

The medical student's guide in extracting teeth : with numerous cases in the surgical branch of dentistry / by S.S. Hornor.

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HORNOR (S.S.)

HORNOR
ON
EXTRACTING TEETH

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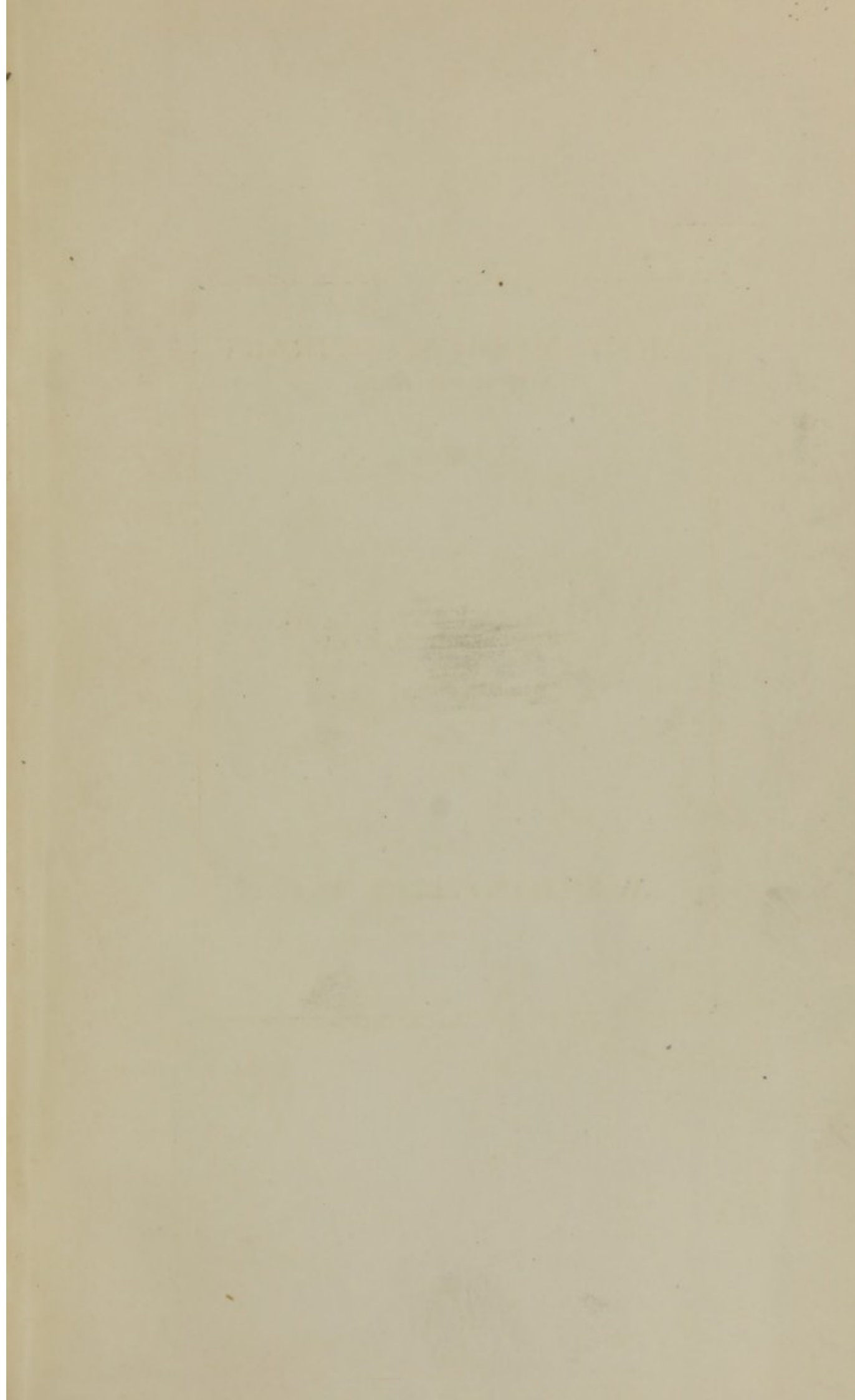


PLATE I.

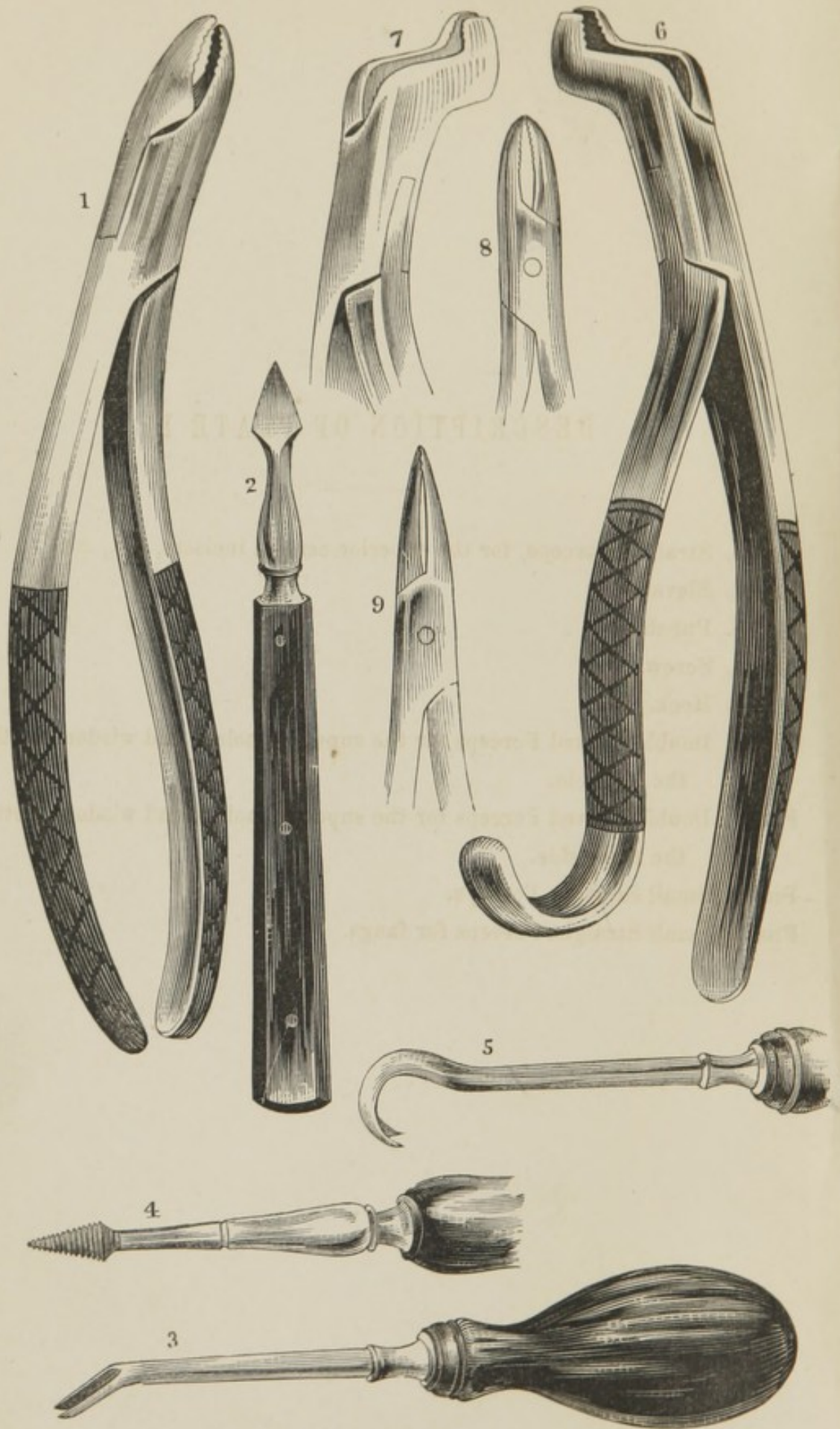


PLATE I

DESCRIPTION OF PLATE I.

FIG. 1. Straight Forceps, for the superior central incisors, &c., &c.

FIG. 2. Elevator.

FIG. 3. Punch.

FIG. 4. Screw.

FIG. 5. Hook.

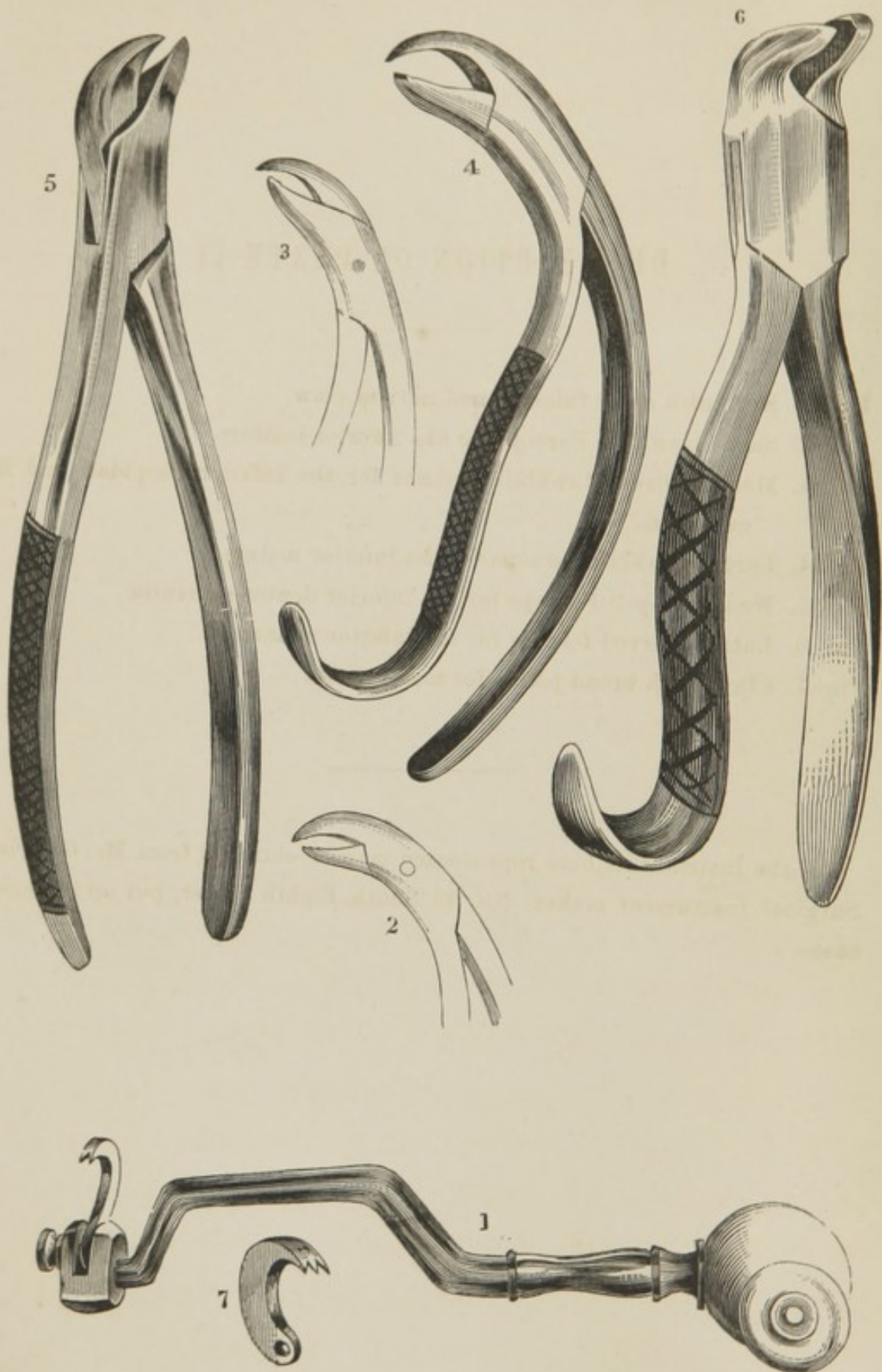
FIG. 6. Double Curved Forceps for the superior molars and wisdom teeth of the left side.

FIG. 7. Double Curved Forceps for the superior molars and wisdom teeth of the right side.

FIG. 8. Small Straight Forceps.

FIG. 9. Small Straight Forceps for fangs.

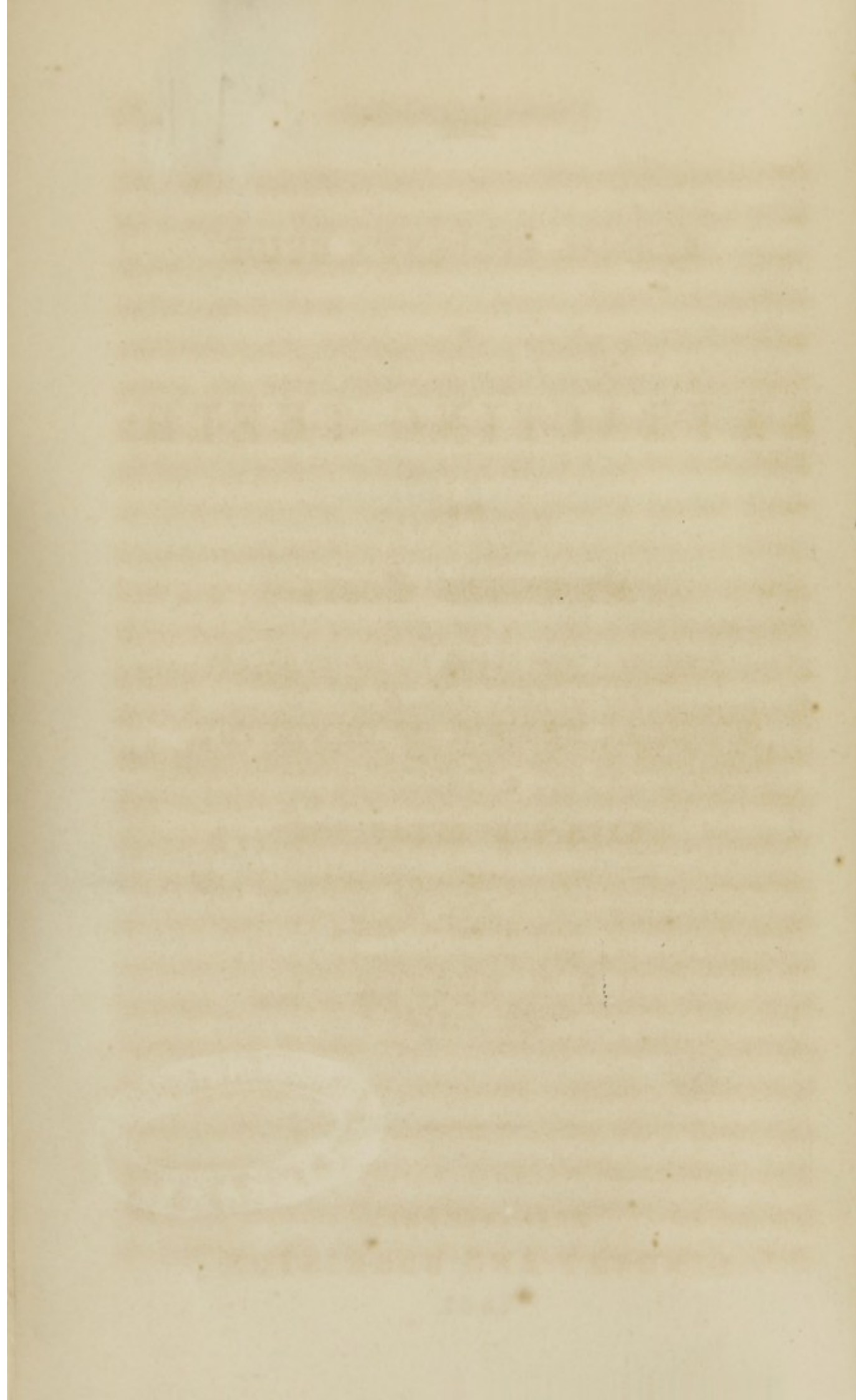
PLATE II.



DESCRIPTION OF PLATE II.

- FIG. 1. Key, with short fulcrum and narrow claw.
FIG. 2. Small Hawkbill Forceps for the inferior incisors.
FIG. 3. Medium-sized Hawkbill Forceps for the inferior cuspidati and bicuspidati.
FIG. 4. Large Hawkbill Forceps for the inferior molars.
FIG. 5. Wedge-shaped Forceps for the inferior dentes sapientiae.
FIG. 6. Lateral curved forceps for the inferior molars.
FIG. 7. Claw, with broad point, for molar teeth.
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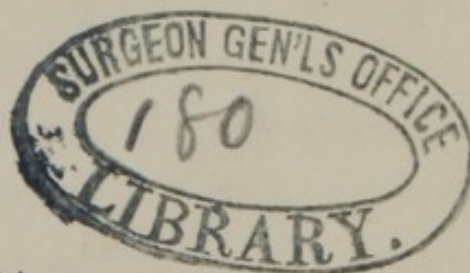
All the Instruments here represented may be obtained from Mr. Gemrick, Surgical Instrument maker, No. 43 South Eighth Street, put up in pocket cases.



THE
MEDICAL STUDENT'S GUIDE
IN
EXTRACTING TEETH:

WITH
Numerous Cases
IN THE
SURGICAL BRANCH OF DENTISTRY. ✓
WITH ILLUSTRATIONS.

BY
S. S. HORNOR,
PRACTICAL DENTIST.



PHILADELPHIA:
LINDSAY AND BLAKISTON.
1851.

Annex

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H816^m

1851

Entered, according to Act of Congress, in the year 1850,

BY LINDSAY AND BLAKISTON,

In the Clerk's Office of the District Court for the Eastern District of Pennsylvania.

C. SHERMAN, PRINTER.

TO
THE AMERICAN STUDENTS OF MEDICINE,
This Work

IS RESPECTFULLY INSCRIBED,
AS
A SLIGHT TOKEN OF THE FRATERNAL REGARD
WHICH I SHALL EVER ENTERTAIN
IN REMEMBRANCE OF THEIR KINDNESS TO ME,
BOTH IN THIS CITY,
AND WHILE VISITING THE SOUTHERN STATES.

"And no airy scheme projecting,
Keep thy destined goal in view;"
Step by step thy work perfecting,
Mark! Success attends but few.

THE AUTHOR.

387653

1890

INTRODUCTION.

HAVING been frequently solicited by my young medical friends to lecture upon the surgical branch of my profession, and being, by my duties, prevented from complying with so flattering a request, I have devoted a few leisure moments to communicate that information, which, if circumstances were favourable, it would be a high gratification to impart orally. And if, by so doing, I have contributed my mite to the general fund of knowledge, I will have amply received my reward.

In laying this work before you, I would have it borne in mind that no claim is laid to any new or startling discovery; that time, in my estimation, has already passed; but my object is to urge the perfection of those means which are already given us, they being fully sufficient to accomplish anything which comes under this branch of my profession. And it is,

therefore, my desire that dexterity in their use should be carried to the highest degree of perfection, and it is for the furtherance of that desire that I now appear before you. For when we are certain that we are employing all the means that science has placed in our power, and feel supported by that self-reliance which sustains us in all our nobler undertakings, it is then that we can operate boldly and resolutely. If, on the contrary, we do not possess this confidence in our ability, it is better that we should lay down the instrument, and refer the case to abler hands. For one-half the failures in extracting teeth are owing to timidity on the part of the operator; and it should always be remembered that every unsuccessful attempt is attended with more suffering to the patient than if the tooth had been extracted. And though the chances of popularity may rest with him who discourages, rather than recommends, the enduring of any painful operation, or, in other words, with him who would cure the pain without removing the disease; yet no personal consideration should prevent us from performing our duty to the sufferer, by the thorough removal of the diseased organ. If decayed teeth were always thus operated upon (that is, with regard to their proper preservation), head-aches, face-aches, and other pains peculiar to middle-aged females, would not be heard of, for many of them

are the consequence of diseased teeth, which, if properly attended to, would save the swallowing of many ounces of calomel, tartar emetic, and other nauseous drugs. After having studied the anatomy and physiology of the organs of mastication, and their connexion with the other portions of the body, and tracing the various ramifications of the fifth pair of nerves, and their intimate connexion with the great sympathetic nerve, it may easily be understood why a decayed tooth should cause nausea, ulceration of the throat, *tic douloureux*, and the countless evils resulting therefrom.

It would be presumptuous in me to attempt an anatomical and physiological description of the face and jaws, when reference can be made to standard authors on these subjects. I prefer to direct the student to them, rather than to mutilate them by curtailed quotations, rendering imperfectly both their meaning and my own.

But I would impress the necessity of skill, resolution, knowledge: knowledge to direct, resolution to perform, skill to execute. For, without knowledge, your efforts may be misapplied; without resolution, you will most surely fail, and without skill, your resolution would be apt to lead you too far, by causing injury to the patient, and, even if successful, giving him much unnecessary pain. For the idea of

extracting teeth without pain is too ridiculous to dwell upon. The late Dr. Physick was well aware of this fact, when he called upon my preceptor three times for the purpose of having a tooth extracted, and went away without having it removed, concluding by saying, "An old man does not like to be hurt." A learned Professor, when calling at my office on a similar occasion, facetiously remarked, "That the pain of having a tooth extracted was greater than bearing a whole family of children."

This work being particularly for the medical student, I thought it advisable to diminish as much as possible the variety of instruments; explaining the use of those only which are absolutely necessary; as it is not generally desirable to have a greater number than can be carried with convenience. The instruments absolutely necessary are, the straight forceps, the double-curved forceps, the key, the elevator, punch, and screw; the curved forceps, the hawk-bill, and the wedge forceps, several of which are applicable to both jaws.

DENTAL SURGERY.

INSTRUMENTS AND THEIR APPLICATION.

BEFORE proceeding directly with the subject upon which these remarks are intended to treat, namely, the mode of extracting teeth, I must devote a few lines to the Key, that my position may be perfectly understood with regard to this much abused, though much used instrument, the anchor of our hopes when all others fail. When performing difficult operations, and trying in vain all the catalogue of instruments mentioned in the following parts of this work, we resort at last to the key, with almost a certainty of success. We are not often disappointed, and I feel free to say, that in the hands of those who understand its application, teeth may be extracted that defy any other instrument, and without the peril of broken jaws, or tearing three or six teeth from their sockets, &c., &c.

That accidents have happened, and serious ones too, by the injudicious use of this instrument, I do not pretend to deny, but I do deny this to be a reason why the use of the instrument is to be abandoned. For there are few things so good in this world that they cannot be abused. Because thousands of lives have been lost by the application of steam through the ignorance or negligence of the engineer, and the imperfections of the machinery, yet I am not convinced of the policy of its abandonment; but in the extent of its destruction, I more fully conceive the immensity of its power, which calls for more skill in its management, and more perfection in the construction of its machinery. He would be considered a maniac, indeed, who, in the excess of ignorance, should say steam should no longer be used; it has been the instrument of death to thousands of mankind, and the mangled remains of thousands more, strongly attest the injuries inflicted upon humanity. But what are these thousand deaths, these thousand sufferers, in comparison with the countless millions who have been benefited by its agency? and his mind must be narrow indeed, who, in view of the sufferers, is blind to the benefited—who, forgetful of the good, thinks only of the evil. And so it is with the key: it may, by want of

knowledge, by negligence, or by faulty construction, be the cause of serious injuries; but for this it is more reasonable to condemn the operator (who, without knowledge or care, would attempt to practise upon his fellows, what mercy would prevent him from performing upon a brute), than to condemn the instrument which has proved itself invaluable, by extracting teeth which any other agent fails to effect. And, since its power is universally admitted, it should be skilfully directed, and therefore becomes dangerous in the hands of the unskilful, as steam becomes dangerous when left to the management of those who do not properly understand its government. But if the operator will get a well-constructed key, and employ it as directed in this work, I venture to predict that, before using it two years, he would sooner dispense with any other instrument. By using a *short*, round fulcrum, and *short* claw, teeth or roots may be removed without danger, always placing several thicknesses of paper or lint to prevent laceration of the gum (not towels or handkerchiefs, as I have had the mortification to witness).

Let it be fully understood, that while advocating the use of the key, I do not underrate the forceps. In all cases where they are used with the desired effect, there is no doubt that they cause less pain

than the key, but, in extreme cases, where their success is doubtful, I am fully satisfied that the key is the superior instrument, and, by its certainty, recommends itself to every skilful operator.

Before proceeding directly to the method of extracting teeth, I would here state that, as this work is intended for the medical student, I thought it advisable to speak only of such instruments as are necessarily required. Circumstances would render a greater variety an unnecessary incumbrance, when one instrument can be made to answer the purpose of a half dozen; and though there have been many new instruments constructed to facilitate the extraction of teeth, I do not hesitate to say, if the operator possesses the knowledge, self-confidence, and resolution, he can perform any operation with the instruments herein mentioned, and in a manner that will do honour to any practitioner.

For the extraction of the superior central incisors, the straight forceps, as represented in Plate I., Fig. 1, should be used. Their blades should be tapering, and so shaped as to seize the necks of the teeth. They are used by placing the blades upon the tooth, taking care to force them directly in contact with the edge of the alveolar process; then pressing them sufficiently to prevent their slipping, by a steady motion

outward and inward, the integuments are broken ; and the tooth is removed by applying the force perpendicularly. But it must be remembered, that in making use of the forceps the greatest care is necessary, for any slipping of the instrument, or force suddenly applied, will most assuredly break the tooth. A gradual motion is, therefore, required. Perhaps it would not be out of place to quote a remark of the lamented Dr. Hudson, the brightness of whose career was never dimmed by a rival, "Nothing about tooth-drawing should be done quickly."

It is also requisite to exercise both care and judgment not to persist too far with the forceps, as a fair opportunity may be lost of making use of a better instrument, by the tooth breaking at the neck ; for the periosteum, in some cases, becomes so tense as to require more force than can be safely applied with the forceps ; and it will be found that the key is preferable. And as it is seldom that persons desire to have the incisor teeth extracted, unless very much decayed, as it is vastly preferable to preserve them, if possible, and, in the majority of cases, it will be found that nothing but the roots remain ; consequently, it is impossible to use the forceps to advantage. It is worse than useless to employ them where they must certainly break the tooth, and render it more difficult

to extract with any other instrument. It will always be found, that the first opportunity afforded is worth a half dozen after the tooth has been broken in a vain attempt to extract it; for, after the first trial, the nervous sensibility of the patient renders it necessary that the operation should be conducted with more haste and less certainty than would be politic under favourable circumstances; and even that is frequently denied, for the patient sometimes refuses entirely to submit to another attempt, fearing that it may prove as futile as the first; preferring to endure the torments of toothache, and its innumerable evils, than to be the subject of such painful uncertainty.

When the crowns of these teeth are too much weakened to make use of the forceps, or the roots only remain, the key, as represented in Plate II., Fig. 1, may generally be used to advantage in the following manner. The claw should be short and narrow, a little over one-sixteenth of an inch in width, with a round, short fulcrum. By placing the fulcrum on the inside of the gum, opposite the edge of the alveolus, and letting the bit fall upon the opposite or front side, at least one-eighth of an inch, or vice versa should the case demand it, lancing the gum well round the tooth, and cutting it vertically just below the edge of the alveolus, so that the claw will not lacerate it, with a gradual turn of the instrument,

the claw will divide the bone, and the root will readily yield, so that it may be taken away with a small pair of forceps. I greatly prefer this method to the slow and painful process of cutting away the alveolus, in order to secure a lower hold with the forceps, as recommended by some writers. It may succeed very well in many instances, but it frequently happens that the edges of the fang are broken, and it is necessary at last to make use of the key, or the elevator, or fail altogether in extracting it. I prefer that the gum should be well lanced previous to extracting; the lancing being much less painful than forcing the instrument down on the alveolar process, as recommended by many authors.

It is necessary in some cases to extract the roots of these teeth, after having been drilled for engrafting teeth, or that have become hollow from decay having followed the nervous cavity, in which case the following instruments may be used, according to the circumstances which surround the operator. The key, as before described; the elevator, Plate I., Fig. 2; the punch, Plate I., Fig. 3; the screw, Plate I., Fig. 4; and the hook, Plate I., Fig. 5.

The Elevator, having one side round and the other flat, can only be used to advantage when there is one or more adjacent teeth on one side, and as many defi-

cient on the other. Place the round side against the adjoining tooth for a fulcrum, and pressing the point down by the side of the fang, and slightly rolling the instrument, the root is pressed sidewise until it can be seized with a pair of forceps and taken away. The elevator should be constructed with a thin point, so that it may be forced well down by the side of the root.

In other cases, it may be deemed expedient to make use of the Punch. After lancing freely around the root, adjust the point as low on the outside of the fang as the alveolus will admit, and even a little below the edge; then grasp the instrument with the right hand, placing it firmly against the breast, holding the head of the patient under the left arm, and gradually pressing the weight of the body on the hand, give the instrument an inward and downward motion until the root yields. By placing the hand holding the instrument against the breast, the danger of using it is avoided; in all cases place the thumb and finger of the left hand so as to protect the lower portion of the mouth; for, should the instrument slip when applying the force, it would otherwise inflict some serious injury on the patient. The punch is dangerous in the hands of the inexperienced, and should only be used when the periosteum has been weakened by inflammation or otherwise;

for if not, and it remains perfectly sound, it will require more force than can safely be applied with this instrument.

The Screw (being a conical-shaped instrument) can be used by clearing the cavity of all extraneous matter, and pressing the point of the instrument well into it, with a turning motion continuing to force until firmly secured; then, with a gradual movement, the root may be extracted. If the movement in using this instrument is not very gradual, the screw will break loose, or the root split; for, in most instances, the bone being partially decomposed affords a very insecure hold, and could more readily be removed with the key or elevator.

The Hook, in its action, is directly the reverse of the punch, and is used by placing the point on the inside of the fang, and forcing it outward, the hand resting upon, and making a fulcrum of, the chin and jaw. This instrument, like the punch, requires considerable care, for, should it slip, it would scarcely fail to inflict some serious injury upon the mouth and lips of the patient. Though sometimes convenient, it is an instrument which I seldom use, except where the roots are much loosened.

It will now be understood that, in cases where the tooth will permit it, the straight forceps are unques-

tionably the most appropriate; when much decayed, as is generally the case, the key or elevator is called into exercise; and when hollowed by decay or otherwise, the screw, the punch, and the hook, may be used as before directed. And I may save a great deal of time by saying, in this connexion, that the motion required in using forceps is always the same, that is, a gradual motion from one side to the other.

The explanations relative to the superior central incisors will also apply to the lateral and cuspidati of the same jaw, the operator varying his position so as to adapt his instrument to the position and condition of the tooth upon which he is going to operate. And though his place is generally upon the right side of the patient, the removal of teeth upon the left, sometimes requires that he should operate from that side.

The bicuspidati, having small necks, may be extracted with the same forceps used in extracting the superior central incisors, lateral, and cuspidati. Having, however, very strong roots, and being set firmly in the jaw, they are among the most difficult to extract; rendering the success of the forceps very doubtful, especially where the crown is much weakened by decay. In such cases the key should be used; for, though causing greater immediate pain than the forceps, it is decidedly more certain in its effects. But, on the other hand, where a fang of this tooth is

to be extracted, which has been loosened by local or constitutional irritation, the punch is preferable to either the forceps or the key.

The Bicuspidati are frequently the cause of pain in the temples, face, and top of the head, when there is not the least perceptible cavity to be found in the tooth itself, decay having reached the nerve before visibly affecting the enamel; they should therefore be carefully examined, for the only indication of such disease is a dark bluish shade between them; the decay having attacked the lateral surfaces.

The SUPERIOR OR UPPER MOLARS, from their formidable appearance, would naturally lead to the conclusion that they are the most difficult to extract. But, nevertheless, they are as easily removed as the bicuspidati, and frequently more so. The instrument for their removal is the double-curved forceps, TWO OF WHICH ARE NECESSARY, ONE FOR THE RIGHT AND ONE FOR THE LEFT SIDE. (Plate I., Figs. 6, 7.) There are other patterns equally convenient, but these are preferable for the medical practitioner, on account of their applicability to the wisdom teeth of the same jaw, as they answer every purpose, and the others might, on many occasions, prove only an incumbrance.

In extracting any tooth with the forceps, the motion is the same, and no difficulty need be apprehended in

extracting a molar tooth, unless very hollow from decay, or already broken off. In the latter case, the operation is attended with much pain and difficulty, particularly where the gum is inflamed, or, what is very common, the tooth is extensively decayed on the buccal or facial side. For the removal, in such cases, those forceps are entirely useless, unless the patient will submit to have the alveolus cut away to secure a hold; but being, as stated in a former part of this work, both tedious and painful, few will submit to it. Here I would emphatically remark, that it is useless to attempt to remove these roots, unless the firmest possible hold is obtained, for the pain inflicted upon the patient by the slipping of the instrument is truly terrible, and seldom fails to destroy entirely his resolution; and no operator is justifiable in thus inflicting this torture, unless he feels strongly confident of success.

The forceps described in Tome's Dental Physiology and Surgery, page 339 (which is incomparably the most scientific work on the subject ever published), having a hook point, with which to take hold on the buccal side, may be used to advantage in these cases, and especially where the decay is on the buccal side; but, nevertheless, the key, when properly applied, is emphatically *the* instrument. The claw should be somewhat wider than the one used for roots,

placing the fulcrum on the inside, letting the claw seize the tooth below the alveolus on the outside, thus obtaining sufficient hold, if properly adjusted, for the removal of any tooth.

In other instances, the crown is entirely gone, and the fangs, three in number, remain sometimes in their original position, and again, forced considerably apart. In these cases the operator will find considerable difficulty, unless he has much experience and a thorough knowledge of the parts. In the first place, the most prominent root should be removed with the punch, or elevator, or by letting the claw of the key fall on the outside of the alveolus, then he may succeed in displacing one or both of the outside fangs, so as to render their removal practicable with a small pair of forceps; after which, the palatine root may be removed, if hollow, by the screw; if not, by the thin-pointed elevator; but after the first touch of the instrument the operator must depend entirely upon his anatomical knowledge, for the bleeding becomes so copious as to prevent his ascertaining the exact position of the roots, and he can only be assisted by a small pointed instrument in finding out their situation. But it is hardly to be supposed that any one would presume to operate under such circumstances without anatomical knowledge.

After having explained the process of extracting

the superior central incisors, lateral, cuspidati, bicuspidati, and molars, we now come to the SUPERIOR DENTES SAPIENTLÆ, or WISDOM TEETH, which, from their position, are much more difficult to extract than any of those before mentioned, being situated so far back on the jaw, as to render it almost impossible to find an instrument adapted to the purpose. The art of extracting them consists much more in adjusting the instrument, than in any dexterity in applying the force. The instrument to be used is the double-curved forceps, as spoken of in the article on the molar teeth. Before commencing, care should be taken to lance all around, but particularly on the back of the tooth, to prevent laceration of the gum, which is very apt to occur if such precautionary measures be not attended to. In some instances the gum has been torn nearly a half inch by neglecting to lance it properly. To secure a firm hold with the forceps, it is necessary to observe the following directions. The operator should consider the inclination of the tooth; it generally being toward the cheek, he should adapt his instrument by raising it until it forms a line with the tooth; then, by forcing it completely to the edge of the alveolar process, a firm hold is obtained, and by giving the forceps their usual motion, the tooth is removed, provided the crown is sufficiently strong to bear the

power required. And it is always upon this point that the judgment of an operator is called into exercise, for no law can direct the young practitioner in this particular. But when these teeth are decayed on the facial side, the forceps are decidedly objectionable; for the outer bit will most certainly take effect immediately in the cavity, and if the tooth be not broken, the instrument coming in contact with the nervous pulp, will render the pain almost intolerable. And in these cases it is necessary to resort to the elevator, or the forceps used in extracting the same teeth on the lower jaw, which will be mentioned in its proper place. For extracting the roots of these teeth, the only instrument to be relied on is the elevator. But here let me state that circumstances may render it advisable to deviate from any rule that could be given. For the operator, having a perfect knowledge of the powers of each instrument, must depend on such knowledge, and adapt them to circumstances.

For the extraction of teeth on the INFERIOR MAXILLARY, the principle is the same as in the extraction of those on the superior, the difference only being in the construction of the instrument. Instead of the straight forceps, as before, the curved are now used, and in the majority of cases I prefer the Hawk-bill, particularly for the INCISORS, CUSPIDATI, BICUSPIDATI, and FIRST MOLARS. (See Plate II., Figs. 3, 4.)

For the removal of the Incisors, a very narrow-billed instrument should be used, in order to avoid injury to the adjoining teeth. And where they are much crowded, the key may be applied with entire safety, when it is impossible to use the forceps without loosening the next tooth; but, in cases where the teeth occupy their proper position, the forceps should be used, except where the crowns are too much decayed, and then the operator must proceed on the principles laid down in relation to the same teeth on the superior maxillary. These narrow-billed forceps will also prove very effective in removing the roots of the molar teeth when the crowns are entirely decayed.

It should always be borne in mind, that in the removal of the temporary teeth the forceps should be used, although it is hardly supposable that an operator would think of removing them with a key, when a pair of forceps was at hand and could be applied; but where they cannot, use the elevator.

For the extraction of the inferior cuspidati and bicuspidati, the medium forceps is necessary. After lancing, proceed as usual by placing the bills close to the edge of the alveolus, with the motion as directed for the removal of the upper teeth. But if the crown breaks, or has previously been destroyed by caries,

or the decay is on the buccal side, then the key, or some other instrument, as directed in similar cases on the upper jaw. It is unnecessary to detail all the features of disease that present themselves, for the same variety is seen in the lower as in the upper jaw ; and they are removed by the same means in the one as in the other ; the only difference being, as before stated, in the construction of the instruments, although many are applicable to both. The same reason that would prevent the employment of the straight forceps upon the superior jaw, would also prevent the application of the curved one on the inferior, it being always a duty to consider what instrument is best adapted in each and every case. Whether the crown is too much decayed to bear the pressure of the forceps, in which manner a key could be best applied, whether the root is too firm to use the punch or hook, or too much decayed to apply the screw, or whether circumstances render it advisable to use an elevator, are questions which, after the former explanations, must be left to the judgment of the operator. And, as was before remarked, no operator is justifiable in torturing his patient by attempts, unless he feels strongly confident of success. And he should always remember first, to secure a firm hold upon the tooth, root, or fang, to be ex-

tracted, and secondly, by a gradual motion to remove it from its position.

But before concluding my remarks upon the extraction of teeth, I must devote a few lines to the *INFERIOR DENTES SAPIENTIÆ*, or wisdom teeth of the lower jaw, which are decidedly the most difficult to remove, and which require all the concentrated knowledge respecting the extraction of the other teeth for their removal; for when the crown is gone, either by decay, or has been broken by a misapplied effort, a greater amount of skill than many possess is required to remove them. Therefore, I would impress it upon the mind of the student (for this work is written for the learner, and not the learned), that he cannot use too much care in selecting a proper instrument, and in applying the force with the necessary regard to the amount of resistance, or, in other words, in being careful not to apply so much force with one instrument, as to preclude the possibility of using another which may answer better. The forceps for the inferior wisdom teeth differs in its construction from all others, acting upon the principle of a wedge, with a tapering edge on the closing sides, somewhat resembling the bone forceps used by the surgeon. (See Plate II., Fig. 5.)

It is used by placing the point between the wisdom

tooth and the second molar, then, as the bitts approximate, the tooth is forced backward, and, by using the molar tooth as a fulcrum, it may be forced so far out of its socket as to be removable with a pair of lateral curved forceps. When the first and second molars remain closely in connexion, this is unquestionably the best method; but if only one remains, then, as we should be as likely to loosen one as the other, it is necessary to employ a pair of the lateral curved forceps (see Plate II., Fig. 6), unless, as before stated, the crown is too weak, or is decayed on the buccal side, when resort must be had to the elevator, which must be used as heretofore described. And now I will conclude by saying, whether the operation to be performed be in the superior or the inferior maxillary, or upon the INCISORS, CUSPIDATI, BICUSPIDATI, MOLARS, or DENTES SAPIENTIÆ, the best instrument is the one which will operate with the most convenience and certainty, whatever its shape may be, and without regard to the purposes for which it was intended; for, as a good violinist can produce an air on one string of his instrument which another could not produce by using all four, so a good operator can perform better and more difficult operations with one instrument, than an indifferent one could execute with all those invented by modern ingenuity and science; and it is therefore only by the study of the construction, adap-

tation, and qualifications of each and all of them that he can acquire their skilful application.

HÆMORRHAGE.

Hæmorrhage to an excessive degree after extraction of teeth is not an unfrequent occurrence, sometimes continuing so long in spite of all efforts to arrest it, as to greatly exhaust and sometimes endanger the life of the patient. Cases are on record which, resisting even the application of the actual cautery, have terminated fatally from this cause. Whenever hæmorrhage becomes excessive, we should always endeavour to suppress it by the application of astringents, combined with compression, which means, generally will succeed; when these fail, the application of the nitrate of silver, or some of the mineral acids, is advisable. The internal use of sugar of lead has been known to arrest the hæmorrhage when all other means have been tried in vain.

The following case will serve to illustrate the mode of applying compression. I was visited last April by a young lady from Virginia, who, being desirous of leaving for home next day, was anxious for me to do at one sitting as much as under other circumstances would have required two or three. I found two teeth required filling, two superior molars, and three

roots required extraction. These operations were finished about noon. In the evening I received a message desiring me to call at her hotel. On my arrival I found her much weakened from the loss of blood, which was still flowing from the cavities on both sides of the jaw. After removing the coagula, I placed some powdered nutgall on a piece of cotton steeped in cold water. The cotton thus prepared was then pressed, layer after layer, into the bleeding sockets, so as to completely fill them; then cutting a cork to fit each side, and placing the pieces on the cotton plugs, the lower jaw was secured, and held firmly pressed against them by means of a bandage. Cloths dipped in ice water were kept applied, and the patient directed to remain in a sitting posture. This mode of treatment completely arrested the bleeding.

SYMPTOMS INDICATING THE NECESSITY FOR EXTRACTION.

There are few who have been so fortunate as not to be familiar with the agonizing pains which are the consequences of diseased teeth; an elaborate description would therefore be superfluous. When they proceed from an exposed nerve, or from inflammation of the periosteum, the extraction of the tooth is rendered equally imperious, unless the tooth be a valu-

able one, and its preservation be desirable. If so, palliative remedies should be resorted to. If the pain arises from exposure of the nerve, either from decay or fracture, I know of no remedy that promises certain relief but that of destroying its vitality by some caustic application, such as the following:

R. Acid. Arsen., gr. x,
Morph. Sulph., gr. x,
Kreosote, q. s.

Make a thick paste.*

And even then, if the decaying pulp is not carefully removed, and the cavity effectually filled with gold, or some suitable material, inflammation would most likely extend to the periosteum of the fang, and be productive of quite as severe pain, and attended with much more serious consequences than the original malady. Even where the cavity has been filled, after destroying the vitality, inflammation may extend to the periosteum of the fangs, causing severe pains and swelling, which, if not promptly relieved by leeching, may end in suppuration; and, instead of

* This being a most powerful preparation, the greatest care should be observed in its use, the fifteenth of a grain being amply sufficient to kill the nerve. It should be so secured in the tooth by means of cotton as to preclude the possibility of its escape, and should remain twenty-four hours.

one, two, or three leeches, as recommended by the generality of writers, I apply from eight to twelve; for though one or two may relieve the pain for a short time, it scarcely ever fails to return with renewed vigour.

We are often called upon to extract teeth which are perfectly sound, the individual being deceived by a sympathetic pain fixing itself in these teeth, which might also misguide the operator, causing a very serious error, which may be avoided by a thorough examination, which will show the cause of this pain to be an inflamed or carious tooth.

If a tooth is broken in the attempt to extract it, the operator should never allow his patient to suffer until the nerve suppurates, but should surely destroy it by means of the preparation before mentioned, which will prevent the pain which is generally the consequence of a lacerated nerve, and arrest the serious effects which might otherwise be produced by leaving a root in the jaw.

If swelling of the face should ensue, free leeching will tend to remove it, and thereby prevent the forming of an abscess. But swelling of the face will scarcely ever follow, if all the nerve be destroyed. And therefore be particular in remarking that a root should never be left in the jaw without measures being taken to destroy its nervous vitality, which in some instances may be attended with difficulty, for

the paste should never be left in the mouth without being firmly secured in the tooth or on the root by a pledget of cotton, so as to prevent the possibility of its being swallowed, as the result might be serious. In securing it on a root I generally use compression, as in cases of hæmorrhage, ordering the patient to bed, if convenient, and securing a bandage under the chin, and thus keeping the mouth closed from four to six hours, when all pain will immediately subside.

In this case, as well as where abscess is threatened from any other cause connected with diseased teeth, if leeching be not promptly resorted to at a very early period, and persevered in until the inflammation subsides, suppuration will most certainly ensue. When pus has already formed, it cannot be expected that leeching will disperse it. It therefore becomes necessary to apply, in conjunction with leeching, poultices of hops, fumigations, and, internally, morphine or laudanum, as in other cases of abscess, being particular to open the abscess as soon as it is ascertained that pus has formed, but never attempting to lance the gum before. If leeches be resorted to, I again repeat that they should be freely used, and I have applied as many as twenty American or half the number of Spanish or Swedish leeches, daily repeated, with the happiest results.

It would be somewhat beyond the limits of this

work to attempt to illustrate the variety of pains and disorders which are the effects of diseased teeth, for the student's knowledge of anatomy and physiology should enable him to form a correct diagnosis.

I now proceed to illustrate, by cases that have occurred in my practice, the indications that should govern the operator in judging of the necessity of extraction, observing here that the rules above laid down will equally apply, omitting the use of the more powerful instruments, to the temporary teeth in children.

Mr. H., while a student with me, treated a woman in indigent circumstances for alveolar abscess, caused by the second inferior molar. After applying twelve Spanish leeches, although the swelling had materially subsided, and the pain was very much relieved, still there remained a considerable elevation over the dental foramen when he accompanied the patient to my office for my advice. On ascertaining the facts of the case, I directed him to lance the abscess on the inside, as pus had already formed. Three days after the lancing, he removed in my presence the offending tooth, together with five roots, the crowns of which had been destroyed by caries.

Some practitioners hesitate to extract teeth after swelling has commenced. I always do it, unless it is very desirable to retain the tooth, or the symptoms

are very severe. And in cases of alveolar abscess in children, I almost invariably remove the tooth causing it.

Severe case of Dyspepsia relieved by prompt treatment of the teeth.—I was introduced by my esteemed friend, Dr. W., of Salisbury, North Carolina, to a gentleman from that state, who had been suffering from indigestion and general debility. He had received the advice of several eminent physicians, but not obtaining any permanent relief, he came to the city and placed himself under the care of one of the most distinguished of the medical faculty, who, after prescribing for him, recommended a visit to the sea-shore. This failing to produce the desired effect, he became somewhat hypochondriacal, and seemed to think his case entirely hopeless; he said to me that nothing could benefit him, and that he should return home to die. Before returning, however, he came to my office to have his teeth examined. I found them in a very bad condition, and advised him to allow me to put them in order, telling him, at the same time, that I thought he would find it an advantage to his health; he readily consented, several weeks being necessary to complete the operation. I extracted six teeth, destroyed the nervous pulp of five, filed out ten decays, filled twenty-two cavities with gold, and set five artificial teeth on plate. When calling at my

office about a week after the first operation, he remarked that he had not felt so well for five years. The change which had taken place was truly astonishing, and though previous to the operation I thought it would be beneficial to him, I was surprised to see the rapidity of the recovery. He returned to his family a few weeks afterwards in comparatively good health, and quite cheerful.

Miss ——, a young lady of Virginia, while at Professor Picot's school, applied to me to relieve her of an intense pain she was suffering in a tooth that had unfortunately been broken by another dentist, who had neglected to destroy the exposed nerve. On examining the condition of the mouth, I deemed it advisable, under the circumstances, not to extract the root, but to apply the arsenical paste to the nerve. In a few hours I had the satisfaction to find the pain completely removed.

A Case of Osseous Deposit within the Nervous Pulp, recently published in the Medical Examiner.—About two months since I was waited on by a young lady, a member of one of our most respectable families, for the purpose of having the first molar tooth (left side) filled. On examination the tooth presented but a slight decay, yet it was so exceedingly sensitive as to require a mild application, for the purpose of allaying the sensibility before filling it, after which I

succeeded in plugging it with gold, to my satisfaction, and, as I had reason to hope, effectually preserved the tooth.

On Monday last, however, I was called to see her, when she complained of constant pain in the tooth. As she was unwilling to submit to leeching, an opium plaster was prescribed, without the desired effect, and on Wednesday last I extracted the tooth, which I found highly inflamed, the nerve entirely dead, and the periosteum of the fangs in a suppurative state. Upon further inspection, its singular appearance induced me to break it, for the purpose of examining the nervous pulp, which had assumed the character of a gristly mass, of a blood-red colour, surrounded by a sero-sanguinolent liquid, containing in the very centre, and constituting about two-thirds of the whole mass, a semi-transparent bony substance, so hard as to resist the point of a penknife.

After freeing the bone from the surrounding substance, and placing it under the field of a microscope, of moderate power, it presented the appearance of a transparent and irregular pebble, with many projecting points beautifully rounded off.

Oudet describes bony formations within the tooth, from altered secretions of the pulp, in the *Dictionnaire de Médecine*, vol. i., p. 186, but this is the first case of the kind ever met with in my own practice.

Loss of eight teeth by Alveolar Abscess.—A very

forcible illustration of the serious consequences resulting from the neglect of diseased teeth, came under my notice in the spring of 1845. On the twenty-fifth of April, Professor P—— accompanied a young man to my office, for the purpose of having a number of teeth removed which had been loosened by extensive suppuration.

The patient having suffered some time with pain in the lower jaw, earache, &c., and being much engaged by business, had not sought professional advice until an abscess had formed at the roots of the first molar tooth of the right side of the lower jaw, which tooth had previously been broken off by a dentist, who had neglected the precautionary measures before spoken of, relative to destroying the nerves of broken teeth. The abscess being formed, and the root still remaining, the pus had permeated the alveoli, causing their entire destruction as far as the bicuspid tooth on the opposite side; the near approach of matter to the external surface had given the chin a tumefied appearance. I proceeded to remove the cause of this vast disorganization, which was the first molar tooth, as before stated. When lancing around the root, previous to its extraction, an offensive matter exuded from the gum. On examining the root, I found the periosteum was much thickened, and had assumed a cartilaginous consistence, of a dark grayish colour. After this it was necessary to

remove all the intervening teeth, their natural bony support having been entirely destroyed. If, in this instance, as in thousands of others, the disease had been properly arrested when it first commenced, either by free leeching or by the removal of the offending root, instead of the artificial teeth which it is now necessary for the patient to wear, he would still have retained possession of his natural ones.

A serious case of Exostosis.—A very interesting and instructive case of exostosis came under my notice in the winter of 1848. A middle-aged female applied to the clinic of the Jefferson College for advice. She was directed to apply to me for the removal of any teeth which I might deem it advisable to extract. She complained of violent pains in the face, extending to the back of the head and neck; also, pains in the ear and temples, ulceration of the throat, and rigidity of the masseter muscles, preventing the opening of the mouth for two or three days in succession.

On the first investigation I was doubtful respecting the cause of this suffering, being disposed to attribute it to neuralgia of the head and face, when she accidentally informed me that a tooth had been broken off two years previous by a dentist of this city, which led me to a more minute examination. On pressing the finger on the gum, close to the edge of the alveolus, I perceived a small globule of pus exude from it, and

at last discovered the root completely imbedded beneath the gum. After making a crucial incision, I extracted it with the key;—any other instrument would most probably have failed, as the fang was considerably enlarged by exostosis, and required much force to remove it.

Severe Pains caused by five teeth having their Nerves Exposed, mistaken for rheumatic affections of the head and face.—A lady, who had been suffering most intensely from toothache, and who had been under the care of two dentists of this city, called upon me for advice. The one filled a small cavity with gold, prescribed a dose of salts, informing her that she was suffering from neuralgia of the face and neck, and failed to give her any relief. She then applied to another, who gave the same name to the disease, ordering opium poultices for its removal, and concluded his healing operation by extracting the tooth that the first had filled; and, like the first, proved unsuccessful. When she called on me, I found her mouth in a very unhealthy condition, caused by the accumulation of tartar and the irritation arising from the exposure of the nervous pulp of five teeth, all of which were promptly removed before she left the chair. I then removed the tartar from the remaining teeth, and giving her an astringent wash for the gums, requested her, if troubled by any further pain,

to call again. I did not see her for some time afterwards, when she informed me that she had not had any return of pain since; and observed that she had not enjoyed a night's rest for a month or more before calling upon me.

Earache is frequently caused by an exposed nerve of the molar teeth on the lower jaw; and they should always be thoroughly examined where patients complain of this pain. When tumours rise on the cheek opposite the dental foramen, the cause may generally be traced to a diseased molar, either having the nervous pulp exposed, or the nerve destroyed by supuration or otherwise, or having been affected by inflammation of the periosteum.

A very threatening Tumour removed by the extraction of an inferior molar tooth.—The following interesting case was introduced to my notice by one of my students, whose friend was troubled with a tumour on the side of the lower jaw, opposite the dental foramen: it was about the size and almost as red as a cherry. He had previously consulted several physicians respecting it, who unanimously concluded that it would be necessary to perform an operation. Being much opposed to it, one of them gave him a caustic solution to apply, which, however, failed to remove it; when, being advised by his friend, he consented to see me. On examination, I found that the first molar tooth had been filled, and was informed that the nerve had

previously been destroyed by an operation recently performed. He also informed me that the tooth had never occasioned any pain, and could hardly be convinced that its removal would affect the tumour. He finally consented, however, to have it extracted, and in the course of two or three weeks the tumour had almost entirely disappeared. Had he been influenced by his medical advisers, he would have been disfigured for life; for the cause still remaining, would most certainly have produced the same effect. This shows clearly the necessity of always tracing the disease to the cause, and then, by operating, we may benefit the patient; but if, on the contrary, we operate without a certain knowledge of the cause of the disease, if we prove successful, it is only by chance, and we are as likely to injure as to benefit the patient. I would therefore deem it advisable for the operator to refer it to one who may possess a greater knowledge of the disorder.

The following description of a very interesting case of a fistulous opening in the neck of some years' standing, caused by a root of the inferior wisdom tooth, was handed me by my friend, Dr. —.

Case.—Mr. C., a gentleman of middle age, was suffering from a tumour the size of a guinea-hen's egg, situated between the anterior margin of the right sterno-cleido-mastoid muscle and the tra-

chea, about equidistant from the clavicle and the base of the lower jaw. The history of the disease was as follows :—

About three years previous the tumour first began to form, gradually increasing in magnitude until it had attained the size of a hen's egg, when it broke, and discharged a purulent matter, which was followed by a subsidence of the swelling, although the surrounding induration and tumefaction never entirely disappeared. Still, after discharging pus for a considerable length of time, the orifice healed over, leaving the part somewhat tender, yet not very materially interfering with his comfort. During the three years the tumour had gathered and discharged in this manner some half dozen times. Sometimes its progress was attended with a great deal of inflammation and pain before it opened spontaneously, or was lanced by his physician. At one of these periods it had attained such a volume, and pressed so much upon the trachea, that he feared suffocation.

When this gentleman first placed himself under my care, which was about a week previous to his calling upon you to have his tooth extracted, I found the tumour as above described, with a small fistulous orifice situated in the midst of a growth of protruding fungous flesh of a malign aspect. From this orifice an unhealthy, fetid matter was oozing. From the

nature of the discharge, I suspected that the mischief was in some manner connected with, or had its origin in, a diseased bone. After freely enlarging the opening with a lancet, and discharging the matter, I found, on examination with a probe, that the course of the cavity was in a direction towards the angle of the jaw, which induced me to examine into the condition of the teeth. I found the remains of a decayed wisdom tooth, nearly covered by the gum, on the right side of the lower jaw; and, feeling convinced that this was the whole source of the disease, I sent him to you to have the root of the tooth extracted. My opinion of the origin of the disease has been confirmed by what followed the extraction of the diseased tooth. The discharge soon ceased entirely, the fistulous opening healed, and the surrounding induration gradually disappeared, leaving no other trace than a small cicatrix, somewhat drawn in by its adhesion to the fascia of the neck. Five years have now elapsed, and the disease has not returned.

I met with a similar case in Virginia, where the subject was less fortunate than the one described in the foregoing chapter.

Mr. C., aged about forty-five, consulted me respecting a diseased wisdom tooth, which I urged him to have removed, but, dreading the pain, he refused to submit to the operation. About nine months after-

ward I again saw him, when he informed me that the neglect had nearly cost him his life; the tooth suppurated at the root about two months afterward, the abscess opening on the exterior surface of the cheek, which confined him to his bed for three months. While the abscess was discharging, a hemorrhage occurred, which was the cause of the danger spoken of. The extensive destruction caused by absorption had made a serious deformity on that side of the face, which ever will be a source of mortification.

Sympathetic Pains seated in a sound tooth.—A student of one of our medical colleges wished me to extract a perfectly sound bicuspid of the lower jaw. Being convinced by inspection that this tooth was not the cause of the pain, and perceiving an extensive decay on the wisdom tooth of the same side, I was satisfied that by its extraction the pain would be removed from the sound tooth. After some persuasion, he consented to the removal of the wisdom tooth, which I operated upon successfully with the wedge forceps, affording immediate relief to the sufferer.

It most generally happens that when pain exhibits itself in a sound tooth, it is in the tooth corresponding to the diseased one, either on the opposite side of the same jaw, or its antagonist. A gentleman called on me a short time since, and wished both of the first

lower bicuspid removed, which were perfectly sound, but the upper ones were badly decayed, having both the nerves exposed. On advising him of the fact he consented to their removal, observing, at the time, that he had never felt a pain in either of them, although he was now satisfied that they had caused all his trouble.

Ulceration of the Throat caused by cutting a wisdom tooth.—While in Virginia, a lady in the house where I was boarding was attacked with fever, sore throat, and occasional nausea. Not being willing to have a physician called in, I was desired to examine her throat, which was much ulcerated. She then informed me, that the gum on the lower jaw was so much inflamed as to prevent mastication. And upon examination, I found the wisdom tooth just making its appearance. I at once told her the cause of her suffering, which she insisted upon having immediately removed. The operation was performed with the wedge forceps, before spoken of, and the pain immediately subsided; and though she had been confined to her bed for a week, the third day following the operation she was able to ride fourteen miles in the country.

Extensive Ulceration of the Cheek, caused by a decayed molar tooth.—While passing through a southern town, I was consulted by the barkeeper of the hotel, respect-

ing a very singular sore on the interior surface of the left cheek.

I found the teeth in a healthy state, except the second molar of that side, which was much decayed, and when the mouth was closed, came directly in contact with the surface of the cheek. The sharp edges had excoriated the cheek, and the acrid properties of the cavity coming in contact with the unprotected flesh, had caused the sore. I advised him of the fact, and recommended the extraction of the tooth, to which he consented, and in less than a week the wound had disappeared.

IRREGULARITY.

This is a subject which appears to occupy the medium position between the physician and the dentist, and for this reason has received too little attention from either. And though this work, being limited, will not allow me to enter as largely into the details as its importance demands, I would not pass it without dropping a few hints which may lead the student to further investigation. But before entering into the minutiae of this subject, I would direct the mind of the reader to one particular, which should guide him in any operation, or in the treatment of any disease, and that is, the non-interference with nature,

which should always be the supreme director of our operations. In the removal of temporary teeth, as in all cases where the knowledge of the physician is called into exercise, it is for the assistance of the natural functions, which, from disease or otherwise, have become incapacitated to fulfil entirely the purposes for which a wise and generous Creator provided them ; and when thus called upon, we should operate with a proper knowledge and regard of the purpose for which they were made, and with strict attention to the welfare of the whole body ; for, by not so operating, we may perhaps cause more injury to the patient than the disease which we attempt to remove, and our science becomes quackery.

As a general rule, respecting temporary teeth, they should never be removed until the time properly indicated by nature, unless they become the seat of disease, as alveolar abscess, and then it is better to remove them at once, as they would, perhaps, be more injurious to the permanent teeth if allowed to remain. For the connexion between the temporary and permanent teeth should be studied, and should never be broken until the enamel of the permanent tooth is completely formed, which is only the case a short time before it makes its appearance through the gum. Another and still more powerful reason why they should

not be removed is found in the fact that the temporary teeth preserve the shape and structure of the mouth and jaw, amid the changes which are constantly taking place in the form of the child, until they are naturally displaced by the permanent ones. In cases where they have been prematurely removed, the jaws become contracted, and there is not sufficient space for the permanent teeth to arrange themselves properly, and it is often necessary to extract some of the permanent ones to prevent such a termination. And it is always the cause of more or less deformity of the mouth, the teeth being disproportionate to the size of the jaw.

There are many more things that could be said with regard to this subject, and many rules that could be given for the guidance of the practitioner in his operations, but, as I said before, my only object was to show the importance of the subject, that it may lead to further investigation. In noticing irregularity, it may be as well to speak of a variety not mentioned in any previous part of this work, caused by supernumerary teeth, which generally make their appearance in connexion with the incisors and molars, though sometimes with the cuspidati.

The supernumerary teeth generally present a very rough and unfinished appearance, and can therefore be

easily detected, but in other cases they are so well finished as to render detection impossible, and must be removed according to the judgment of the operator. Sometimes they are very difficult to extract, lying directly in front or back of the regular teeth, which force them considerably from their position, so as often to interfere with articulation, so that, after removing the supernumerary, it is generally necessary to use mechanical force in bringing the remaining tooth to its proper place. They are removed with the same instruments used in extracting other teeth, three things only being requisite,—judgment, knowledge, and skill, which can only be acquired by study and practice.

I will now conclude my remarks on this subject by giving, as illustrations, two cases of irregularity, one of which came under my notice in the summer of 1843, while on my way to the Virginia Springs. I was requested to examine the mouth of a child of one of the professors of the Randolph Macon College. The cuspidati of the superior maxillary had pierced the gum directly over the first bicuspid, and it was thought advisable by the parent to remove them, but upon remonstrating and explaining the nature of the case, he consented to my suggestion, which was the removal of the bicuspid. On my return I found that the teeth had

perfectly assumed their position, and were completely regular. Many errors are committed by removing the cuspidati or lateral incisors, instead of the bicuspid, the removal of which will give ample room for the new teeth to take their proper position.

Mr. —, from Havana, a student at the Burlington College, N. J., consulted me relative to a very unpleasant irregularity, caused by one of the upper central incisors closing back of the lower one. I proceeded to remove the first bicuspid teeth on each side, finding that it was impossible to force them back, owing to the crowded state of all the teeth in the upper jaw. I then adjusted a gold plate, so as to afford a constant pressure upon the uneven tooth, which, by this means, was forced into its proper position, in about four weeks. Had a proper attention been paid to the second dentition in this case, all this inconvenience might have been obviated.

ACCIDENTAL INJURIES.

For the replacement of teeth.—Physicians and dentists are frequently called upon to replace the teeth of children which have been accidentally displaced. They should always be promptly and properly attended to, not only on account of the loss of the tooth, which is a serious one, but to prevent defor-

mity of the jaw, which is always consequent upon the loss of a front tooth in children, the replacement of the tooth being the only preventive, and requiring considerable attention before it is firmly restored.

The following instance will serve as an illustration of the mode of treatment generally required.

During my stay in Wilmington, N. C., in the winter of 1842, I was hastily called to see a Mr. Banks, who had received a violent kick on the mouth from a mule, which had broken the crowns of the cuspidati and bicuspidati, on the right side of the upper and lower jaw, displacing three of the incisors on the lower, and two on the upper jaw, and inflicting a deep wound on the under surface of the chin. When I arrived, he was entirely insensible and bleeding profusely. My distinguished friend, Doctor Berry, arriving, took charge of the case, requesting me to attend to his teeth. I proceeded to wash the parts with cold water, removing all foreign matter, and clearing the sockets from coagula. I replaced the teeth that were not broken, and secured them in their position by thread ligatures, ordering the frequent application of a solution of alum. On visiting the patient on the following day, I found the gums highly inflamed, and much swollen. I ordered twelve leeches, with warm water to encourage the bleeding. On the third day a decided improvement was manifest; the inflamma-

tion had subsided, and the periosteum of the teeth was uniting. By the continued application of astringents, in the course of a week the teeth were quite firm.

It is, perhaps, unnecessary for me to say that teeth that have been replaced have no nervous vitality, for the nerve must have been severed in their displacement. Yet, in most cases, it is better that they should be thus replaced than to lose them, as they answer a better purpose than any artificial ones.

LOOSENING OF THE TEETH BY TARTAR, ABSORPTION OF THE GUMS, ETC.

Neuralgia, and other pains and disagreeable affections of the head and jaw, are sometimes caused by the accumulation of tartar upon the teeth, or spontaneous absorption of the gum and alveolus. These diseases are the consequences of local or constitutional irritation, or, in other words, they are the effects of diseased teeth, or the consequences of disordered digestion; although the formation of tartar takes place in greater or less degree, in the mouth of every individual, and can only be prevented by constant attention to cleansing the teeth. It is at first soft, but after deposition appears to crystallize. It is very destructive in its consequences to the teeth, causing inflam-

mation, and if not removed, absorption of the gum and alveolus, which finally terminates in the teeth falling from their sockets. In other instances, it may be the effects of constitutional irritation rendering the gums so soft and tender, as to preclude the possibility of making use of the means provided for cleansing the teeth; the accumulation of tartar increases this disorder, causing absorption, and ending as above stated; or it may be the consequence of the use of mercury. But the only means of treating this disease successfully, is by removing the irritation; taking the tartar from the teeth, and applying astringent mouth washes, until a healthy action of the secretory organs results, and the teeth become more firm in their positions.

In middle-aged persons, where there is no perceptible irritating cause, the teeth frequently become loosened from absorption of the gum and alveolus, which is generally the consequence of approaching age, and cannot be prevented, but may be delayed by making use of astringents in cleansing the teeth. But, as this is somewhat beyond the limits of this work, I merely make these statements to elicit investigation. But, in conclusion of this subject, I would say, that when the teeth become so loose as of themselves to cause irritation of the parts, and inconvenience to the patient, they should always be removed.

Endless cases of these disorders might be given, but as they generally present the same features, it is only necessary to give the following.

A middle-aged lady, having suffered a considerable time with lancinating pains in the face, extending to the ear and temple, and, periodically, severe pains on the top of the head, nausea, and loss of appetite, for which she had been under treatment several months previous to my seeing her, called to consult me. I found the roots of the teeth much exposed, the alveoli and gums being almost entirely absorbed, so that the teeth being without support, were entirely useless for purposes of mastication. The necks of the remaining teeth were coated with an accumulation of tartar, causing so much irritation as to keep up a constant discharge of offensive matter. The teeth which could be restored, I entirely cleansed from the tartar, and extracted the remaining ones, ordering the patient to hold warm water in the mouth to encourage the bleeding; after which an astringent mouth-wash was prescribed. The operation was attended with the happiest result.

CUTTING OF TEETH.

As young children while teething are under the care of physicians, the dentist is seldom called on.

In the cutting of the *dentes sapientiæ*, however, which occurs between the ages of eighteen and thirty, and is generally attended with severe pains in the face, neck, and temples, and sometimes in the ear and throat, the following case will serve to illustrate the manner of detecting and operating where cases of this description exist.

In August last, a lady requested me to examine one of her second molars on the lower jaw, stating that it was the seat of violent and constant pain. Having recently filled the tooth, I felt confident that it was not the cause of her suffering, although very sore to the touch. On a further examination, I perceived that the gum back of this tooth was much swollen, and slightly inflamed, which revealed the cause of her trouble. I informed her that she was cutting a wisdom tooth, and advised her to have the gum lanced; which I thoroughly performed, making an incision at least three-fourths of an inch in length, and completely down on the rising tooth.

Had I failed to sever the integument that bound the tooth, it would not have given the promised relief. But as it was, the pain immediately subsided, and was effectually removed.

While on this subject, I would simply suggest that this rule equally applies to the cutting teeth of children: that if the integuments be not thoroughly

and entirely severed, the benefits resulting from the operation will be completely lost. It is also necessary that the student should have a knowledge of the rotation of rising teeth, so as to know precisely upon which part of the gum to make the incision.

A N Æ S T H E S I A.

Dentistry, although in its infancy, must nevertheless take its stand with the most honourable of the professions; and, though encumbered with its quacks and pretending adventurers, who would disgrace any profession, a self-constituted destiny has willed that its star shall shine as brightly as any orb that decks the canopy of science. For when gentlemen of education shall displace these assuming mountebanks, it will occupy the position to which it belongs. Even now the world is indebted to it for one of the most brilliant discoveries of the present century. I refer to the use of anæsthetic agents and particularly ether, in performing surgical operations; and while scientific men acknowledge the greatness of the discovery, and the triumphs of its agency, they cannot fail to deplore the melancholy end of the discoverer.*

* I allude to the late Dr. Wells, of New York.

The power and blessings of anæsthesia were never so forcibly presented to my mind as on one occasion, where an amputation was performed with the aid of ether. The patient, during the operation, was engaged in singing a hymn, and when aroused from his lethargy, exclaimed to the surgeon, "Doctor, I am now ready."

How wonderfully powerful the mind of man! His fellow-creatures suffer from diseases and malformations: the physician ministers to him, and wrapt in beatific slumbers, the offending member is removed; the nerve which, at the touch of a pin's point, would send its painful thrill to the great fountain of life, is now severed from its parent trunk, while the sufferer, in blest unconsciousness, sleeps. And while our minds would dwell upon the increasing brilliancy of the medical faculty, and the extent of their achievements, we should feel proud of the profession from which a portion of that light emanated.

With regard to the administration of these anæsthetic agents, it is only necessary for me to say that it is now an established fact that the pure washed sulphuric ether is the best agent, and for its administration a sponge is preferable to all the inhaling-tubes and machines ever invented. It should be placed over the mouth and nose of the patient, so as to allow

him to receive a portion of atmospheric air in connexion with the ether. This is the method adopted by the surgeons of this city, both in their private and clinical practice.

I seldom use it, deeming it unwarrantable for the simple operation of pulling a tooth, for though not dangerous (for I have never known a well-authenticated case of injury resulting from it), the debility generally attendant upon its use is, in my opinion, as great an annoyance as the pain of extraction.

I never use it except in cases where the patient is too much carried away by fear to allow the extraction of the tooth under other circumstances. I once operated upon a lady, who had several teeth and roots which she wished removed for the purpose of having an artificial set; but, being somewhat fearful, I administered the ether upon a sponge. In about five minutes she was fully under its influence. I then removed thirteen teeth and roots, the whole operation occupying about ten minutes. She was then roused by sprinkling cold water in her face. She was highly delighted and surprised to find that they had all been removed, as she had not felt the least pain.

AN INSTANCE OF OSTEO-SARCOMA.

Although this disease does not legitimately come under the province of the dentist, yet, as the casual observer might be misled, supposing it to originate from diseased teeth, and thereby cause the sacrifice of a valuable organ, I give this illustration to prevent such error.

In the spring of 1846, a young lad came to consult me respecting a tumour rising immediately in front of the inferior lateral incisor on the left side. He had previously been under the direction of an eminent dentist of this city, who had endeavoured to disperse it, but failed.

I at once informed him that his case did not belong to dental surgery, and advised him to consult his family physician. The tumour was subsequently removed by Professor —, of the University of Pennsylvania. On examination, it was found that the tumour had extended between the central and lateral incisors, forming a considerable mass on the inside of the mouth. It was about three-fourths of an inch in diameter, presenting a very irregular and highly inflamed surface. Before performing the operation, the Professor deemed it advisable to remove the lateral incisor, and being a spectator, I was called

upon to extract it. The operation proved entirely successful.

OBTURATOR FOR CLEFT PALATE.

An interesting case of cleft palate came under my care a short time since. Although this is not exactly connected with dental surgery, the agency of the dentist is very often required to furnish an artificial substitute.

The subject of the case in question was a young man from the interior of this state, who had been recently operated on by an eminent surgeon. One of the ligatures sloughed out, leaving a fissure in the roof of the mouth. In order to remedy the defect, I was asked to adjust a gold plate so as to close the opening; which was accordingly done, and the inconvenience of fluids passing into the nostrils entirely overcome.

It is not expected here that the physician will ever be called upon to make an artificial palate, but that he will often be consulted in such cases is highly probable. And should he operate, and meet with the same difficulty above narrated, he still has the consolation to know that, although nature has denied him the assistance he hoped for, art can furnish a substitute.

In order to impress upon the mind of the student the necessity of examining the condition of the teeth, when there exists any disease in the neighbourhood of the mouth or nose, I here introduce three cases from the admirable work of Dr. Bell.

“TREATMENT OF ABSCESS OF THE ANTRUM.

“Mr. B., about twenty years of age, of a florid complexion and in good health, applied to me on the 24th January, 1817, respecting a tumour on the left cheek. It had existed about four months, and was at this time about half the size of a pigeon's egg, and situated half an inch below the margin of the orbit. It was firm to the touch, and conveyed the idea that it consisted of simple effusion of lymph in the cellular tissue from previous inflammation, which, however, proved to be an erroneous impression. It had never produced the slightest pain, or inconvenience, nor was there any farther discoloration than a slight blush, scarcely exceeding that of the surrounding part of the skin. On examining the mouth, I found that the superior molaris on that side had suffered from caries to such an extent as to have lost the whole substance of the crown, leaving only the roots in the jaw; it had, some months before, produced a slight degree of uneasiness, but no toothache had ever

occurred, nor had there existed, at any time, pain in the cheek, which could have led to the conclusion that the *antrum maxillare* had been affected. I immediately extracted the roots, and a considerable quantity of dark-coloured and slightly fetid pus instantly followed the removal of the anterior one. Observing, as I thought, an instantaneous alteration in the size of the tumour, I pressed it slightly with my finger, to which it immediately yielded, and a fresh gush of matter was thus forced into the mouth through the alveolar cavity. I then enlarged the opening into the antrum, by pressing a large probe through it, and injected some warm water, by which the tumour on the cheek was at once reproduced; but again subsided on the water being suffered to return into the mouth. None of the water found its way into the nose, proving that the communication had become obliterated. On seeing this gentleman again on the 26th, I found that the opening in the alveolus had closed, and that the tumour had reappeared: I therefore still farther enlarged it with the antrum trocar, and commenced the injection with a solution of sulphate of zinc in the proportion of ʒss. to a pint of rose water.

“The injection was now continued daily, increasing the strength of the solution gradually, to the proportion of ʒii. to the pint; and on the 11th of February

the pus ceased to appear. On discontinuing the injection, however, it was again formed, and the solution of sulphate of zinc was again had recourse to, and increased in its strength to half an ounce to a pint. Even this failed to check the formation of matter, and I substituted an injection composed of equal parts of port wine and water, which was also gradually strengthened until the wine was used without any dilution. It is very remarkable that during the whole treatment of this case, notwithstanding the strength of the applications, I failed to produce the slightest stimulating effect.

“Particular attention was paid to the state of the bowels, and tonics were ordered, but the discharge of pus continued, though in very trifling quantity, until, in the course of the spring, Mr. B. went into the country, continuing the use of the port wine injection; and shortly after the secretion was restored to its natural state, and the opening into the nose became completely pervious. Up to the present period, not the slightest return of the complaint has occurred.”

“LOCAL NEURALGIA.

“The following case, for which I am indebted to my friend, John Morgan, Esq., Surgeon to Guy’s

Hospital, appears to me to illustrate so well the distinctive characters of local neuralgia, and is in itself so interesting, that I do not hesitate to insert it, although the seat of the disease is in an organ remote from those which more particularly belong to the present essay. Its interest is greatly enhanced by the circumstance, that the exciting cause of the pain was temporarily removable, at the will of the patient, and that such removal was invariably productive of instantaneous relief. I give the case in Mr. Morgan's own words :—

“ ‘ DEAR BELL :—The following are the particulars of a case of Neuralgia, the general symptoms of which I have already mentioned to you.

“ ‘ The subject of the disease, by trade a tailor, of apparently sound constitution, and between fifty and sixty years of age, was placed under my care as a patient in Guy's Hospital, in the month of May last. He was at that time suffering from the effects of entropion in both eyes. In the left eye the disease was producing but trivial inconvenience, whilst in that on the right side, the suffering was extremely severe, and of an unusual character. The account which he gave of the commencement and progress of his complaint, was as follows :

“ ‘ About six years ago, after a severe attack of ophthalmia, which was accompanied by a very con-

siderable swelling of the lids, the tarsi became inverted. In consequence of this, the distressing symptoms usually met with in cases of entropion supervened. For the relief of these symptoms, he placed himself at different periods under medical treatment, but without receiving any permanent benefit from the remedies which were made use of. The formation of a slough by the application of caustic to the under part of the lower lid, and the subsequent excision of a portion of the orbicularis palpebræ, were operations to which he submitted without experiencing any beneficial results.

“ ‘ Until within the last two years, the symptoms which he describes, are simply those of severe entropion ; but about this period a peculiar neuralgic affection was added to his other sufferings, which constitutes the principal point of interest in the case ; it consisted, to use his own expression, in a “ticking, flickering, darting pain,” which occurred occasionally during the day, and was constant when in the recumbent posture. This pain was altogether different from any which he had ever experienced before, and extended from the lower lid and globe of the eye on the right side, over the forehead, right temple, along the lower jaw, down the side of the neck and arm, to the right elbow, and occasionally also as far as the wrist.

“ ‘These occasional neuralgic affections were existing in the highest degree of severity at the time he placed himself under my care ; and, at this period the cornea of the right eye was rendered partially opaque and highly vascular, by the constant pressure of the inverted lid ; there was severe conjunctival inflammation, and the intolerance of light was excessive.

“ ‘The inversion of both lids of the right eye was considerable, the lower lid being somewhat more inverted than the upper ; and the connexion between the entropion of this part and the singular nervous affection which I have mentioned, was clearly proved by the circumstance, that even in the most severe paroxysm of pain, a separation of the lower lid from the globe produced at all times a temporary and instant relief.

“ ‘It appeared to me, therefore, that the removal of the cause of his sufferings might be effected by the excision of that portion of the cartilage of the lower lid, which, by its pressure, was keeping up, if not producing, morbid excitement in the nervous system. I therefore removed about two-thirds of the inferior tarsal cartilage, by cutting out a triangular central portion of the lid. The result of this operation, however, disappointed my expectations ; for although temporary relief was afforded, yet the remaining portions of the tarsus were found, after the healing

process had been completed, to produce the former train of symptoms, in consequence of their contact with the globe. I then removed, by excision, the whole of the inferior tarsal cartilage, and produced for a time a complete alleviation of his neuralgic complaint. In the course of about six weeks, however, the disease returned with its former severity, and was now referred to the inverted condition of the upper lid; for the paroxysms were invariably and instantly stopped by a separation of the superior tarsus from the eyeball. The tarsal cartilage of the upper lid was therefore dissected completely out; and the operation which was performed about six months ago, has hitherto been attended with complete success as regards the removal of neuralgic affection. I should also mention, that soon after his first admission into the Hospital, the extension of pain along the lower jaw during the paroxysms, was entirely prevented from recurring, by the extraction of three carious molar teeth on the same side.—At present, the man is suffering from chronic ophthalmia in the right eye, and from entropion in the left. Previous to the excision of the tarsi, the constitutional remedies which are occasionally found beneficial in cases of tic douloureux were tried without avail.

“ ‘Yours, ever most sincerely,

“ ‘JOHN MORGAN.’ ”

“OF THE EFFECTS OF MERCURY UPON THE
TEETH, THE GUMS, AND ALVEOLAR PRO-
CESSES.

“The irritation produced by this powerful remedy upon different parts of the mouth, is so constant a result of its administration, as to afford a most certain criterion of the extent to which the constitution has become affected by its action. So prone are these parts to its influence in particular constitutions, that a single dose, and that in very moderate quantity, will frequently produce ptyalism. I have even seen five grains of pilula hydrargyri occasion swelling of the tongue, soreness of the gums, inflammation and thickening of the alveolar periosteum, and, consequently, temporary loosening of the teeth. From the very general use of this medicine, and still more from the careless and profuse manner in which it is sometimes administered, it may be considered as one of the most common causes of the diseases to which the teeth and their containing parts are liable. I have already alluded more than once to its influence, in producing a tendency to gangrene as well as total necrosis of the teeth—inflammation, and consequent suppuration in the alveolar periosteum—alveolar ab-

scence—sponginess, ulceration, and absorption of the gums, the deposition of salivary calculus, &c. But these, although the most frequent consequences of an excessive use of mercury, or of its more moderate administration under a peculiar idiosyncrasy of constitution, are not the only, or the most severe results. Caries and necrosis of large portions of the alveolar process, sometimes extending far into the body of the bone, are occasionally found to follow a profuse course of this medicine. In the diseases of infancy and childhood, mercury is too often administered by the mother or the nurse, with a degree of careless excess which ultimately, if not immediately, produces severe and irremediable injury.

“A remarkable case of necrosis of the lower jaw, arising from this cause, occurred to my notice some years since, the result of which affords a striking example of that remedial formation of new bone, which constitutes one of the most interesting processes adopted by nature for obviating the effects of disease.

“A child about three years of age was brought to me, having a most extensive ulceration in the gum of the lower jaw, by which the alveolar process was partially denuded. The account given by the mother was, that the child had some time previously been the

subject of measles, for which a chemist, whom she consulted, gave her white powders, one of which was ordered to be taken every *four hours*. It appears by the result that this must have been calomel ; for after taking it for two or three days, profuse ptyalism was produced, with swollen tongue, inflamed gums, &c., followed by ulceration of the gum, lips, and cheek. On examining the denuded alveolar process, I found that a considerable necrosis had taken place, including the whole anterior arch of the jaw, from the first molaris on the left side, to the cuspidatus on the right. By degrees the exfoliating portion was raised, and became loose ; when I found that it was not confined to the alveolar process, but comprised the whole substance of the bone, within the space just mentioned. It appeared, however, that as the necrosed portion became gradually detached, new bone had been formed underneath it, extending continuously from one side to the other, and forming a new chin. At length the loose bone came away, including the seven teeth above mentioned, and the rudiments of the corresponding permanent ones, and consisting of the whole section of the jaw with the entire chin. I directed that the jaw should be supported, and that mastication and all violent exertion of the muscles should be avoided for a time, the child being restricted to fluid food : and after a few weeks he ceased

to experience the slightest inconvenience. When I last saw him, he was about nine or ten years of age ; the face was but little disfigured by the loss, excepting from the want of the anterior teeth ; and the chin had scarcely any appearance of deformity."

In conclusion, I would emphatically impress upon the mind of every practitioner, in any case where his patient complains of pains in the temple, top or back of the head, down the neck and arm, ear and throat, loss of appetite, &c., to invariably examine the state of the mouth. When I say examine into its state, it is not merely by looking in the mouth that we are informed as to what its condition is ; for there are, sometimes, causes of the disturbance of the nervous system lurking there, that almost defy the detection of the most experienced. In order to ascertain the precise condition of the organs of mastication, it is absolutely necessary that a mouth-glass should be used. And if nothing is revealed by its agency, then a small probe or sound should be passed between the teeth, to satisfy us that no decay exists there. And if no decay is found, the necks of the teeth should be examined that tartar is not concealed under the gum,—if so, remove it ; and if, any of the teeth should be found very loose, remove them

also; or should the nerves of the teeth be exposed, it is more than probable, that unless this and all the causes of irritation be removed, that your efforts will prove abortive, or add additional pain to the already suffering invalid.

THE END.

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AND
THE APPLICATION OF DRESSINGS, &c., &c., &c.
BY JOHN HASTINGS, M.D., U.S.N.

Fellow of the College of Physicians, Philadelphia; Member of the Philadelphia Medical Society; Lecturer on Surgical Anatomy and Operative Surgery, &c., &c., &c.

WITH NUMEROUS ILLUSTRATIONS.

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The work before us fills a void that has long existed to those engaged in the practice of dental surgery, and the task could not have devolved upon one better calculated to perform it. This branch of surgery is extending so rapidly, and rising to such importance in the community, that a cyclopædia embracing satisfactory definitions of its technicalities, and a compendium of necessary, important, and curious collateral information, seemed indispensable. The large and valuable medical and surgical dictionaries of the present day, although invaluable to the student and practitioner of general medical science, contain little that is useful to the practical dentist. To supply this want, therefore, the work before us was undertaken. In it are contained accurate, though necessarily condensed, accounts of the physiological and various pathological conditions of the teeth, and the operations necessary for their cure, together with full descriptions of the instruments and materials needed in them. The work is an enduring monument to the patience and industry of its author, and one that we should consider indispensable to the practitioner of dental surgery, and would gladly see in the library of every physician and surgeon.—*Medical Examiner.*

This is the only work of the kind in the world, it is presumed; and one is almost tempted to believe there will never be another, since whatever belongs to the subject is here brought into an elaborate alphabetical arrangement, as convenient as could be desired for reference. Dr. Harris, the laborious author, must be a man of intense industry and activity, to bring out so many excellent volumes as now bear his name, and which are unhesitatingly received by the dental fraternity, as the latest and best authority. This dictionary is a valuable reference for the medical profession also; and may be resorted to with profit in regard to a variety of diseases for which they are consulted. It is creditable to this country that such advances have been here made in operative dentistry, and that the best books extant, explanatory of the intricacies of the art, and perhaps, also, the best operators, belong to the United States.—*Boston Med. and Surg. Journal.*

A dictionary of dental science, a want which has been long and much felt in the dental profession, is now met in the fullest manner. Not only are all medical and surgical terms explained with concise clearness, but we have also a collection of valuable knowledge in all that relates to dental science, which we can find in no single work elsewhere. This dictionary will, among physicians and surgeons, successfully rival our best standard medical dictionaries; whilst, among dentists, it cannot fail to command a most unquestionable and decided preference, embodying, as it does, all that others can teach, and much more on which they are silent.—*Journal of Dental Surgery.*

This work was much needed. Before its publication, dentists knew not where to seek information upon medical subjects incidentally connected with their own department of surgery. The several medical dictionaries were very deficient in information upon dental science; in general, surgical encyclopædists had almost entirely overlooked operations upon the teeth. Dr. Harris has done his work faithfully. Thoroughly acquainted, by former experience, with the wants of the profession, he has set himself to supply them, with the honest earnestness and untiring industry characteristic of all his labours. Not satisfied with preparing a dictionary of dental science, he has produced one of the best medical dictionaries of the day; and the work is not only adapted to the wants of dentists, but will be a valuable addition to the library of the general surgeon and physician.—*Baltimore Patriot.*

PROF. SIMPSON ON ETHER AND CHLOROFORM.

ANÆSTHESIA;

OR

THE EMPLOYMENT OF CHLOROFORM AND ETHER, IN SURGERY, MIDWIFERY, &c.

BY J. Y. SIMPSON, M.D., F.R.S.,

Professor of Midwifery in the University of Edinburgh, &c. &c.

"This timely and useful book contains a vindication of the new methods of annihilating pain, in the practice of Surgery, &c.; and although addressed to the profession alone, yet the subject is so interesting that it will be highly acceptable to every class of readers. All the objections to the use of these agents, whether philosophical or religious, are here examined and refuted by an author whose scholarship, experience and exalted reputation entitle him to be heard. Dr. Simpson dwells at great length on etherization in surgery, dealing in facts and statistics chiefly, and for the purpose of demonstrating much greater success in this department when the patients have been subjected to anæsthetic agents than when these agents are dispensed with. The main purpose of the book, however, is to prove the propriety and safety of employing chloroform in midwifery.

"To Professor Simpson belongs the honour of having introduced chloroform to the profession, as a substitute for ether, and of proving, by bold and persevering trials, the availability of it in moderating, and even preventing altogether, the pangs of parturition. This work comprises his many papers upon the subject, and the result of his observation and information up to the time of publication, and certainly affords the most complete history of anæsthetic agents, their discovery, history and mode of application, which has yet appeared. We recommend it to our readers as a text-book upon this very interesting subject."—*Journal of Dental Surgery*.

"The experience of Dr. Simpson in the use of chloroform and ether, is such as to command the highest respect for his opinions in regard to their mode of action, utility, &c."—*Medical Examiner*.

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"The great value of auscultation and percussion is universally admitted, and nothing is more necessary to the student, and even physicians, than a condensed summary of the facts already ascertained; also the character and meaning of the many sounds distinguishable in the working of the complete human machinery, and the best manner of perceiving them. For this purpose the little work before us is designed, and for this purpose it is admirably adapted; to the students of auscultation and percussion, it is invaluable, and we recommend it to all who desire exact knowledge of the subject."—*American Journal of Dental Science*.

"This manual is strictly elementary, and is so arranged as to convey to the student an accurate yet condensed view of auscultation and percussion in their most extended applications. Plain and simple rules are given by which the merest tyro may become an expert auscultator; we would strongly recommend it to the student who wishes to become familiar with the elements of this department. The translator has evinced judgment and ability."—*Western Lancet*.

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TRANSLATED

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"The translator, Dr. R. P. Thomas, deserves credit for the labour he has bestowed on this American edition. He has performed his duties in a very creditable style, and is entitled to the thanks of those who do not read French, for having enabled Cazeaux to address himself almost as well to American readers, as though the work had been written in the English language. We have met with but few translations that conveyed the spirit of the original, with more complete success. — *Western Journal of Medicine and Surgery*.

"Its adoption by the Royal Council of Public Instruction — the position and character of its author, as a teacher of obstetrics — his opportunities for clinical experience, and the fact of the early demand in France for a second edition, present strong extrinsic recommendations of the work, which are fully sustained by its intrinsic merits.

"Written expressly for 'the use of students of medicine, and those of midwifery especially,' its teachings are plain and explicit, presenting 'a condensed summary of the leading principles established by the masters of the obstetric art,' and such clear, practical directions for the management of the pregnant, parturient, and puerperal states, as have been sanctioned by the most authoritative practitioners, and confirmed by the author's own experience. Collecting his materials from the writings of the entire body of antecedent writers, carefully testing their correctness and value by his own daily experience, and rejecting all such as were falsified by the numerous cases brought under his own immediate observation, he has formed out of them a body of doctrine, and a system of practical rules, which he illustrates and enforces in the clearest and most simple manner possible.

"In the correctness of all the more important of his teachings, we fully acquiesce, and can very conscientiously recommend the work to the medical student, as one that will prove to him a safe and valuable guide to a knowledge of obstetrics." — *Medical Examiner*.

"This work, more particularly intended for the use of students of medicine, is an exposition of the course of lectures delivered by M. Cazeaux, in Paris, for several years past. It is also the work adopted by the Royal Council of Public Instruction. In many respects, in its general arrangement, it resembles most of those heretofore published on the same subject, in France; yet in the main it appears to differ essentially. The author has 'adopted almost wholly the views of Professors Naegele, Stally, and P. Dubois, which are not found clearly expressed in any of our classical works.' While, however, he has put the views of these teachers under heavy contributions, it also appears that he has drawn freely and judiciously upon all the more modern writers who have published upon the same subject. The opinion of M. Coste, on all that relates to ovology, has been consulted. In the chapters which are devoted to the history of the changes that take place in the ovary and ovulum, before and after conception, numerous engravings have been presented, in order to more clearly illustrate and simplify the text, and, 'by their aid, the great doctrine of reproduction, which is now exciting so much attention both in this country and in Europe, will be rendered intelligible to every reader.' The American translator has executed his task in a very satisfactory manner; and he, together with his publishers, are deserving of the especial thanks of the American reader, for this worthy addition to an already large stock of treatises on midwifery. — *New York Journal of Medicine, for March, 1850*.

"In 1841, such was the reputation of the first edition in France, that it was adopted by the Royal Council of Public Instruction. No change of times, or increase of similar efforts by others, has changed the general sentiment in regard to its high merits.

"Brought down to the latest period, whatever is new, useful or suggestive, has been faithfully incorporated with the text. — *Boston Medical and Surgical Journal*.

"When an author who may be a stranger presents himself before the profession in the attitude of a teacher, a proper respect for our readers requires us to inform them something of the character and standing of the writer. P. Cazeaux, the author of the above treatise, was, for a number of years, physician-accoucheur to one of the largest lying-in hospitals of Paris, where he enjoyed the amplest opportunities for ascertaining the value of the doctrines put forth by obstetrical writers; and where all mere speculation was made to give way to the severe test of truth and experiment. Monsieur C. was, besides, a long time *chef de clinique* to Professor Dubois, and a pupil of the distinguished Moreau. Besides, he has been a lecturer, for the last eight or ten years, on midwifery, in the schools of Paris, in the capacity of adjunct professor. We think we have said enough to satisfy the reader that our author is not a quack, but a student and a practical physician.

"Without following up our author verbatim, we may be permitted to state that his work is fully up to the knowledge of the day, on the subject of obstetrics; and taking the book as a whole, it will not suffer by comparison with any of a similar cast, on the same subject. The plates are well executed, and will assist the reader materially in understanding the text.

"M. Cazeaux has brought obstetrical science up to the present day, and the reader will find the multifarious subjects of the art fully discussed and carefully examined.

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"It contains much that is really valuable, and must serve as a standard work of reference upon the subjects of which it treats. We can confidently recommend the work, and hope it will meet with that favour which it so richly merits." — *Boston Medical and Surgical Journal.*

"The author has manifested much care and research in the preparation of the volume before us, and has presented us with a work, in general, of great accuracy, which cannot fail to be useful for reference, both to the practitioner and student." — *Medical Examiner.*

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Demonstrator of Anatomy at Guy's Hospital, &c., &c.

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