

adopted with much satisfaction, affording success in saving the tooth where, without the puncture through the gum and bone, the cavity would not have endured the plug for half an hour.

An explanation of chronic alveolar abscess where no medication can possibly avail is found sometimes in a twist of gold which has been thrust through the foramen in the act of filling a root. The writer has several times met with this cause, although never appreciating it until exhibited by the extracted tooth.

An alveolar abscess connected with the teeth of scrofulous children will not infrequently result in necrosis of the surrounding process. A case of this kind, coming quite lately under notice, resulted in the loss of quite half of the right superior maxilla; while a second case, occurring in a mercurialized man, destroyed the whole bone.

A chronic alveolar abscess is not infrequently found resistive to treatment as the result of the mechanical cause of a malarticulation, which keeps the affected tooth continuously worried. This is an offence for which we are always to examine, as it is readily induced by changes which may have occurred from the inflammatory associations. Any single tooth, however healthy, striking in its articulation before its fellows, will become thereby diseased. This is often enough witnessed where, in filling teeth, the metal

FIG. 90.



has not been sufficiently dressed down, and is thus unduly impinged upon; such teeth becoming sore to the touch, even to the result, when the cause is not appreciated and removed, of fretting the part into abscess.

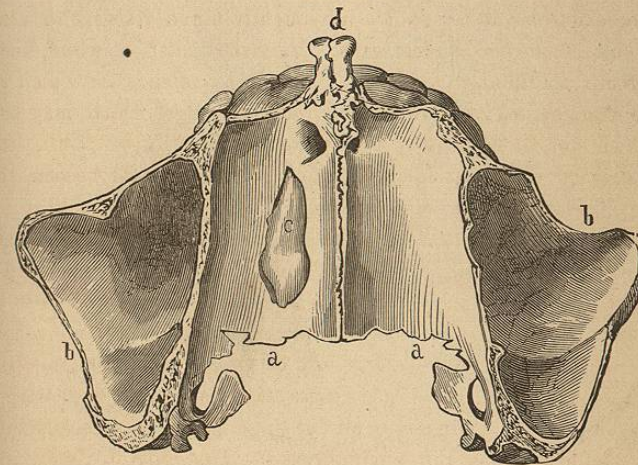
Abscess, associated with temporary teeth, is always to be looked on with concern, irritability and excitability of the young jaw being so great that any addition to the excitation of the dentitional period is found commonly to prove more than the force of the parts can antagonize,—thus resulting not infrequently in extensive disorganizations. Should the disease in the temporary tooth have association with any of the exantheas, the immediate removal of the organ is made a necessity. Indeed, these infantile abscesses, however associated, are never to be allowed to run on, but, if not speedily re-

sponsive to medication, should be cured by extraction of the offending tooth or teeth.

Alveolar abscesses arising out of imprisoned teeth are occasionally associated with much obscurity in the diagnosis. In this direction the consulting experience of the author has brought to his acquaintance many curious illus-

trations. Figs. 90 to 94 furnish examples of imprisoned teeth. Fig. 90 shows a condition of abscess not infrequent; not only does the seat of degeneration relate to the malplaced tooth, but, being long uncombated, it has enlarged its boundaries to such extent as to destroy the buccal plate and alveoli of three neighboring teeth. In a case like this extraction of all the teeth involved is only in anticipation of a result sure to be achieved by nature. It is, indeed, not infrequently the case that health is to be recovered in the parts alone through a process of scraping the bone. Fig. 91 shows a cuspid tooth lying in the palatal process, a malposition threatening abscess at all times. Fig. 92 exhibits a cuspid in process of self-liberation through means of abscess. Fig. 93 displays an eye-tooth freeing itself after a similar manner.

FIG. 91.

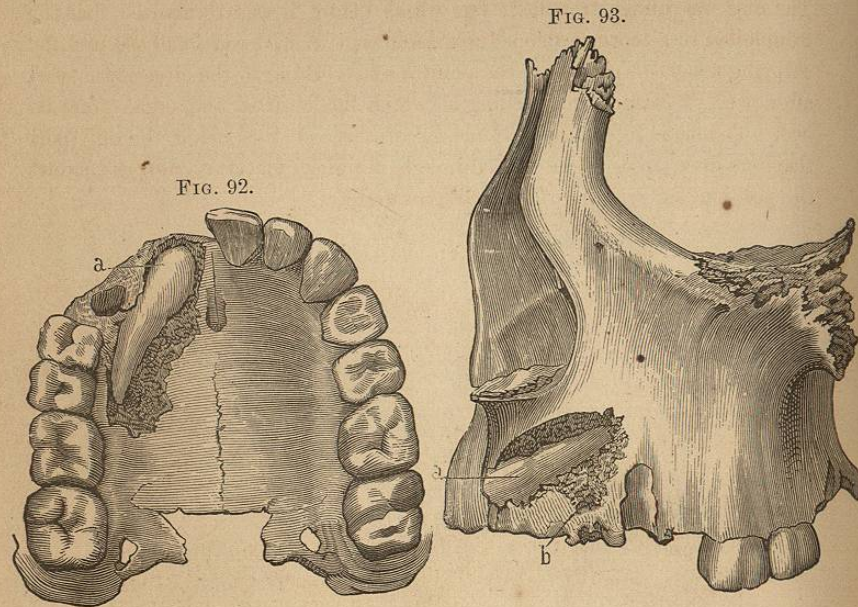


Imprisoned teeth, related as above, are commonly to be located by means of a bistoury passed through the soft parts and bone, as required. Cases enough exist, however, where a sinus of discharge issues from a lesion of distant situation; here dependence is to be placed on a steel probe, one that is sharp-pointed and that can be bent to suit.

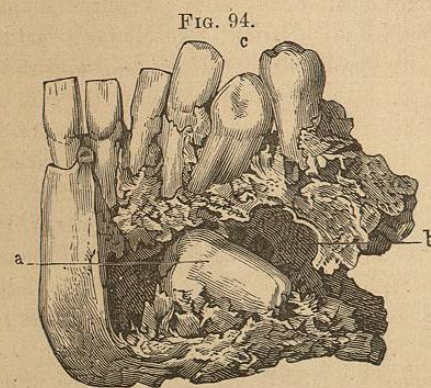
The history of a case of alveolo-dental abscess very lately under the care of the author is as follows. The patient, a gentleman of leisure, remarked a soreness that commenced in the neighborhood of the left naris. The discomfort increasing, he applied to his dentist, under an impression that the trouble was connected with the root of an incisor tooth. This organ being faultless and no other cause offering itself, the case was allowed to take its course. Two weeks later inflammatory disturbance had progressed to the extent of abscess. A week later still the gentleman was in bed with a vascular disturbance which involved the whole side of his face; the discharge reasonably profuse without abatement of discomfort. This condition existed for a month, when fungoid proliferations projected abundantly from the now widely extended mouth of



the sinus, giving rise to a fear of malignancy. The trouble was cured by the discovery and removal of an imprisoned tooth lying upon the nasal floor.



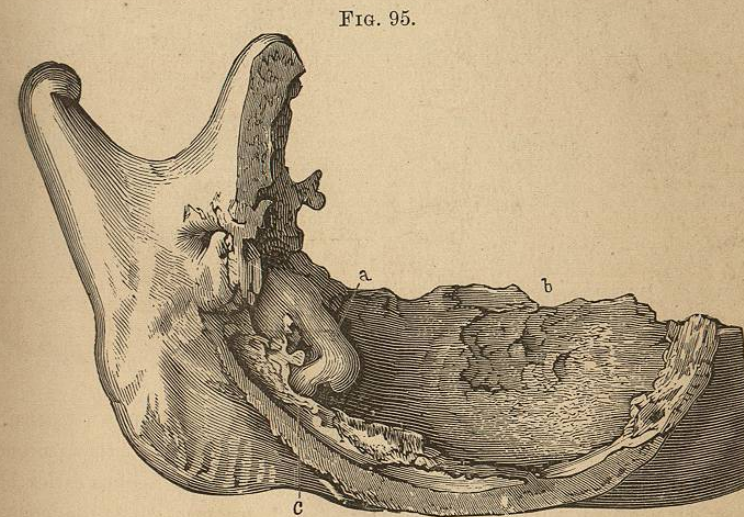
Another history is as follows. A lady consulted concerning a discharge from the alveolar ridge, which had continued two years. Neither pain nor soreness attended. Examination revealed the presence of osseous caries, but no evidence of any dental origin of the trouble. On operation for the removal of the diseased bone the antrum was reached; from this cavity there dropped an eye-tooth.



Still another case is as follows. A young lawyer was afflicted with a swelling of the lower jaw, which long had given both himself and his physician much anxiety. Later on inflammation resulted in abscess. Fig. 94 shows what was discovered in the process of search after a diagnosis: *a*, molar tooth; *b*, cyst.

Another illustration still is well exhibited by Fig. 95. The patient, a gentleman connected with the naval service, had labored for a period of two years under much concern as to the meaning of a growing discomfort situated at the angle of his jaws. This

culminated finally in abscess, for which many examiners failed to discover a cause. A probe passed along the sinus met with an obstruction that felt like healthy bone; nothing resembling the touch of enamel was to be appreciated. The case was under treatment two weeks before it was recognized that the trouble lay in a tooth developed upside-down. A cure was finally secured by chipping away the process at the point *a* and working to the situation *c* twist after twist of cotton, the swelling of which finally lifted the organ from its bed. The sinus led to the extreme tip of the root, this being the only part that was uncovered. The cut, although designed for other purpose, shows the position and relation of the tooth accurately.



As a principle involved in the treatment of abscess, it is required simply that the practitioner recognize pus as protoplasmic degeneration: matter breaking down because of an inability to organize itself into self-supporting tissue. Whatever shall afford or add needed force must prove the cure of the degeneration. To this end all deteriorative local causes of offence are to be removed. If a tooth contain a dead pulp, such pulp is to be extirpated; if it unduly strike its neighbor, such false occlusion is to be remedied; if irritation be kept up by subjection of the membrane to foreign agents of offence, as a habit of biting improper articles, cracking nuts, untying knots, cutting threads, subjection of the parts to rapid and great alternations of heat and cold, as in the use of ices and hot drinks, these and any other causes of offence are to have consideration.

General indications are to restore healthy innervation, circulation, secretion, and excretion, by such medication, hygienic or otherwise, as shall tend to allay irritation, increase plasticity through tonicity, and restore normal action. To such an end, besides the local medication which may be required, resort,



as indicated, may be compelled to the employment of specifics, nervines, alteratives, astringents, and antiseptics. In one sentence, we are to recognize and appreciate the indications, local and general, and to meet them. When this has been done, and yet a cure is not secured, the only remaining question is between the extraction of the affected tooth or teeth, and the risk of such consequences as osseous caries or necrosis.

## CHAPTER XV.

### THE TEETH AND THEIR DISEASES.

#### THE PULP-CHAMBER AND CANALS.

At this point is properly to be studied the treatment of teeth containing dead pulps; the relation of the condition with periodontitis and with alveolodental abscess being fresh in mind from comprehension of the two immediately preceding chapters.

The pulp of a tooth dead, and the intention being to save the organ, appreciation is to be had of the means tending to such end. The performance is one of full surgical import, demanding both skill and physiological understanding. It is, indeed, within the memory of the present generation when a dead pulp was synonymous with the loss of a tooth. Now, however, it has come, happily, to be recognized that such attendant loss is the exception,—observation eliciting the fact that the almost universally associated destructive sequelæ depend on the presence of the putrid mass in the cavity rather than on the fact of death of the pulp. Death of a pulp is recognized in loss of translucency by the tooth containing it.

With such understanding, the first step in the treatment of the pulp-chamber and canal is found to consist in the thorough cleansing of them from substance which has become foreign.

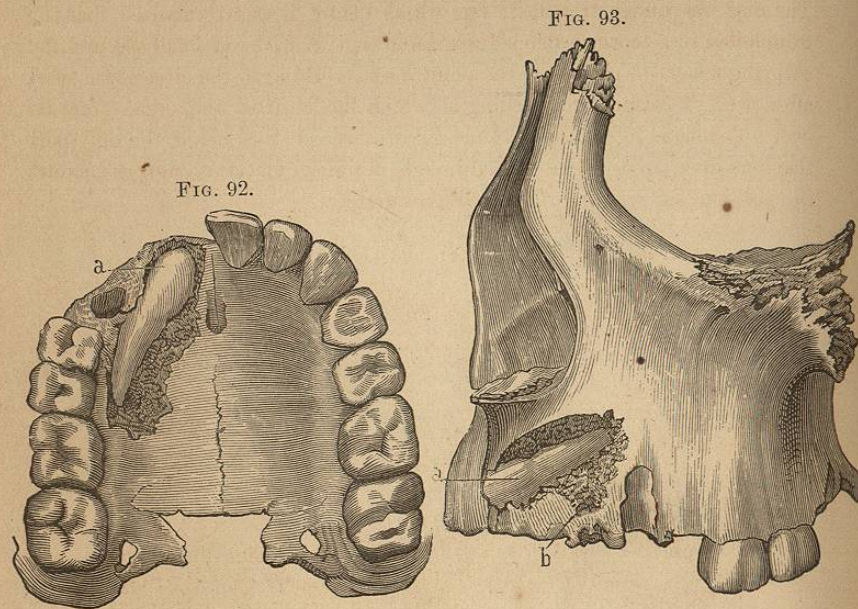
To remove a dead pulp, the operator commences by creating an opening into the chamber, or in enlarging to convenient size one that may already exist;\* this accomplished, it is not infrequently the case that the part may be caught and lifted away with a pair of delicate finger-forceps. A more common mode of procedure, however, consists in the employment of a barbed broach; this instrument being passed into the canal, and, when rotated, catching and twisting into its teeth the organ, its withdrawal brings with it necessarily the structure. Fig. 96 represents such a broach, a variety of blades being shown adapted to a common handle.

In attempting to remove a pulp entirely dead, it is occasionally found that considerable pain attends the operation. This pain is seen to arise out of the manipulations. A broach thrust directly upon a dead pulp will carry necessarily the impression to the living structure still in relation with it at

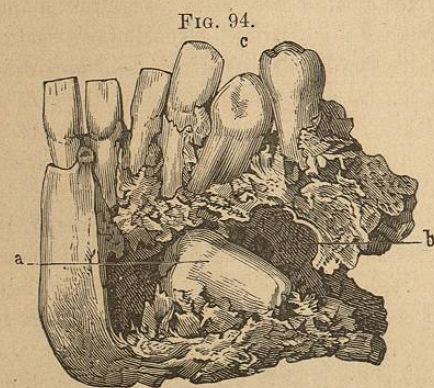
\* While the present chapter finds proper place in relation with the studies which here immediately precede it, the student will be advantaged if he defer its reading until he has familiarized himself with the more ordinary performances of operative dentistry.



the sinus, giving rise to a fear of malignancy. The trouble was cured by the discovery and removal of an imprisoned tooth lying upon the nasal floor.



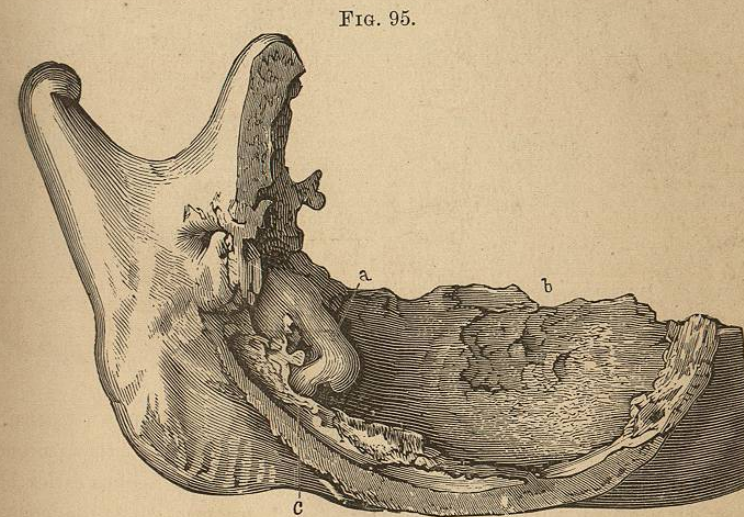
Another history is as follows. A lady consulted concerning a discharge from the alveolar ridge, which had continued two years. Neither pain nor soreness attended. Examination revealed the presence of osseous caries, but no evidence of any dental origin of the trouble. On operation for the removal of the diseased bone the antrum was reached; from this cavity there dropped an eye-tooth.



Still another case is as follows. A young lawyer was afflicted with a swelling of the lower jaw, which long had given both himself and his physician much anxiety. Later on inflammation resulted in abscess. Fig. 94 shows what was discovered in the process of search after a diagnosis: *a*, molar tooth; *b*, cyst.

Another illustration still is well exhibited by Fig. 95. The patient, a gentleman connected with the naval service, had labored for a period of two years under much concern as to the meaning of a growing discomfort situated at the angle of his jaws. This

culminated finally in abscess, for which many examiners failed to discover a cause. A probe passed along the sinus met with an obstruction that felt like healthy bone; nothing resembling the touch of enamel was to be appreciated. The case was under treatment two weeks before it was recognized that the trouble lay in a tooth developed upside-down. A cure was finally secured by chipping away the process at the point *a* and working to the situation *c* twist after twist of cotton, the swelling of which finally lifted the organ from its bed. The sinus led to the extreme tip of the root, this being the only part that was uncovered. The cut, although designed for other purpose, shows the position and relation of the tooth accurately.



As a principle involved in the treatment of abscess, it is required simply that the practitioner recognize pus as protoplasmic degeneration: matter breaking down because of an inability to organize itself into self-supporting tissue. Whatever shall afford or add needed force must prove the cure of the degeneration. To this end all deteriorative local causes of offence are to be removed. If a tooth contain a dead pulp, such pulp is to be extirpated; if it unduly strike its neighbor, such false occlusion is to be remedied; if irritation be kept up by subjection of the membrane to foreign agents of offence, as a habit of biting improper articles, cracking nuts, untying knots, cutting threads, subjection of the parts to rapid and great alternations of heat and cold, as in the use of ices and hot drinks, these and any other causes of offence are to have consideration.

General indications are to restore healthy innervation, circulation, secretion, and excretion, by such medication, hygienic or otherwise, as shall tend to allay irritation, increase plasticity through tonicity, and restore normal action. To such an end, besides the local medication which may be required, resort,



as indicated, may be compelled to the employment of specifics, nervines, alteratives, astringents, and antiseptics. In one sentence, we are to recognize and appreciate the indications, local and general, and to meet them. When this has been done, and yet a cure is not secured, the only remaining question is between the extraction of the affected tooth or teeth, and the risk of such consequences as osseous caries or necrosis.

## CHAPTER XV.

### THE TEETH AND THEIR DISEASES.

#### THE PULP-CHAMBER AND CANALS.

At this point is properly to be studied the treatment of teeth containing dead pulps; the relation of the condition with periodontitis and with alveolodental abscess being fresh in mind from comprehension of the two immediately preceding chapters.

The pulp of a tooth dead, and the intention being to save the organ, appreciation is to be had of the means tending to such end. The performance is one of full surgical import, demanding both skill and physiological understanding. It is, indeed, within the memory of the present generation when a dead pulp was synonymous with the loss of a tooth. Now, however, it has come, happily, to be recognized that such attendant loss is the exception,—observation eliciting the fact that the almost universally associated destructive sequelæ depend on the presence of the putrid mass in the cavity rather than on the fact of death of the pulp. Death of a pulp is recognized in loss of translucency by the tooth containing it.

With such understanding, the first step in the treatment of the pulp-chamber and canal is found to consist in the thorough cleansing of them from substance which has become foreign.

To remove a dead pulp, the operator commences by creating an opening into the chamber, or in enlarging to convenient size one that may already exist;\* this accomplished, it is not infrequently the case that the part may be caught and lifted away with a pair of delicate finger-forceps. A more common mode of procedure, however, consists in the employment of a barbed broach; this instrument being passed into the canal, and, when rotated, catching and twisting into its teeth the organ, its withdrawal brings with it necessarily the structure. Fig. 96 represents such a broach, a variety of blades being shown adapted to a common handle.

In attempting to remove a pulp entirely dead, it is occasionally found that considerable pain attends the operation. This pain is seen to arise out of the manipulations. A broach thrust directly upon a dead pulp will carry necessarily the impression to the living structure still in relation with it at

\* While the present chapter finds proper place in relation with the studies which here immediately precede it, the student will be advantaged if he defer its reading until he has familiarized himself with the more ordinary performances of operative dentistry.