Dental surgery and mechanism : a popular treatise on the preservation, management, and surgical treatment of the teeth and gums : with the most modern and improved modes of supplying the loss of teeth / by Edward Lukyn.

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EDWD. LUKYN
ON
DENTAL SURGERY.

DENTAL SURGERY AND MECHANISM.

A Popular Treatise

ON THE

PRESERVATION, MANAGEMENT, AND SURGICAL TREATMENT

OF THE

TEETH AND GUMS:

WITH THE

MOST MODERN AND IMPROVED MODES OF SUPPLYING THE LOSS OF TEETH.

BY

EDWARD LUKYN,

DENTIST TO THE LATE LOUIS PHILIPPE AND THE EX-ROYAL FAMILY OF FRANCE

(FORMERLY WITH THOMAS BELL, ESQ., F.R.S., F.L.S., F.G.S.)

35, NEW BROAD STREET, CITY, NEAR THE BANK.

"The state of the Mouth forms a very distinguishing characteristic. On its formation greatly depend regularity of feature and general animation of expression."

LONDON:

PRINTED FOR THE AUTHOR,

BY MANN NEPHEWS, 39, CORNHILL.

1864.

TO

GEORGE CRITCHETT, Esq., F.R.C.S.

SURGEON TO THE LONDON HOSPITAL AND TO THE ROYAL LONDON OPHTHALMIC HOSPITAL;

LECTURER ON SURGERY, ETC.;

This Work

IS DEDICATED

IN RECOGNITION OF HIS HIGH PROFESSIONAL STANDING,

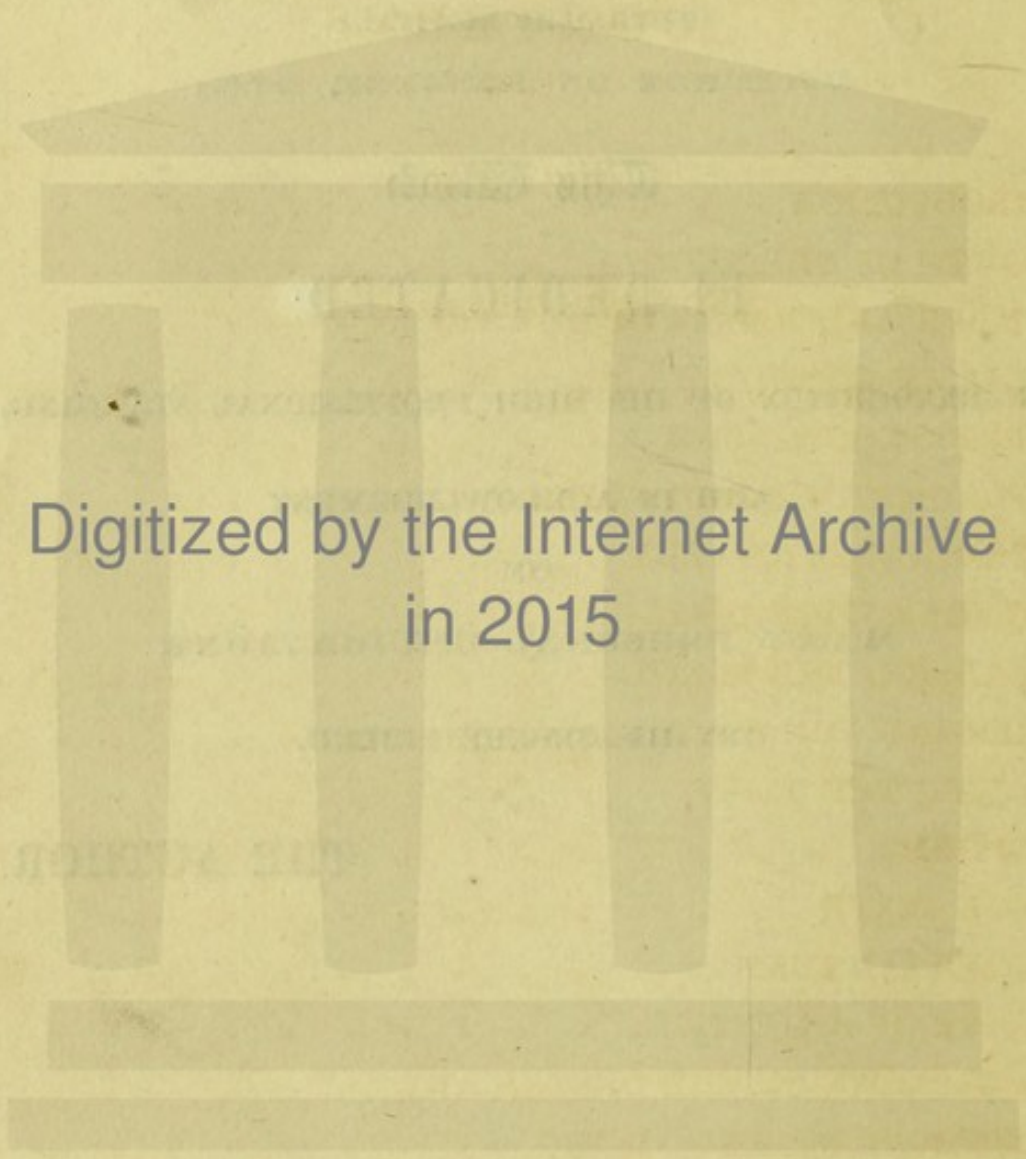
AND IN ACKNOWLEDGMENT

OF

MANY PERSONAL OBLIGATIONS,

BY HIS SINCERE FRIEND,

THE AUTHOR.



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INTRODUCTION.

It is generally admitted that the science of dentistry is but imperfectly understood by the public, and that even the medical profession is, for the most part, unacquainted with its conservative and restorative branches. This has arisen in a great measure from the want of some clear and concise treatise on the subject. To supply this deficiency the present work has been compiled; technical terms have been as far as possible omitted or explained, and care has been taken to render the various points intelligible to the reader.

It is, in fact, an epitome of a larger

work, of a more scientific and elaborate character, in which it has been impossible to dispense with the language used in the sciences of anatomy, physiology, pathology, and mechanics; a language that is necessarily unintelligible to the general reader.

My father, Mr. W. Lukyn, who has been for forty years in extensive practice, has contributed much information to the larger work as it has proceeded; and this concise guide, which I have in part taken from it, will afford an insight into the art or science of dentistry, sufficient for the guidance of those who may have occasion to consult the dentist, either for themselves or families, whether for disease, malformation, irregularity, or for the training or regulating the teeth of children and youth. The interesting subject of supplying artificial teeth, which is now brought to a high state of perfection, is also explained.

Each case is here treated in such a

manner that the patient may form a correct judgment; since it is partly from the subject being imperfectly understood by the public, and partly from the incompetency of unqualified practitioners, that this useful and ornamental art has been exposed to so much neglect and obloquy.

I have reason to know, from observation whilst with Mr. Thomas Bell, and subsequently in my own practice, that many are deterred from consulting the dentist from want of confidence in the resources of modern art, and from a very imperfect knowledge of the principles that guide the scientific practitioner. This epitome will, therefore, be of use to refer to when it is deemed requisite to seek advice; and I beg my patients to recommend the perusal of this guide to their friends and acquaintances, again remarking, that the state of the mouth forms a very distinguishing characteristic; and therefore should not be neglected by those

who have any care for their health, their personal comfort, or for the preservation of their voice and the natural appearance of their face.

EDWARD LUKYN.

35, NEW BROAD-STREET, CITY,
LONDON, E.C.

DENTAL SURGERY AND MECHANISM.

In infancy nature fits us for imbibing the softest aliments which are obtained by suction with the aid of the lips and tongue. The teeth are not required in this action, for we find the gums are scarcely employed in it: by and bye, as the infant advances in life, harder and more solid nutriment is required, and then teeth are provided for the purposes of manducation or chewing.

The manner of their formation and growth may now be considered. We find that the alveolar processes of the jaw-bones begin to be formed at a very early period; about the fourth month, a shallow longitudinal groove appears, divided by slight ridges into a number of interme-

diate depressions, which are to be the future alveoli or sockets. These depressions are filled with a small pulpy substance included in a vascular membrane; and these pulpy substances are the rudiments of the future teeth. In about five months after birth, the ossification of this pulpy substance commences; the teeth now begin to cause great irritation, by their efforts to overcome the obstruction to their rising out of their bony sockets, and by forcing their way through the gums; this process is familiarly called "cutting the teeth." It is a singular fact, that the root or fang of the tooth is formed after the crown; and as the fang grows, the hard and sharp enamelled edge of the crown cuts its way through all the obstacles it has to encounter; and one would infer that the object of this curious mode of growth is to oppose the hardest part of the tooth to the hard alveolar processes and gum, through which it has to cut its way.

Cutting the teeth commonly commences about the fifth or sixth month; and within the first year the incisors or "butter-teeth" begin to appear above the gum: the first two butter-teeth are cut in the under-jaw. Although only the two upper incisors are correctly called butter-teeth, yet we shall call the four incisors, both in the upper and lower jaw, butter-teeth, that term being better known than incisors.

The eye-teeth and grinders are not formed so soon as the butter-teeth; they appear about the twentieth or twenty-fourth month; and sometimes one of the eye-teeth, but more frequently one of the grinders, appears first. The majority of children at the age of two years and a half possess twenty teeth, ten in the upper, and ten in the lower jaw; namely, in each jaw—

Four Incisors or Butter-teeth.
Two Eye-teeth.
Four small Grinders.

These twenty teeth are called milk-teeth or temporary, because they are all shed between the ages of seven and fourteen, and are succeeded by thirty-two others, which remain till they become affected by disease or fall out; these are called the adult or permanent teeth, which I shall now describe.

These are the hardest and whitest of our bones; at full maturity, when all the teeth are present, we find sixteen in the upper jaw and sixteen in the lower; and these sixteen in either jaw are classed in the following manner.

Taking the upper jaw, the observations on which will apply to the under, we shall observe the front teeth called butter-teeth or incisors; then, on each side of them, the eye-teeth or dog-teeth, called also canine or cuspid; then two small grinders on each side of these eye-teeth, called bicuspid, making four; and beyond these, on each side, three double teeth or grinders, called molars. The last grinders

on each side of either jaw appear a few years later than the others, and are called the wisdom teeth (*Dentes Sapientiæ*). Thus in both jaws there are the same number of teeth, possessing almost the same characters and similarly named. The lower incisors are not so broad on their enamelled surfaces as the upper; the grinders of the lower jaw have two fangs, whilst those of the upper have three, occasionally four, and even five. The bicuspids or small grinders of the under jaw do not so soon decay as those of the upper; and indeed all the teeth of the under jaw usually last a longer time than those of the upper. It is therefore very important, where the under teeth are good and have nothing to strike against, to supply antagonistic molars, in order that mastication may be accomplished as perfectly as before. By artificially remedying this defect, the food is properly masticated, digestion is improved, and health is restored.

Having stated that there is the same number of teeth in each jaw, I will enumerate them, with their names and divisional arrangement: they are in number thirty-two: viz.,

I. Butter-teeth or Incisors	Eight.
II. Eye-teeth or Cuspids	Four.
III. Small Grinders or Bicuspids	Eight.
IV. Grinders or Molars . , ...	Eight.
V. Wisdom-teeth or Dentes Sapientiæ . .	Four.

The knowledge of this general outline of the number and names of the teeth will enable a person to describe, not only what tooth or teeth may require the attention of the dentist, but will also enable the patient to understand the dentist's language, when he is speaking of the loss or disease of any of these different kinds of teeth, that may need replacing or plugging with gold, or that may be suffering from caries or decay, with its attendant inconveniences. Thus, for example, when a tooth is to be replaced, and is described as a left-side incisor, or an eye-tooth, or

an upper molar, the statement is clearly understood. The tooth may be said to consist of three parts — the crown, the neck, and the fang; in the centre of the tooth is a hollow space or cavity, over which is spread a lining membrane. The nerve, the artery, the vein, and the absorbent vessels, enter through a very small opening in the fang, and ramify on this membrane, together forming what is termed the nerve, or marrow of the tooth.

The acute pain of toothache is produced by the exposure of this cavity resulting from disease; inflammation of the lining membrane, in the absence of a carious or decayed external opening, being very rare.

Notwithstanding the researches of the most eminent authors on dental pathology, and my own dissections and experiments, the origin or primary cause of disease in the teeth has not received any satisfactory explanation. It may, however, be observed, that in children from six to

eight years of age, when the permanent large teeth at the back make their appearance, in one case out of eight, one or more of the teeth will be found to be diseased.

The same observation as to early disease is applicable to the *dentes sapïentiæ*, or wisdom teeth of the adult, with this difference, that children's teeth, which may be almost termed cartilaginous in their internal structure, are highly susceptible, and rapidly decay; whereas, the adult's teeth being more ossified, disease proceeds with less rapidity.

Toothache accompanied by a carious opening forms one species of disease, and inflammation without such opening (though of rare occurrence) another. The socket in which the fringe of the tooth is lodged is lined with a membrane called the periosteum, which, when in a state of inflammation, becomes exceedingly sensitive, and thus forms a third species of toothache. There is also a pain called

face-ache ; this is a partial or general inflammation of two, three, or more teeth, in which the gums are also attacked.

There is a rheumatic affection about the cheek-bones, often so acute and defined as to be mistaken for that formidable neuralgic malady, *tic-douloureux*.

We have also the toothache of gestation, and that of sympathy with other parts, which are more particularly noticed in medical works. In prescribing for the cure of toothache, even this cursory view of the subject may help to show what is best to administer if each species be recognised ; and thus the treatment will be founded on correct principles, and will be both reasonable and comprehensive.

Numerous remedies and specifics exist for that species of toothache which arises from a carious opening or hole in the tooth, extending to the natural cavity in the crown, through which the saliva, food, or air reaches the nerve, giving rise to intolerable pain. Many of these appli-

cations have a just reputation; and some, though differing in name and quality, possess, nevertheless, a similar effect, and accomplish the same object: this may be, either to exclude the air, or to destroy the acrimony of the saliva, or any particles of food; or to act as a sedative or opiate to pacify the exposed nerve; or, by the caustic nature of the remedy employed, to destroy the nerve. For this latter purpose, nitrate of silver (lunar caustic), or spirit of ammonia (strong sal volatile), or the mineral acids, may be used. The caustic nature of these will occasion relief to the pain—though the nerve may not be destroyed; for a coat is thus formed on the surface of the nerve, which allays its irritability. The same effect is produced on irritable and painful ulcers; and caustic is often employed by surgeons for that purpose.

For the toothache with a caries or hole, which is the most common, a combination of equal parts of camphor and opium will

exclude the air and give relief; or the following:—

℞ Sal volatile
Laudanum . . . *aa* ʒj

Misce.

Wet with this a piece of cotton and place it in the hollow of the tooth.

The following essence is very excellent in this kind of toothache:—

℞ Argenti nitratis . . . gr. iv.
Aquæ distill. . . guttæ xxx.

Misce.

Tum adde,

Spirit. carui . . . ʒ ij.
Pulv. mastiche . . . gr. ij.

Misce.

One or two drops to be introduced into the cavity by means of a camel-hair brush; then place therein a small piece of cotton, wetted with the mixture.

The second species of toothache is that in which an inflammation exists in the fang and socket. A leech or two may be applied to the swollen gum; or, if that be objected to, external fomentations of

poppy heads, with the emollient effect of a warm bread and milk poultice held in the mouth. If the patient be in a feverish state, aperient medicine should be taken; by these means, accompanied by warmth and a light diet, the inflammation will be allayed, or a gum-boil formed and matured. On the escape of the matter, ease follows rapidly.

The other species mentioned, called Face-ache, Tic-douloureux, and Pains in the Teeth, sympathetic with other parts, and of a rheumatic nature, require the advice and treatment of a medical man.

Although I have here given recipes for applications that will, in many cases, afford immediate relief, and save much suffering; it must not be supposed that the effect will be permanent. Neither must it be inferred that the existence of pain in a decayed tooth necessitates the operation of extraction; until recently the removal of the tooth was the only remedy, but modern science has intro-

duced some most important improvements into this department of Dental Art. I am now in the possession of a specific, the action of which, when carefully and properly applied, is to destroy all sensation in the exposed and sensitive nerve. So completely is this effected, that the various stages of stopping a tooth with gold can be carried out without causing any pain, and a useful tooth may be thus preserved.

This statement is so at variance with popular impressions and prejudices, that it will, perhaps, be received with great caution by many of my readers, and by some with doubts and even disbelief; but ample experience enables me to speak with great confidence upon this point, and to refer to numerous cases in which decayed and painful teeth, that would have been formerly extracted, have in this way been stopped and preserved.

For training and regulating the teeth, I have adopted in my practice for the last

eight years, with great success, a periodical examination of the mouths of young people; and I have divided the time necessary for their inspection into *three periods of life*, which are, from the ages of three to six; six to eleven; and eleven to sixteen; and I am happy to say, that extensive experience and a large amount of success have proved the value of the plans I adopt, and have satisfied me that in every case that has applied at a sufficiently early age (that is to say before sixteen) all deformity has been prevented. After that epoch, the removal of teeth to correct a crowding together or an irregular appearance seldom proves beneficial. In a vast number of young people under that age, I have prevented that crowded and uneven state of the teeth, which is not only unsightly, but is, in many cases, the cause of impediment of speech, hesitation, and stammering

Some children are disposed to the malformation termed *underhung*, on the first

appearance of the second teeth; but I have invariably succeeded in preventing this deformity, where I have had the training of the teeth from the age of six to eleven. If children of that age were brought more generally under dental treatment, we should very rarely see a deformed or unpleasant mouth, particularly in those classes coming under the denomination of the well-brought-up, and educated.

The next object to be attained after the teeth have been trained into as perfect a state as art can accomplish, is to preserve them.

For cleansing and preserving the teeth, I recommend the use of the tooth-brush every day. For this purpose, nothing is more simple and preservative than camphorated prepared chalk powder used with a large-sized brush; in winter, the water should not be too cold. In cleansing the teeth, the back upper and under double teeth, or grinders, should be

thoroughly well brushed around and about their surfaces; attention not being too exclusively paid to the front teeth.

Whatever keeps the mouth clean, tends to preserve the teeth; hence the tongue-scraper should be employed in the morning. Occasional aperient medicine removes any heat or foulness arising from a bad stomach. Smoking is injurious.

Tooth powders and dentifrices containing acids, honey, conserves, or which are rough and gritty, will, in three or four years' use, lessen the thickness of the enamel; and in some cases wear it entirely off in six or seven years: the result of this is that the slightest cold is most painfully felt, and hot or cold things, fruits, etc., instantly set the teeth on edge.

PLUGGING THE TEETH.

The teeth have no curative power in themselves. Disease, when once com-

menced, unless arrested by plugging, gradually increases until the affected tooth is destroyed. Though slow, and in some cases unattended by pain, it is sure in its progress; and whilst it is advancing, the morbific matter inoculates the adjoining or opposing teeth with the same disease.

From the age of seventeen to twenty-five, notwithstanding every precaution in cleansing the teeth, disease may commence in either of the bicuspids, those teeth which are on each side of the eye-teeth, or in one or other of the molars or grinders; and ere pain has been felt, or a caries suspected to exist, it is found to have advanced to so great a depth as to render the success of plugging or stopping very doubtful. A caries may have proceeded to a limited depth only; and that is the state in which to plug it. Disease will then be arrested, and the tooth be preserved for many years. Where I have had the opportunity of

plugging a tooth so favourably circumstanced with gold, I have found the tooth in a sound state after nine years, and the stopping as firm and immoveable as at the first moment when I introduced the gold leaf.

It is seldom anything but gold can be used with advantage to the front teeth and bicuspids; but the double teeth are often in a state to receive the succedaneum. Where gold can be inserted, no other metal should on any pretence be employed.

Stopping or plugging a tooth is a very nice and delicate operation; there are three points which must be observed: in cleansing and shaping the hollow (and this is unattended with pain), care must be taken not to excavate it so much as to expose the nerve; then, previous to the introduction of the gold, it is necessary to be particular in having the cavity which is to receive it perfectly dry; and if the saliva should enter, it must be

carefully dried up with a small piece of cotton.

The gold to be introduced must be in one piece; otherwise the added piece would fall out. It is therefore better to have a little over, than to find that enough has not been selected at first. The placing of this on the point of the plugging instrument, and the spirally curling or twisting of the gold stopping upon it, require much address and practice. Some dentists have never succeeded in becoming skilful in stopping teeth, from not sufficiently observing all these points, on the proper management of which the success of the operation entirely depends.

The gold having been introduced, and the hollow closely and tightly filled, the surface is then to be polished off hard and smooth with the burnisher. By this plan, thousands of teeth are rescued from entire decay for years, when otherwise they would not have lasted many months.

Succedaneum, to which I have alluded, is a composition formed of two or more metals, and it must be made up fresh each time it is required. It should be well mixed in a small glass mortar with a glass pestle, and as soon as the hollow of the carious tooth is prepared and made perfectly dry, it should be squeezed through double wash-leather to liberate one of the metals, which may be super-abundant, and so prevent its solidifying after it is inserted.

Many improvements have recently been made, all tending to perfect this kind of stopping, the nature of which, in its original form, was to turn black and shrink; consequently, it very seldom answered for many years, the time entirely depending on the amount of pressure the tooth was able to bear at the time of stopping; all objections are now over-come, and some dentists prefer its use to gold. I have a cement, white as fine silver, that keeps its colour for any length

of time, and will not shrink in setting: in its first state it is as soft as putty, which is of great importance, as it requires but little pressure to make it yield to every form of the hollow to be filled, in which form half an hour is sufficient to allow for its becoming hard as solid metal; after which it will bear mastication in a manner equal to the original enamel. In its plastic state, it can be made to any form. I have repeatedly found it answer beyond my most sanguine hopes: in cases where the entire crown of a molar tooth has been broken away, and left the fang just below the neck, on this I have formed a complete tooth of the metal, which has answered every purpose for mastication.

SCALING THE TEETH.

This operation consists in removing the tartar or crust which is deposited by the saliva, and closely adheres to the

necks of the teeth; it is most abundant about the inner side of the under teeth, on account of more saliva accumulating in the hollow under the tongue than in other parts of the mouth.

Brushes and tooth-powders will not entirely remove it; it insinuates itself betwixt the neck of the tooth and the gum, and thus loosens it by depriving the tooth of its socket and the support of the gum's close adhesion. It can only be removed by the dentist. There is no pain of any kind attending this; and it is not only most beneficial to the teeth, but it preserves the gums in a firm and healthy state. Some people are constitutionally liable to a great accumulation of this destructive and corroding deposit. I have had occasion to remove it, in the case of some of my patients, as many as four times in six years; and I have invariably found they are persons subject to dyspeptic disorders.

Again, we find much of this deposit

at the age of twenty, or as soon as all the temporary teeth have been replaced by the permanent ones. During the operation of teething, earthy matter is taken into the system by absorption; and, the structure of the teeth having been completed, there is often a redundancy of such earthy particles or salts; hence, at this age, the saliva supplies a great quantity which readily attaches itself to the teeth. In some constitutions this does not occur; but in most instances young people require this deposit to be removed when the mouth is completed, or furnished with all the teeth, with the exception of the wisdom-teeth, which vary very much as to the age when they are cut.

THE GUMS.

The gums are often affected with a scorbutic disorder, in which they become

soft and florid, and full of dark blood. A healthy gum should be firm and of a pale red. Diseased teeth and fangs, a dirty state of the teeth, and particularly tartar around their necks, occasion unhealthy gums. After the teeth have been scaled and cleansed, and the gums twice scarified or lanced, so as to give an outlet to the dark grumous blood which has been increasing and stagnating for a length of time, I order the following cleansing and corroborating antiscorbutic gum lotion to be used in rinsing the mouth every morning for a few weeks. This will restore them to health; give hardness and freshness; and that pale coral appearance will return, which indicates that the treatment has been effectual.

℞	Tinct. Anchusæ Radicis .	f ℥ss.
	Tinct. Camph. . .	f ʒjss.
	Spirit. Vini dilut. . .	f ℥iv.
	Tinct. Myrrhæ . .	f ʒiv.

Misce fiat Lotio.

To be used every morning in a little lukewarm water. If there be any objection to the employment of myrrh or camphor, an infusion of rhatany root is often substituted, and prepared with the spirit of rosemary.

℞ Infus. Krameriæ . . f ℥vss.
Spirit. Rosmarini . . f ℥ss.
Misce pro Lotio.

Either an unhealthy state of the gums or a diseased condition of the teeth may cause a disagreeable breath; therefore great attention should be paid to remove every offensive odour issuing from the mouth. Discharges from the gums cause also a vitiated taste, which the above recipe soon corrects.

The scarifying of the gums is not attended with any severe pain; for when they are in so swollen and fetid a state as to require lancing, they are also very insensible. There is only a little smart-

ing during the day on which the operation is performed; and if salt, or salted things, be abstained from, it is not attended with either uneasiness or inconvenience.

LOOSE TEETH.

Nothing will cause the teeth to become loose, even though sound more than diseased gums; and as the gums are restored to health, and re-attach themselves, to the necks of the teeth, they again become fast.

I have an improved mode of preserving and firmly fixing teeth which have become loose on account of their not having lateral supports, that is very successful. By replacing those supports, the remaining loose teeth are fastened, and are rendered secure for many years; whereas, if left isolated, they would not last any length of time, but would re-

quire nearly an entire set to replace them, involving an expense which would have been avoided, if the conservative method I have suggested had been sooner adopted.

There are many ways of fastening loose teeth. One mode is to tie them to the adjoining firmer ones with wires, or with dentist's silk; but this causes great irritation to the sound tooth, which soon becomes as loose as the others: besides, the accumulation of food about the ligatures occasions an unpleasant taste and a fetid breath.

I am frequently applied to on account of the uneasiness produced by this cause. It is a practice very much followed by country dentists. Constantly I have visitors from the country, from whom I am obliged to remove these ligatures, and to have recourse to the method of providing lateral support, which is certain and lasting in its effect, and permits all the teeth to be employed serviceably in mastication.

I wish here particularly to advert to two maxims, to the observance of which I attribute the patronage I have met with in London, and the encouragement I have received from families of distinction residing at a distance from the metropolis.

1st.—Never to give pain by useless operations.

2nd.—Never to put into the mouth any metal but the purest gold.

It is quite lamentable to observe how prone some dentists are to perform operations unnecessarily. If they see a tooth or a fang loose, they proceed immediately to remove it. I have had patients come to me with their gums lacerated, and the bone of the jaw actually exposed; and when I have asked what was the object, I have been told it was done to clear away all obstacles to placing in the mouth a few artificial teeth. I should have taken advantage of those very obstacles, and should have

spared my patients all the torture they had been so unnecessarily subjected to.

My mode of replacing teeth is unattended by any painful preparation of the mouth to receive them; for, by taking advantage of what I find there, I make *my work* to fit the mouth with the most critical accuracy, and do not subject the mouth to operations to make it fit *the work*.

I have had especial commendation during my practice from many of the Faculty, from originating a treatment of the mouth by means of which operations may be dispensed with that were acknowledged by them to be injurious, and that occasioned an absorption of those parts of the gums which ought to be retained and preserved. The late Sir Astley Cooper remarked that he himself, as a teacher of surgery, had always been trying to check the propensity in young surgeons to operate, and showing that merit lay in remedying and curing disease without operations.

Where an extraction is really required, I employ the forceps. That coarse and pain-inflicting instrument, the German key, is completely superseded by the skilful use of the forceps. Indeed, I am surprised that the key should ever be permitted to enter the mouth, and that dentists have not universally condemned its use and given it up: for, in extracting teeth, the operation with the forceps is infinitely less painful, and prevents subsequent suffering.

ARTIFICIAL TEETH.

Without a thorough acquaintance with the anatomy and structure of the jaw, which is absolutely required for the performance of dental mechanism, numerous failures must occur. Persons totally unacquainted with the art are constantly advertising themselves as dentists, to which profession they have no pretensions on

the ground of previous apprenticeship or education; hence great evil is caused to those who are credulous enough to confide their mouths to their care, to the injury of the skilful operator who has been regularly educated. I do not wish to imply that there are not many excellent workmen in the mechanical department of our art, and men who possess every possible claim and qualification to the confidence of their patients; men of whom, for their advancement of the science of dental surgery, as well as for their private worth, the profession has great cause to be proud: amongst these eminent individuals I cannot omit mentioning my earliest instructor, Mr. Thos. Bell. Many persons experience great difficulty in making a distinction between the unassuming skill of an accomplished practitioner, and the ostentatious boasting of those who are dentists only in name, and who are frequently the cause of evils which are not easily remedied, and

often of injuries which are only terminated with life.

My chief object is to make known to the public, in plain intelligible terms, the evil consequences resulting from unskilful practice, and the great advantage which may be derived from the skilful performance of every branch of the dental art.

The nerves of the jaw are extremely sensitive; and from ignorance or want of proper care in performing operations which are absolutely necessary, and which, under the hands of a skilful person, would create little inconvenience, and would cure the evil, many practitioners produce such suffering and disorder that, instead of assisting nature, they frustrate her efforts. Disease ensues, and the patient's confidence is shaken in the profession; and thus, having, in the first instance, unfortunately sought the advice of a person who knew nothing of the cause producing the disorder, and whose ignorance prevented his adopting

those means which would have insured success, much evil has been the result. Many unequivocal proofs of the mischief that has been done to the mouth by ignorant practitioners are frequently coming before my notice. I will quote one case in which a gentleman had perseveringly worn a badly made and ill-fitted plate. This had occasioned the exfoliation of a large portion of the bone of the jaw; and although the injury evidently resulted from the unskilful construction of the plate, or framework, yet the person who made the plate had failed to discover the alteration that was required, and the gentleman had, on each visit, been told that it would right itself.

Many persons have been induced to consult inexperienced dentists who have raised their expectations to the highest point through the bold and confident assertions contained in an advertisement, or from having accidentally seen exposed in show-glasses highly wrought specimens

of artificial teeeth for the express purpose of decoying the unwary and afflicted into their hands.

The making a set, or partial set, of artificial teeth for the mouth is widely different from making them to exhibit in a glass-case, or window. The former may appear, when seen in the hand, of a singular and unsightly construction; and yet, when put into the place intended to receive them, they will be found to be all that could be desired: but if we take any of those fine specimens which appear so exquisitely got up for show, and place them in the mouth, it will scarcely be possible to conceive a greater failure, or that anything so beautiful in itself could create so hideous a transformation of countenance or be so utterly unsuited for the object to be attained.

It must, therefore, be obvious to all, that it is no unimportant matter, in making choice of a dentist, that his credentials or qualifications, or some proof

of his having been properly educated, and of his having made himself master of his profession, should be produced. Dentists possessing these qualifications are proud to show them; while those who do not possess them must surely be very improper persons to have anything of such importance as the teeth placed under their care. The public of the present day seem to have overlooked, or do not comprehend, the qualifications indispensable to a dentist, but appear to regard it as a profession which any person may assume; and, provided he be fashionable, his capacity is never doubted. Even those persons who have received injury and disappointment invariably keep the fact to themselves, aud are careful to conceal it from their most intimate friends. A false delicacy exists respecting the teeth; and many suffer in silence for years, when they might easily and quickly find a remedy. Numerous cases I could quote in support

of this: one instance came lately under my notice, and this had been allowed to go on so long, that suppuration actually carried away the greater part of the palate, before the patient's extreme diffidence could be overcome sufficiently to allow of his consulting a dentist.

PECULIARITY OF THE DENTAL ART.

There is an instinctive tendency in most persons who wear artificial teeth to conceal this fact from others; and the more perfectly the work is done, the greater is the temptation to attempt concealment. The dentist himself is of course pledged to secresy. Hence it is that the very means which in most professions become the most legitimate source of success—viz., skill and proficiency—are entirely lost to the dentist.

If patients could openly recommend their dentist as having treated their case satisfactorily, and produce from their mouths, as ocular proofs, the piece of artificial mechanism which has so perfectly and indetectably fitted them, and given them such comfort, and restored the original character of the face, then there would be little opportunity for that charlatanism which at present exists in our profession to a greater extent than in any other.

CONSTRUCTING AND FIXING.

It is scarcely possible to give a description of the innumerable methods of making and fixing artificial teeth, it being quite obvious that no one method can be adopted, where the cases differ in such an extraordinary degree that no dentist, however extensive his practice, has ever met with two cases quite alike.

A set or part of a set of teeth, which succeeds to perfection in the mouth of one person, would be a complete failure in that of another, if made on the same principle. It is, therefore, one of the nicest points in the art of dentistry to see at once the method which will prove successful, without being under the necessity of making experiments painful and annoying to the patient. Whatever may be the peculiarity of the case, though in point of construction there may be much difference of opinion, there cannot and ought not to be the least question as to the substitution of any other metal for gold. Gold is the only metal that is clean, tasteless, and anti-galvanic in the mouth. It wears better than any other; and the work into which it enters is of a more lasting and durable kind than any substitute.

Platina has been used; but it is quite inferior to gold in the estimation of the dentist, and of the public. Its colour is

objectionable, and other qualities it possesses render it decidedly inferior to gold iu every instance where a metal has to be employed.

The fixing of teeth is brought to very great perfection; and wires and ligatures are now dispensed with. The accuracy of modern work produces a kind of capillary adhesion, which causes the plate to maintain its position; and thus an ease and a security of action are obtained which place the wearer of artificial teeth nearly in as favourable a position as those who have no dental deficiency.

I have succeeded in inventing other methods of fastening, which are invisible, will not injure the adjoining teeth, and prevent the unpleasant sensation of looseness or insecurity. Indeed, so securely and easily are they placed, that no action of the mouth or of the food can disturb them, or prevent mastication from being carried on comfortably and effectually.

An important discovery has been made in the mechanical department of dental surgery, to which I feel anxious to direct attention. A new material composed of Gutta Percha and India rubber, in certain proportions, or vulcanized India rubber, is capable of being employed as a base for the supplying artificial teeth; it possesses many valuable qualities, as lightness, durability, and exactitude of coaptation to the form of the mouth, and seems likely in most cases, quite to supersede the use of bone, and even in some instances of gold itself. Every practical dentist knows how anxiously such a material has been looked for, and how completely the present discovery fills up a need that has long been felt. Judging from my own experience this material far surpasses my most sanguine anticipations. Difficult cases are frequently arising in which gold is too heavy, and in which patients complain that the materials formerly em-

ployed quickly wear out, or become discoloured, or unpleasant in the mouth. In all such cases this new material answers admirably. The author has himself used it in his own case, and can bear personal testimony to the comfort and convenience experienced in wearing it. He has several pieces worked up which he will have much pleasure in showing to members of the profession, or any who may wish to inspect them.

In constructing artificial teeth, great attention must be paid to taking the model. Many dentists have used compositions of a harder nature than wax; but they have all been obliged to return to pure wax. Even that which is blanched is not so good as the common yellow.

I always employ the finest yellow, and not (as has been recommended) too old. I find the impression it takes imparts to those models which are afterwards taken from it in plaster of Paris, a perfect and

accurate impression of the palate, teeth, and gums. This part of the process ought to be painless; but the patient should be particular in giving every facility to the operator to ensure an accurate impression. If the patient is made clearly to understand that the accuracy of the fit and the perfection of the work depend in a great measure upon the care and exactness with which the wax model is taken, and that failure is often the result of a hurried method of conducting this preliminary process, I have usually found that the temporary inconvenience of taking a careful model has been willingly submitted to.

CHEEKS OR FALSE GUMS.

Where there is absorption or loss of substance, a great alteration takes place in the countenance. Absorption occurs more or less in all cases where many of

the double teeth have been removed; hence some persons have objected to the extraction of teeth, and proposed removing the crowns and leaving the fangs, so as to prevent loss of substance.

In supplying artificial teeth, by a judicious arrangement of the material so as to compensate such losses by introducing an artificial cheek or gum where the deficiency is considerable, the perfect restoration of the features to their natural symmetry can be accomplished. By attention to the above, any degree of fulness of the lips or cheeks can be obtained, and the substitute will not be detected.

PIVOTTING OR ENGRAFTING.

This operation for the front upper teeth, the fangs being sound and straight, has been adopted and practised for many years; and is a very ready and beautiful mode of fixing a tooth in the front circle. It would be more generally done, if it

did not often cause great suffering and inflammation, arising from the nerve in the fang having to be destroyed. The enlarging of the natural hole, to admit the pin, is a disagreeable operation. The process of pivotting consists in fixing a gold pin to the crown of an artificial tooth and securing it by passing the pin into the natural hole of the sound remaining fang, which has been drilled and prepared to receive it.

UNCHANGEABLE, INCORRODIBLE, MINERAL TEETH.

Teeth under these different names are all of the same composition, and they have been brought of late years to great beauty and perfection. They not only answer the purposes of natural teeth, but are more durable, and remarkably clean; and they keep their colour and freshness. There are very few dentists who thoroughly know how to work these

teeth. In mounting them there is a process of what is called "letting down" that requires a nicety which the hardness of their structure renders with some practitioners a difficulty quite insurmountable; and many have made attempts to acquire our particular manner of working them. I have been offered many inducements to communicate this art; but it having been my own discovery, I have hitherto been reluctant to part with it. Those who are not able to use these teeth, on account of the difficulty of working them, continue to employ the old-fashioned naturals, and hippopotamus or sea-horse bone. The limited number of artists who understand fixing mineral teeth, the extreme care required, and the expensive nature of the material, all contribute to render the original cost of a set of teeth of this description rather high, but ultimately they are the most economical on account of their great durability. Bone

when mounted on gold becomes offensive, decays, and changes colour, and should not on any pretence be employed.

PALATES.

In making and adapting an artificial palate, two important circumstances must be attended to; first, the complete fit of the machinery, so as not to permit air, liquid food, or indeed any liquid to pass through; and secondly, so to construct it, that nothing is brought in or used, around which food could accumulate so as to become offensive, and thus not only taint the breath, but cause irritation to the wearer. The restoring of the voice also depends on the closeness and ease of the fit. Deficiency in the palate differs in persons so afflicted. Young persons being generally more impatient, in the first instance, of anything foreign being present in the mouth, I require them to sleep with the artificial palate for a

few nights; and then, in a very short time, they become accustomed to it, and can neither talk nor eat pleasantly without it.

It has been for years most gratifying to me to have been generally successful in the treatment, manufacture, and fitting of artificial teeth; and in a number of cases wherein others have failed, I have been fortunate enough to give the greatest satisfaction. It is still my practice to undertake any case where others have been unsuccessful, whether simple or complicated, and to make the payment contingent on success.

Strict *personal* attention to my patients has given me many opportunities for carefully investigating the niceties and minutiæ of the case, upon which success so often depends. I have always found it impossible to enter into the merits of a cas-

from the representation of another party; for description fails to convey an accurate knowledge of the particular place where some error has been committed; so that any attempt at alteration, correction, or improvement, would most probably fail.

I had intended here to have inserted letters from many patients whose cases I have treated successfully, even after all hope had been lost of wearing artificial teeth. Many have come voluntarily forward as referees; but I have determined on not making such cases generally public, and shall merely furnish names to such as may require ocular proof of the perfect ease and use in mastication of my artificial teeth. At the same time I wish it to be understood that none of my patients need be under the apprehension of names being mentioned, unless permission shall have been previously offered.

I have never considered artificial teeth

as mere objects of ornament or show. The filling up the deficiencies of the mouth only for the sake of appearance is falling very short of the benefit to be derived from them. Hence I always construct mine for the purposes of mastication, being sensible how much digestion is promoted by the food being thoroughly prepared in the mouth: to effect a union of these objects—mastication, articulation, and ornament—should be the aim of all who have anything to do with the mechanism of teeth, and the attainment of these three objects will be a very fair proof that the dentist employed is clever in the business he professes. Persons who have been quite incapable of enjoying or digesting their food for several years, whose health had seriously suffered, and who had in vain sought medical aid, have perfectly recovered their strength, as their power of mastication has been restored.

Thousands there are at the present

time wearing artificial teeth without any comfort to themselves; and there are many more who have ordered them, had them, paid a high price, worn them in misery, and tried every possible means to render them useful, and have at length in despair thrown them aside. There are many others who would wear artificial teeth, could they be convinced that *a certainty* of success could be insured to them. The prejudice which exists among a large portion of the world against artificial teeth renders it imperative on all successful practitioners to endeavour to re-establish confidence in the minds of the public, and to show them that it is not only possible to supply the loss of teeth with every advantage, but nearly equal to those which Nature herself supplies; and payment should not be required until a perfect result is obtained, both as regards ornament and utility.

With regard to patent unchangeable

teeth, I employ a very great variety of *shades*, so that there is every facility in matching a patient's own natural teeth; and they admit of being fixed on my new principle of correct adaptation to the parts in such a mode as to render fastenings of platina or silver wire, or dentist's silk ligatures, quite unnecessary: they can also be displaced and replaced with facility, their firmness and security in the mouth not being affected by being taken out by the wearer for cleansing or otherwise. Every tooth and stump, when moderately firm, is taken advantage of and retained instead of being removed; by which means pain and uneasiness are avoided.

These superior and newly invented teeth are highly esteemed abroad, as well as in this country, and many of the faculty have expressed their approval of them for the purposes of mastication and articulation, and have acknowledged their superiority to those previously used.

It may be expected that I shall make some observatious on the charges of dentistry; but there are so many adventitious circumstances which always affect the charges, that it is a matter of impossibility to make any rule applicable to every case. To do so would be to suppose there was no variety of diseases or deficiences in dentistry. The worth of an article must be regulated less by its intrinsic value than by its perfect adaptation to the purposes for which it is constructed. Nevertheless, although by examining a case a charge may be estimated before entering upon the trial of a piece of mechanism, yet, as I have remarked, one case being so totally different from another, it would be absurd to attempt to give any sort of a fixed fee, such as can be adopted, and as is done with articles of merchandise; for here, as in a watch, it is the construction and artistical perfection to which the mechanism is brought, more than the real nature

of the materials of any of its parts, that constitute its merit.

Occasionally the state of the mouth may render it necessary to construct an inexpensive case to last out a few doubtful or loose teeth; in such I generally use gutta percha or some cheap material to fix the artificial teeth.

I cannot conclude without making a few passing remarks upon those dentists who profess to work cheaply. Such an announcement suggests suspicion. No well-qualified dentist will employ such means for obtaining public patronage. Confident in his own skill, and in his power of coping with difficult cases, he will gradually secure the patronage of the public and the medical profession, and will obtain such fair remuneration as his success and his power of relieving and removing suffering and deformity justly entitle him to.

THE END.

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DENTIST IN ORDINARY
TO LOUIS PHILIPPE
& THE ROYAL FAMILY