is termed tooth-ache. Treatment. Bleeding was formerly a universal remedy, but it like a nostrum has had its day, purgatives are useful if the bowels are in a torpid condition. These remedies are efficient when the patient objects to the destruction of the nerve ~~or~~ extraction. The whole catalogue of narcotics have been said to be useful Opium. Hyosciamus cicuta belladonna aconite and tobacco. All the essential oils have been recommended. cloves horse-mint. hemlock peppermint Sassafras cinnamon Chamomile lavender and lemons. Though none I believe so efficacious as. Kneecote. Extraction must be admitted by all to be the most effectual mode of curing this disease. In extracting teeth we should be very careful not to fracture the jaw. In selecting our

instruments, we should procure forceps elevator and Key. The forceps and elevator are now principally used to the exclusion of the Key. In applying the forceps our first object is to divide the gum with the gum lancet, cut it deep divide the ligamentum dentis well and the tooth is much easier extracted, then apply the forceps, as low down on the neck as possible or even to the fang if convenient. The lower the better. We can readily see the necessity of several sets of instruments. Two also required for the upper molars, one for each side because of the third fang being situated on the inner side of the tooth. These should accurately fit the elevations and depressions of the tooth, one will be all that is required for the inferior molars having but two fangs. One is

necessary for the bicuspid, and canine of the upper jaw, and for those of the lower jaw; and two sets will be necessary for the incisors of either jaw. In extracting the tooth after the forceps have been adjusted our first object is to loosen the tooth and then pull it straight out. The canines of the upper jaw is pulled first by a gentle twist combined with a rocking motion then pulled perpendicularly downwards with a slight inclination backwards. Those of the lower jaw the motion communicated to them is backwards and forwards. Then straight up. The molars and bicuspids are to be moved from side to side then pull perpendicularly up or downwards as the case may be. The Elevator is useful only for stumps or straggling teeth by using the operators finger on another tooth

for the fulcrum; the elevator is held in a horizontal position; and the stump is forced directly upwards. The use of the Key is comparative, little now. Some may still prefer it if so they should recollect that the fulcrum as a general rule should be placed upon the inner side for the bicuspides of the inferior Maxilla and molars of the upper jaw and on the outer side for the molars of the lower jaw. The dentes, Sapientiales should never be extracted by the key because of the spongy texture of the bone which the fulcrum will of necessity rest on. If the key is too large and the fulcrum too low the claw may be broken or the alveolar process extensively fractured. But if the key is too small and the fulcrum too high there is danger of breaking the crown off the tooth, off. We

may arrange the key according to another rule. If we notice very closely nearly every tooth inclines either a little inwards or outwards and if it be ever so little, it amounts to something considerable in extraction. If the tooth is inclined inwards apply the fulcrum on the inner side and pull the way the tooth leans, and *visà versa*. If it leans outwards apply the fulcrum outwards. But as before stated the most essential point in extracting teeth is in dividing well the *Ligamentum dentis*. Haemorrhages. This operation is sometimes followed by haemorrhages either from the dental artery at the bottom of the socket or from the gums which had been previously diseased. There are various modes of arresting this haemorrhage.

If from the gum some one of the
 astringents will often succeed in arresting
 the flow of blood. But if from the
 dental artery, a strong solution or
 stick of Nitrate of Silver will cause
 the flow of blood to cease, or by removing
 the clots of blood and introducing small
 pledgets of lint, untill the lint mounts
 higher than the surrounding teeth
 then close the teeth down upon it and
 apply a roller bandage over the head
 and under the chin to maintain (the)
 the teeth in apposition or, by intro-
 ducing the same tooth in to the socket
 as it will fit the bleeding surface, or if
 the tooth be carious it might be plugged
 and replaced this would certainly answer
 all purposes and not subject to pain
 or farther decomposition, This much

I deem it proper to say, the subject
might be farther pursued, but I desist;
lest it may be taken for fulsome
eulogy.

J. M. Barnes