Treatise on the enlarged tonsil and enlongated uvula. In connexion with defects of voice, speech, and hearing, difficult deglutition, susceptibilty to sore throat, impeded respiration, disturbed sleep, throat-cough, nasal obstruction, and the imperfect development of health and strength in youth / [James Yearsley].

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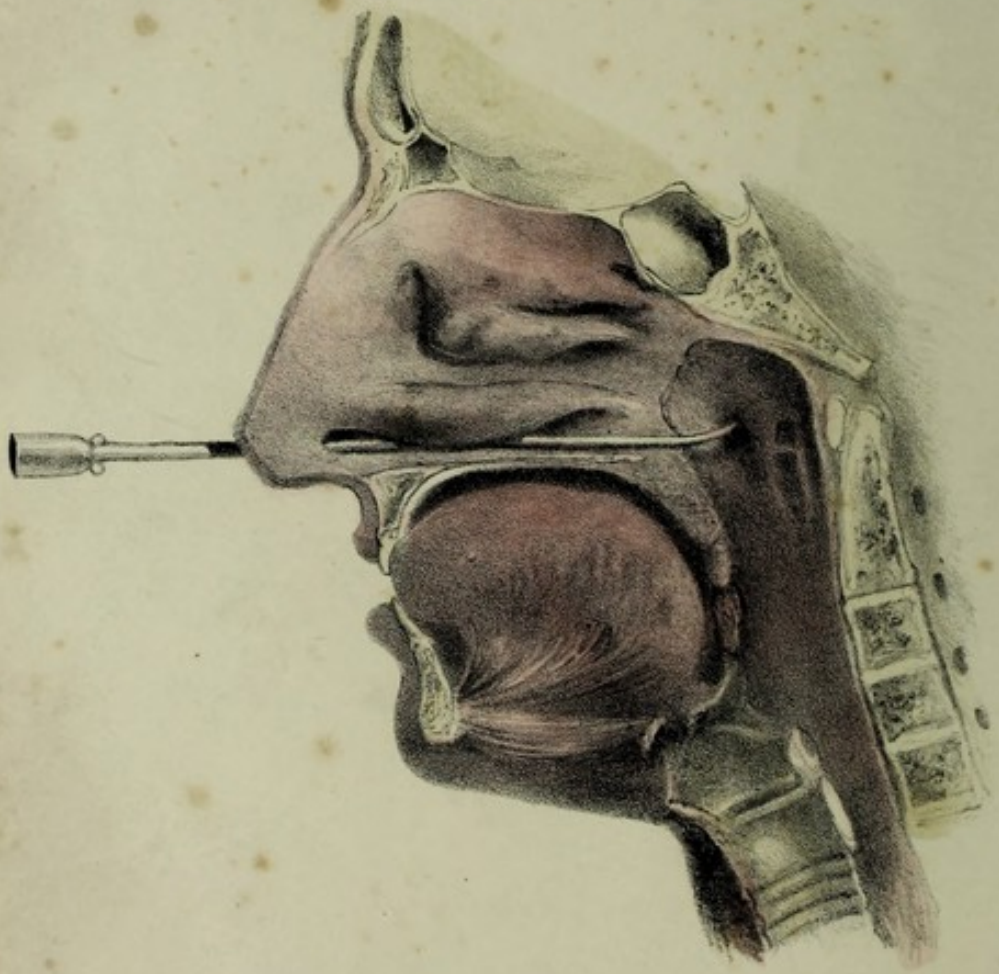

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A

TREATISE

ON THE

ENLARGED TONSIL AND ELONGATED UVULA,

IN CONNEXION WITH

DEFECTS OF VOICE, SPEECH, AND HEARING, DIFFICULT DEGLUTITION, SUSCEPTIBILITY TO SORE THROAT, IMPEDED RESPIRATION, DISTURBED SLEEP, THROAT-COUGH, NASAL OBSTRUCTION, AND THE IMPERFECT DEVELOPMENT OF HEALTH AND STRENGTH IN YOUTH.

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PREFACE.

THE following pages have been written under the impression that the attention of the profession has never been sufficiently directed to the subject of morbid conditions of the throat, as mainly contributing to many of the evils of life, as well as interfering with the development of health and strength, and even retarding the growth of young persons, to a degree scarcely credible.

The chief points insisted on in the book are:

1. The extreme prevalence of tonsillary enlargements and other morbid conditions of the throat in this country.

2. The variety of evils these morbid conditions produce, and the important functions they embarrass or seriously injure.

3. The facility, safety, and almost painlessness with which enlarged tonsils may be removed, a subject upon which much doubt and difference of opinion have prevailed.

4. The different directions taken by enlarged tonsils and the regular dependance of certain forms of disorder in relation thereto.

5. The impunity with which the uvula may be removed; its loss entailing neither present nor future inconvenience.

The imperfect manner in which the subject is treated may require some apology. The best I can offer is the pressing nature of my professional engagements, which leaves little time for more than a plain unvarnished statement of facts. To the practitioner who seeks only for information this will be sufficient; to him who looks for more such apology is tendered by

THE AUTHOR.

15, *Saville Row, August* 1842.

CHAPTER I.

ANATOMY AND PHYSIOLOGY OF THE TONSILS, UVULA, AND SOFT PALATE.

On looking into the mouth we observe, at its posterior part, the contraction which, under the name of the *isthmus faucium*, constitutes the line of division between the oral cavity and the bag of the pharynx and posterior nares. It is formed, above by the uvula and edge of the soft palate; below by the base of the tongue; and laterally by the two arches of the palate, each of which arises from the base of the uvula, and passes downwards and outwards, the anterior diverging from the posterior in the descent, so that when they are seen at the side of the fauces on a level with the dorsum of the tongue, they are about three-fourths of an inch asunder. Below this point, they proceed, one to be inserted into the side of the tongue, the other into the pharynx, at about its middle. In the sulcus formed by the divergence of the anterior and posterior arches, is situated the tonsil, which, when the parts are in a state of rest, is scarcely to be seen, the substance of the gland being hidden by the anterior arch; but when this is not too strongly developed, the convex surface of the gland sometimes becomes visible.

The *Tonsils*, or, as they are not unusually called, the *Amygdalæ*, from their resemblance to the almond in shape and size, are glandular bodies secreting a mucous fluid from a considerable number of openings on their external surface, which is pressed out in great abundance upon the morsel, on its passage through the *isthmus faucium* into the throat. This process is effected by the joint action of the various muscles, more especially by the palato-glossus and palato-pharyngeus, which form the arches between which the tonsils are situated. The openings upon the surface of the tonsil are sometimes so large as to give it a cellular appearance; occasionally, also, it presents a lobulated or tuberculated exterior, especially when enlarged by disease.

The *Uvula* is the conically-shaped body which hangs from the centre of the loose edge of the palate into the pharynx. At its origin, it is broad and rather flattened, becoming rounded in its descent, until it terminates in an obtuse point. It varies considerably in length; sometimes it may be seen, to all appearance, inconveniently long, and sometimes so little developed as to leave it doubtful whether an uvula exists. In its natural state, it is said to point to the foramen cœcum of the tongue; but this is giving it credit for an independent muscular development, which it does not in reality possess. The uvula must be considered as little more than a prolongation of the mucous membrane which lines the whole of the throat, mouth, nose, &c.

It is only found in man and the monkey tribe. In other animals, the loose edge of the palate, instead of being formed into arches by this central appendage, is found almost straight.

The *Soft Palate, velum pendulum palati*, or *palatum molle*, is described as a moveable and fleshy curtain, extending from the back of the palatine arch into the pharynx, of a nearly quadrangular figure, with an anterior and posterior surface, and four margins: one superior, one inferior, and two lateral; the anterior surface concave, presenting downwards and forwards, and studded with numerous mucous ducts; the posterior surface, directed upwards and backwards, and elevated at its sides. At the lateral margins of the soft palate commence the muscular folds, which constitute the palato-glossus and palato-pharyngeus muscles. The superior margin is attached to the posterior edge of the ossa palati, and the inferior hangs loosely into the pharynx formed into arches by the pendulous uvula which arises from its centre.

The arches, velum palati, and uvula, are chiefly composed of muscular fibres, covered by mucous membrane, which is everywhere studded with follicles; the dorsum of the tongue also, at its posterior part, is furnished with numerous mucous glands, which give it the rough and tuberculated appearance it presents on looking into the mouth.

The muscles of the soft palate are—the levator palati, the circumflexu spalati, and azygos uvulæ. The palato-

glossus, passing down from the uvula to the side of the tongue, and constituting the *anterior arch*, assists above in forming the soft palate. In like manner the palato-pharyngeus, passing from the uvula to the side of the pharyx, also contributes above to form the soft palate. These two last-mentioned muscles embrace the tonsil between them in the irregular triangular space or sulcus, in the manner already mentioned. The pain in deglutition which is experienced by persons with inflamed tonsils, arises from the pressure of these glands by the palato-glossus and palato-pharyngeus muscles.

These various parts are supplied with blood from the following sources:—The soft palate and uvula, chiefly from the inferior palatine branch of the facial artery; the tonsils, from a twig of the facial, named the tonsillary branch; and from another arising from the pharyngeal branch of the ascending pharyngeal. The carotid artery is situated considerably behind the tonsil, and when the gland is drawn out by a tenaculum from its place between the arches, the artery will be more than an inch distant. The nutrient vessels of the tonsils and adjacent mucous membrane are all of them exceedingly minute; when cut they speedily contract, so that no hæmorrhage of consequence ever ensues on their division. The nervous ramusculi which supply the soft palate and the tonsils are, one of the small terminal branches of the glosso-pharyngeal nerve; a minute filament of the great palatine nerve, which passes through an osseous foramen in the

nasal plate of the palate bone and enters the tonsil; and lastly, the middle palatine nerve which penetrates the soft palate by the canal in front of the pterygoid hook, and is distributed to the soft palate and the amygdalæ. The various filaments thus derived form an interlacement around the tonsil, termed the *plexus tonsillaris;* their ultimate distribution is chiefly to the neighbouring mucous surfaces; so few fibres enter the tonsil itself that it possesses a very low degree of sensibility.

Use of the Tonsils.—There can be no doubt that the use of the tonsils is to facilitate deglutition, by the lubrication of the morsel of food with their abundant mucous secretion in its passage into the throat. The mucous follicles, or lacunæ of the tonsils, retain their secretion till the act of deglutition takes place; it is then squeezed out by the approximation of the arches on each side of the throat, and received by the morsel of food with which this action brings them in contact. This appears to be the only function of the tonsillary secretion; it possesses no other properties than those of ordinary mucus, and cannot, therefore, like the saliva, be supposed to have any share in the process of digestion. The food is still further lubricated in its passage into the pharynx by a supply of mucus from the numerous small glands with which the surrounding parts are studded, including the palate, the uvula, and the base of the tongue.

Use of the Soft Palate and Uvula.—During the act of deglutition, vomiting, or holding the breath, it has

been shown by Dzondi that, by the approximation of the posterior arches from side to side, the lower parts of the pharynx and the cavity of the mouth may be almost entirely cut off from the posterior nares. It is this action, and not the mere raising of the palate, which enables us to swallow without regurgitation into the nose, or to vomit without allowing the matter to escape by the nose, or to perform the act of breathing through the mouth alone, when we wish to defend the olfactory organ from unpleasant odours. When the palatine arches thus act, the uvula lies passive between them, and contributes, in some degree, to complete the division between the nares and pharynx. It cannot, however, be of any great importance in this particular, as this appendage is only present in man and the quadrumana.

In singing the uvula and palate are raised during the production of the higher notes; and it is a singular fact, that when the uvula is removed, and the soft palate in consequence permanently raised, the voice is rendered considerably higher; oftentimes two full notes in the musical scale are gained in this manner, without any deterioration of the lower notes. That the uvula is of no very great importance in the production of the voice or speech, is proved by the fact, that many cases are recorded in which it had been destroyed by disease, or where there had been congenital deficiency. In none of these cases, when the soft palate had been left intact, had anything

abnormal been observed in the voice. Neither does the loss of the uvula, as far as my experience goes, interfere in the least with deglutition; the contraction of the palatine arches, and guidance of the food into the pharynx, take place with as much precision as before.

This brief sketch of the anatomy and physiology of the tonsils, uvula, and soft palate, would be very incomplete without adverting more particularly to the important membrane by which these and all the surrounding parts are covered. Commencing at the mouth, at the junction of the skin with the red tissue of the lips, it passes inwards to line the mouth and enters into all the salivary glands, giving off delicate prolongations to the different nasal cavities, the cells and sinuses in the upper jaw, os frontis, and the other bones of the cranium and face, which are subservient to the senses of hearing and smell. In the pharynx it becomes continuous with the mucous lining of the Eustachian tubes, and through them enters the tympanum as its investing membrane, covering the small membranes which close the inner ear, and also the external membrane of the drum; finally, this part of the membrane spreads itself out on the surfaces of the mastoid cells, behind the organ of hearing. Passing downwards from the throat, its track admits of two important divisions: the one entering at the glottis, runs down the trachea and bronchial tubes, dividing and subdividing to an infinite extent, to

line those innumerable cells in which the vital properties of the air become imparted to the blood as it flows through the lungs; the other division, or the intestinal mucous membrane, continues down the gullet to the stomach, contributing greatly to the rugæ of that organ, and becomes the seat of the secretion of the gastric juice, the bile, pancreatic fluid, and of the multitude of minor glands with which the intestinal tube is everywhere studded; finally, it terminates at the anus, where it again becomes identified with common integument.

On considering the immense extent of this continuous mucous surface, its ramifications throughout cells, tubes, canals, reduplications, and convolutions in an almost infinite variety of arrangement and form, the medium of sympathy between one organ and another is readily understood, and becomes a valuable guide to us in the treatment of their diseases.

CHAPTER II.

ON THE ENLARGED TONSIL AND ELONGATED UVULA.

The variable climate and insular position of Great Britain render its inhabitants exceedingly liable to disorders of the respiratory passages and lungs. By consulting the tables of mortality, the fearful average of death from such diseases is made known to us. As might be expected from their prevalence, pulmonary affections have always received a large share of attention from medical practitioners; but the maladies of which I am about to treat have never been duly considered with that care and attention which the importance of the subject demands, either as to their effect upon the voice and hearing, or their influence in the production and development of pulmonary disease, as well as upon the general health.

The chief circumstances which act as predisposing causes of enlarged tonsils, and a morbid condition of the throat are—general debility, certain periods of life, and the lymphatic temperament or strumous diathesis.

Childhood and youth are the periods at which enlarged tonsils most commonly appear. Sometimes they arise in infants at the breast, and go on to pro-

duce symptoms of an alarming nature. Many such cases occur in which children are thought to suffer from affections of the chest, on account of the impediment to breathing. Even the medical attendant may be deceived in this respect.

From about five to ten years of age, embraces the range in which tonsillary disease is most frequent; it is also very prevalent from the latter time to twenty years of age, after which it rarely manifests itself. In adults, a general thickening of the mucous membrane of the throat, without any particular implication of the tonsils, is more frequently observed. During the decline of life, tonsillary disease rarely, if ever, occurs.

The connexion between enlarged tonsils and certain ages admits of easy explanation. It has been already shown that the tonsils belong to the secreting glandular system. In the earlier years of life, the secreting and absorbent glands are in the greatest state of activity, owing to the changes which are constantly occurring in the *materiél* of the body, to produce the rapid nutrition and increase of growth in childhood. On the other hand, in old age, the balance is in favour of absorption, because nutrition and secretion are carried on more slowly than in youth, not that absorption by the glands and lymphatics is more active than in early life.

This relative increase of absorbent power, accounts, however, for the rarity of those glandular diseases in old age, which are so common in youth, and to which

class hypertrophy of the tonsils belongs. In youth it is probably the activity of the glands which predisposes to most of the diseases of that period.

The strumous diathesis is a most powerful predisposing cause of tonsillary disease. Here the natural tendency to this affection is greatly aggravated by another specific predisposition to glandular disease. Children of scrofulous habit, without any actual disorder, possessing a delicate complexion and fine texture of the skin, unusual softness of the limbs, veins of a deep blue colour, the upper lip tumid, and the whole external surface of the body more fragile than is compatible with health, have unfortunately within their constitutions the germs of numerous and distressing ailments ready to start into activity upon exposure to exciting causes even of a slight or transitory nature. I have elsewhere remarked that when the skin is of very delicate organization, the mucous membranes throughout the whole body partake of the sensibility possessed by the external cutaneous surface. This is shown by the tendency to ophthalmia and soreness of the eyelids, soreness of the lips and nose, ear-ache, and other ear disorders, all of which proceed from morbid susceptibility of the mucous membranes. With such a predisposition, we can readily understand how likely a cold or sore throat is to excite hypertrophy of the tonsils.

Lastly, debility in children must be considered as predisposing to these morbid growths of the tonsils.

From whatever cause it arises, whether congenital or produced by other diseases, it renders them, of course, more open to the impressions of the existing causes of disorders than can occur during the continuance of sound health.

Exciting Causes of the Disease.—The tonsillary glands, from their situation and exposure to various hurtful agencies, are of all the glands the most liable to become diseased.

Bearing an intimate connexion with the organs of deglutition, respiration, hearing, and the voice, they are necessarily exposed to all the influences which act prejudicially on these functions.

Cold in its various forms is the most frequent of all exciting causes of tonsillary disease. It may act in a gradual manner by producing chronic enlargement without any very striking symptom to mark its progress, or it may produce them more rapidly by one severe attack of catarrh, or by several milder attacks following each other in quick succession. Influenza is also another very common cause of a morbid state of the tonsils; here likewise there is commonly a marked degree of inflammation about the throat, which in a chronic form often continues long after the acute stages of the disease have passed away. It is surprising how large a number of adult patients refer tonsillary disease to the date of one of these periodic visitations.

Cold is also the usual cause of common inflammation of the tonsils (cynanche tonsillaris), which often pro-

ceeds to suppuration of the glands. It is rare for this affection to disappear altogether, the seeds of morbid enlargements of the glands being almost surely left behind, and their hypertrophy in its turn rendering the patient again liable to repeated attacks of acute inflammation; while each accession of disease increases the size of the tonsil to such an extent as sometimes to endanger life.

In young persons and adults it is very common to have acute inflammation of the tonsils ending in hypertrophy, brought on by walking or riding for any considerable time in the face of a cold strong wind.

The eruptive fevers are a prolific source of throat disease, especially affecting the tonsils. It is well-known that in scarlatina, measles, and small-pox, particularly in the two former, *sore throat* is one of the most prominent and characteristic symptoms. During their progress the tonsils are implicated, and unless great watchfulness is exercised in convalescence, against cold and other evils, there is always in delicate children great danger of these glands becoming permanently and distressingly enlarged.

When scrofula has actually made its appearance in the constitutions of children, and shows itself in glandular disease, particularly of the neck and face, it is extremely rare for the tonsils to remain entirely free from morbid enlargement.

A French writer (Colombat) states, that eating various indigestible substances, such as nuts, walnuts, &c. produce hypertrophy of the tonsils. This may be

regarded as problematical, but there is no doubt that *dyspepsia* is a great cause of the disease, as one of the most constant symptoms of indigestion, is an irritable, inflamed, or congested condition of the fauces, and pharynx. On looking into the throat the gullet appears red and vascular, there is a sensation of heat and dryness, and if this state continues long it seldom fails to become complicated with disease of the tonsils. It ought to be remarked that dyspepsia, to produce these effects, must exist either in youth or middle age, the throat being seldom affected from indigestion after the latter period.

Elongation of the Uvula.—Elongation of the uvula, from a morbid condition, which is usually denominated *relaxation*, is the most frequent form in which this appendage to the palate becomes affected. Few persons in our humid climate, pass through life without experiencing annoyance from this troublesome affection. In persons of delicate constitutions, it is readily induced by any source of debility, and is very often one of the first signs of deranged health. Long continued wet weather, or the prevalence of an easterly wind, will occasion this condition of the uvula. Persons liable to catarrh are very apt to suffer after the complaint has run its course from the same cause; and those only who have experienced it, can credit the irritation and annoyance which such a state of throat induces. Those who are subject to the affection, are sometimes able to judge and even foretell the weather

without any external signs. A change from dry to wet weather, or from the south to the east wind, will readily produce, where there is any predisposition, an irritable and relaxed condition of the uvula.

In those with marked predisposition to pulmonary consumption, the weakness of the respiratory organs is generally participated in by the throat; and it is not unreasonable to suppose that the fits of spasmodic cough, in cases of supposed incipient phthisis, are often mainly attributable to the condition of the throat and uvula of which we are treating.

The elongated uvula is frequently a sequela of the eruptive fevers and sore throat. Irritating fumes liberated in the process of many mechanical and chemical arts exert their first ill effects on the uvula and fauces. Bodies inhaled in a state of minute division with the breath also occasion much mischief to these parts: needle-pointers, stone-cutters, and many other mechanics, are exposed in this manner to injury. Two of the most marked instances of suffering from irritable and enlarged uvulas which have come under my notice, and in which the most striking relief was occasioned by treatment, were caused by the frequent inhalation of chemical fumes. One case was that of a workman in a brass foundery, where noxious gases were evolved in the preparation of the metal. The other occurred in a gentleman, a philosophical chemist, who passed a great deal of time in his laboratory.

Disease of the uvula is one of the most frequent ma-

ladies of the voice to which singers and public speakers are liable. Any sudden, violent, or long continued exercise of the voice is apt to occasion relaxation or enlargement. Sedentary habits and the habitual use of intoxicating liquors may also be enumerated among the causes of this affection.

Lastly, I would adduce *dyspepsia* as a frequent cause of uvular disease. The explanation offered, under the head of tonsillary enlargement, applies to the uvula with almost equal force. The throat passes from a state of sub-acute inflammation of the mucous membrane to general relaxation and thickening, in which the uvula participates. The degree of enlargement and elongation to which this body is liable varies very much. Cases are on record in which it could be made to protrude from the mouth. Instances have occurred in my own practice where it could readily be brought by a tenaculum so far forward as to touch the front teeth. The thickening, also, to which it is subject, may go on until it has increased to three or four times the natural size.

Nature of the Changes produced in the Tonsils and Uvula.—The chronic disease of the tonsils usually met with, cannot be strictly termed *hypertrophy*, which signifies an increased nutrition of the parts, inasmuch as the augmented size does not consist of the proper glandular substance, but of deposits of fibrin which are gradually thrown out during the inflammation or irritation to which they are subject, and in process of

time become organized. This organization takes place only to a limited extent, as they never possess much sensibility, when even of the largest size, unless acutely inflamed, and they receive so small a supply of blood in their enlarged state, that even when cut into little or no hemorrhage takes place.

The tumours ordinarily increase in a very gradual manner, and from their low degree of vitality would often escape notice but for the train of evils they usually excite. If felt by the finger they are generally hard and scabrous, but in many instances, even where they have existed a long time, the induration is altogether absent, and the diseased glands are so soft as to break down repeatedly, if attempted to be laid hold of by a pair of forceps. In others, the mucous cells on the surface of the tonsils are enlarged, and when such is the case, there is a copious secretion of viscid phlegm. More rarely they become filled with solid matter of a dirty white colour, which, from its calcareous appearance, I have thought similar to the deposit on the teeth, probably originating in the same way as the crusta petrosa, from the salivary and other secretions of the mouth.

In three or four instances, I have found calcareous deposits imbedded in the centre of the diseased growth. In the case of a young lady, the daughter of a surgeon at Woolwich, I found a calculus, closely resembling a piece of rock-coral in its arrangement.

Morbid affections of the uvula may consist of simple

elongation, hypertrophy, or infiltration with serous or fibrinous matter.

In elongation there is no increase of size, the uvula hangs down lower than usual, the muscles of the palate appearing to have lost their healthy contractile power, by which ordinarily the uvula is kept sufficiently high in the throat not to interfere with any of the functions of the neighbouring parts.

In its hypertrophied state the uvula is merely larger than usual, and unless it be greatly increased in volume no great evil would result from this circumstance; but an unusual degree of irritability is almost always superadded, so as to occasion violent irritation of the neighbouring parts from causes even of a slight nature.

Where the enlargement is produced by effusion of serous or fibrinous matter, the accumulation takes place in the submucous cellular tissue. Where the increase of size is from fluid, there is evidently an œdematous appearance and the uvula is softer than natural; where it is from deposition of fibrin it is on the contrary harder than the healthy uvula; a further distinction exists in its being pale in the one case, and generally of a deep red colour in the other.

CHAPTER III.

EFFECTS OF MORBID CONDITIONS OF THE THROAT ON THE VOICE AND SPEECH.

In treatises on defects of the vocal organs, sufficient distinction has not generally been made between the disorders of the voice and speech. Thus some of the best physiologists have looked to the organ of voice for the explanation of many of the maladies proper to the organs of articulation. The term *voice* applies properly to the sounds produced by the action of the air on the vocal chords in the larynx. These sounds vary in extent from the lowest musical note of the natural register to the highest of the falsetto, all of which are produced in the larynx; the different notes being formed by the altered states of tension in the chordæ vocales, the different shapes assumed by the rima glottidis, and the whole of the vocal chords being acted on, or only in certain parts. Thus the high and falsetto notes are given out when the chords are in a state of tension, and the graver ones when they are, comparatively, in a state of relaxation. These, with the variations of tone and timbre, are all the qualities of the voice properly considered by itself. In this sense many of the lower animals, from the deep growl

of the lion to the shrill note of the wren, possess the gift of voice; nay, they have more, in the power which many have of in some degree modifying the elementary sounds, so as to make them indicative of various passions, and in singing birds of modulating them to most melodious music.

Speech on the other hand is that power, possessed by man alone, of so combining and altering the primitive sounds, after they have issued from the larynx, as to form articulate language. Taken by themselves, the sounds of the larynx, even from the highest to the lowest note of the gamut, would go but a short way towards interpreting to his fellows the intellect, moral affections, and propensities of man. The sounds of the larynx may be considered the simple, and those of the organs of speech the compound, elements of language devised by the mind. Different classifications of articulate speech have been made by various physiologists; by far the most perfect is that which divides it into guttural, nasal, lingual, dental, labial, &c.

I may illustrate what I have here said by likening the instrument of the human voice to an organ, with which it most readily admits of comparison. The wind-chest may be considered in the place of the lungs; the notes the chords of the larynx possess, as the holes of the instrument; the throat, cavity of the mouth, and nasal tubes, being analogous to the pipes. But we cannot proceed further with the simile, if we con-

fine ourselves to the organ alone. The power of articulation possessed by the tongue, palate, lips, and other parts under the direction of the mind, are not comparable to any parts of the organ itself, but rather with the hand and intellect of the performer on the instrument.

I have thought these prefatory remarks necessary, because, even in the present day, many persons look for the cause of stammering, and other impediments of speech, to the larynx and glottis, while they are undoubtedly disorders of the power of articulation alone.

Aphonia, or loss of voice generally comes on after one of the severe catarrhal affections to which persons, with an unhealthy state of throat, are always liable, and most probably depends on irritation or relaxation of the vocal chords. Colombat asserts that it is occasionally produced by the irritation of an elongated uvula, and relates several cases of the kind, one particularly, in which he performed excision of the uvula for its relief. There appear some reasons for supposing that it may happen from paralysis of the muscles of the larynx, especially those which move the chords; as in ear diseases, the application of a strong stimulus to the throat effects a temporary restoration of the voice.

Dysphonia is a much more frequent concomitant of morbid states of the uvula and tonsils. According to the amount of disorder in these parts, it varies from severe hoarseness and painful utterance

to the slightest grades, in which there is only an increase of fatigue after protracted vocal exertion. In our own variable climate, the changes of temperature, and other noxious influences to which the throat is exposed, are in such constant operation, that I believe it very rare for a native to preserve his voice uninjured. I cannot believe that the inhabitants of the south of Europe have any more delicate organization of the vocal organs than we have; but think their superiority, most probably, is owing to the healthier condition of the throat and larynx, which a milder climate occasions. It is a curious fact, that even the birds of the favoured parts of Italy and southern Europe, sing much better than birds of the same kind in more northern countries.

Dysphonia is more common among persons engaged in public speaking than others. When any morbid state of the throat is once established, any severe exercise of the voice is pretty sure to occasion an aggravation of the complaint, so as to affect the voice. I have had opportunities of seeing, in cases of clergymen, several fine voices quite broken up by throat disorder. How usual is it to hear of clergymen being obliged to suspend their duties on account of weakness of the voice! Observation has convinced me, that in nine cases out of ten the tonsils or uvula are the cause of the malady. When the tonsils are enlarged, or the uvula in an irritable state, the voice, even when least affected, becomes weak if exercised for a

considerable length of time; the clear resonance of the natural voice is changed for a harsh and disagreeable tone. This deterioration is commonly known by the term *thick speech;* the voice cannot be understood at anything like the natural distance; either there is an unpleasant drawl, or the words are mumbled together in a confused manner; the variations and flexibility of the voice, which add so much to its expression and harmony, become altered to an unvarying monotony. These are some of the consequences of enlarged tonsils, when they project out from the palatine arches, or hang down towards the glottis. When the morbid growth extends upwards, and interferes with the motion of the soft palate, or encroaches on the cavities of the nose, the voice becomes *nasal;* the individual appears, in common parlance, to talk through the nose, a designation which is singularly inapt, inasmuch as this disagreeable mode of speaking depends on obstruction, and is really an inability of speaking through the nose, instead of that which is generally understood by the phrase.

When the tonsils become enlarged in children, about the time they first begin to talk, they excite a very baneful influence on the progress of speech. The child learns to talk very slowly, and generally in an imperfect manner; he is often quite unable to effect the combined movements necessary to pronounce certain letters, as *l* or *r;* the attempt to utter them being baulked, as it were, and other sounds produced in their

stead. In cases where the ability to speak properly existed before the appearance of enlarged tonsils, the voice and speech are invariably injured as the diseased growth increases, the tone of the voice becomes disagreeable, and from the difficulty of producing whole words perfectly, children slur them over, and leave out those sounds which are uttered with least ease, so as to give their talking a very imperfect and unintelligible character. Children thus affected experience the greatest hardship in learning the pronunciation of a foreign language. I have no doubt that many of the most glaring vices in speaking depend on these causes when they occur in early youth.

My opinions on the subject of stammering are well known. Since the first promulgation of my views on the subject, my sphere of observation has been very extensive; and I have seen nothing to invalidate, but much to confirm, the hypothesis I was led to advance, namely, that this impediment may be caused by physical obstruction in the throat. The cases which first prompted the idea, in which the cure of deafness by the removal of throat obstruction was followed by the relief of stammering, which accidentally co-existed with the deafness, were very remarkable. However, I have since met with cases where I removed enlargements from the throat with an especial view to the cure of stammering, and afterwards found that my operations had improved the hearing when the stammerers had been deaf, as well as effecting a beneficial

effect on the voice. The kind of evidence thus accidentally adduced, and much of an equally convincing kind, derived from the undoubted results of treatment, have seemed to me to offer no mean support, if not positive proof, of the opinion I have advanced of the occasional cause of stammering.

The effect of disease of the uvula and tonsils on the voice of singers is very marked: the chief evil to vocalists is, that its compass becomes contracted and its richness decreased. Where the uvula is implicated, these effects are produced to a still greater degree, and the voice is affected in various other ways. I have seen several instances, some of them in professional singers, in which one, two, or even three notes were lost in consequence of disease of the uvula. There could be no doubt as to the amount of the injury, because I made the change effected by treatment serve as the measure of the alteration from the normal state, and I found that many of my patients regained notes to the amount I have mentioned. In addition to the loss in compass and volume, an irritable or elongated uvula greatly diminishes the time during which a singer can use his voice with full effect. The same amount of vocal exercise which, in a state of health, would only prove agreeable and beneficial, will then weaken the voice so much as to require some time for its recovery, or even produce permanent deterioration. An irritative cough is generally cotemporary with the weakness of the voice; and I have known

singers cough for half an hour after any considerable exertion, so that they entertained serious thoughts of relinquishing their profession from the dread of pulmonary disease, when no other morbid symptoms existed besides irritation and relaxation of the uvula. During the persistance of this form of throat disease, any violent exercise of the voice is fraught with danger. There are many cases on record in which persons have, after singing which required great physical effort, been attacked with fatal inflammation of the throat, or they have fallen victims to disease of a more protracted kind originating under the same circumstances.

The fact that hypertrophy, or prolapsus of the uvula, may diminish the volume and compass of the voice, and that the removal of the diseased uvula confers some additional notes, is a discovery entirely originating from the operative treatment I have proposed. Physiologists had previously known that the velum pendulum palati and uvula are raised during the production of the higher notes; but it has never been suspected that the uvula or palate had any share in aiding the production of acute sounds. The chordæ vocales were looked upon as the sole cause of the variation. I do not offer any explanation of this singular phenomenon, but merely state the fact. The gain to the voice after the excision of the uvula, under these circumstances, is not, however, in the higher notes alone, but it increases also the richness of the lower notes of the voice, though in a much less striking degree.

CHAPTER IV.

EFFECTS OF MORBID CONDITIONS OF THE THROAT ON THE LUNGS AND RESPIRATION.

THERE are two distinct varieties of tonsillary enlargement which may interfere with the respiratory process. In the one, the morbid growth projects from between the palatine arches, so as almost to touch its fellow on the opposite side; in the other variety, the enlarged tonsil hangs down into the throat, the neck of the tumour being contracted, so as to give it a pyriform appearance.

Sometimes the size of the tonsils is so considerable, that these bodies, one on each side, the uvula and velum above, and the base of the tongue below, altogether so closely approximate as to leave but a very small aperture for the ingress and egress of the breath. From the contiguity of the tumours to the glottis, and their encroachment on the œsophagus, the swallowing also is impeded; but in our estimate of the amount of impediment, the size and diameter of the throat, as well as the bulk of the enlargement, must be taken into account, the calibre of the throat varying so much in different individuals, that the same actual degree of disease will often produce very different results.

In the common tonsillary enlargements of childhood the bulk of the tumours, and the thick viscid secretion which they exude, seriously interfere with respiration. The disease is often present during the first dentition, especially when this process is later than usual, and parents notice the hard breathing and rattling in the throat, but seldom refer it to the right source; on the contrary, the lungs are looked upon, and even treated, as the seat of the malady.

Should the diseased tonsils become inflamed, and, consequently, still further enlarged by an attack of catarrh, the patient is in imminent danger of suffocation.

It is certain that the mortality of scarlatina is increased, by those who fall victims to the disease having been, prior to the attack, the subjects of permanently enlarged tonsils.

When enlarged tonsils are present, swallowing a larger morsel of food than ordinary will occasion severe dyspnœa; and, strange as it may appear, a hearty laugh will sometimes cause the patient to become breathless and insensible for so long a time as to excite the utmost alarm for his recovery.

At all times the mouth remains open, from the difficulty of obtaining a sufficient supply of air through the nasal passages; and whilst asleep, in consequence of this disagreeable obstruction, the eyes are only partially closed, as in a patient suffering from asthma.

Sleep can only be procured in particular positions,

and then only at short intervals; if by chance the patient turns from the convenient position, he is suddenly seen to start up, frequently with a loud scream, wrestling, as it were, with the difficulty which oppresses him. Many cases have come under my observation, in which the parents were compelled to keep persons at the bedside of their children for months, and even years, from the dread of suffocation. In one case, upon whom I lately operated, the bedside of the patient was never left by the attendant for three years.

During sleep a low moaning is usually present, accompanied by snoring and stertorous breathing. We can very well account for the snoring, if we consider that the tonsils stretch out the pendulous palate, the vibrations of which, by the current of breath, produces this disagreeable noise.

When tonsillary enlargements have existed for any length of time in children, a marked distortion of the features takes place; the eyebrows and forehead become contracted, the eyes project, the nostrils are enlarged, and the alæ of the nose erected in a peculiar manner; the mouth also is generally half open, which gives a look of vacuity to the whole countenance.

The general effect produced on the expression is so striking, that in a large assembly of children I feel assured I should rarely err in pointing out those who labour under morbid growths in the throat.

Children with this affection are extremely liable to colds, and to inflammatory disease of the lining mem-

brane of the lungs. I believe they are also more disposed to croup than other children; and further, that the influence on the lungs is so prejudicial, by the retardation of the development of these important organs, and by predisposing them to inflammatory disease, that the constitution becomes permanently injured. It is well known that no one vital stimulus, not even food, is so necessary to the establishment of health and strength as a free supply of air to the pulmonary organs. From this fact we are chiefly to explain the great deterioration to the health which impediments to the full play of the lungs occasion, and the marked constitutional improvement which follows their removal. The rapidity with which the pale, sickly appearance of children gives place to the signs of health and strength after the successful treatment of enlarged tonsils, is truly remarkable. The frame becomes robust, and the general growth proceeds with surprising rapidity. In many cases, I have limited my treatment to the simple removal of the tonsils by the knife, in order to establish this important fact.

In youth and middle age, the morbid affections of the throat are somewhat different in their nature from those of childhood, and of course are attended by other symptoms. At these periods of life the tonsils are often enlarged, though not so frequently nor to such an extent as in childhood; the uvula, also, is infinitely more prone to elongation, or to hypertrophy; an irrit-

able condition of the throat is very common, so as to cause great predisposition to catarrh and bronchial affections. There is naturally a great tendency to inflammatory diseases at this the most active and vigorous time of life; and where there are enlarged tonsils, persons rarely pass through a winter without an attack of quinsy, with inflammation of the trachea, which are dangerous diseases at any time, but much more so when the throat is previously in a morbid state: this is particularly the case in scarlatina and measles. We can easily understand the increased risk which children incur who have the tonsils enlarged previously to their becoming the subjects of these eruptive fevers. The observation applies not only to the exanthemata, but to others of the disorders of childhood, especially hooping-cough, and during the period of second dentition.

In constitutions predisposed to pulmonary disease, enlargement or elongation of the uvula is frequently the exciting cause of chronic disease of the larynx, the bronchial membrane, or even the lungs themselves. The attendant throat cough is of a peculiar character; it is quick, and the sound more acute than that produced in coughing of a pulmonary origin. The expectoration, if any be present, is nothing more than a glairy fluid composed of the ordinary mucus and saliva. The cough is aggravated by all debilitating influences, damp or wet weather, dyspepsia or mental disquietude. At night it is more distressing

than in the day-time, particularly if the patient attempts to lie on the back. Patients may have their rest disturbed for months from a cough of this kind, continuing in spite of the most judicious constitutional treatment, until the strength becomes greatly reduced.

It is the opinion of the best authorities on the subject, that frequent coughing deranges the circulation of the blood through the lungs, producing congestion, thus disposing them to organic disease. Colombat relates an interesting case of laryngeal phthisis occasioned by disease of the uvula. I have no doubt that many persons who are said to be in the incipient stage of consumption, are the subjects only of irritable uvula and diseased tonsils. General emaciation, distressing cough, a cough which by its reiterated attacks inevitably produces pains in the sides, by tiring the intercostal muscles, sleeplessness, and even night perspirations, which are the most prominent symptoms of consumption, may be caused entirely by morbid states of the uvula and tonsils. The facts of a case are before me, in which the patient had been treated for phthisis until he came under the care of Dr. James Johnson, who immediately detected the derangement of health to arise from an irritability and enlargement of the uvula. Very energetic means were unsuccessfully resorted to. Tonics, especially a course of the nitrate of silver, painting the throat with a solution of the same substance, and the use of every description of gargle, all failed to relieve the cough and debility, till at length he was advised to try the effects

of change of climate by a voyage to the West Indies. After remaining there a season, he returned home quite well; though, upon any sudden atmospheric changes, or when affected by cold, he still feels a slight return of his former troublesome cough.

I believe that if physicians, in cases of suspected incipient phthisis, besides the inquiry into the constitutional symptoms and the exploration of the chest by the stethoscope, were to make it a rule to inspect carefully the state of the throat, an easy solution would be afforded to some of the most puzzling cases of apparent chest disorder.

CHAPTER V.

EFFECTS OF MORBID CONDITIONS OF THE THROAT ON DEGLUTITION.

To interfere with deglutition, the direction of the morbid tonsil must be either inwards towards the median line, or downwards into the pharynx. The presence of one enlarged tonsil is sufficient to produce such an effect, but when both are enlarged, the area of the throat may be so much encroached upon, as to render the act of swallowing one of extreme difficulty. Besides the physical obstruction, the healthy action of the surrounding parts is interfered with, and the muscular motions of the throat cannot be properly performed when such morbid enlargements exist. The passage of food from the mouth to the œsophagus being baulked, the patient is often obliged to return the morsel of food from the fauces to the mouth, to be re-masticated before it can be made to pass into the pharynx. When children are observed to be much longer at their meals than is usual such a condition of throat may be suspected.

In some cases partial paralysis of the muscles of deglutition takes place. One case is recorded, in which the paralytic affection was so marked, that the subject

of it could not swallow until he had allowed a tea-spoonful of brandy to pass slowly over the throat, the stimulus of which gave a temporary power to the affected muscles.

Much mischief results to the digestive organs from swallowing the vitiated secretions poured out in considerable quantity from the enlarged lacunæ of the tonsils when diseased; the cells in these glands become filled with secreted matter almost similar to pus, which in the act of swallowing inevitably mixes with the food, and thus injures the digestion.

The lining membrane of the throat is sometimes in so irritable and congested a state as to bleed upon every slight occasion. One case of this kind has made a deep impression on my mind, from the mistake to which such a condition of throat gave rise. A patient became seriously alarmed upon observing that several mornings in succession he spat blood. Having had some relations previously die of phthisis, he consulted a physician, who found him in a state of great excitement from an apprehension of his impending fate. On auscultating the chest, there appeared to be signs of pneumonia, which were treated by the usual antiphlogistic remedies, without producing any effect on the supposed hœmoptysis. After prolonged treatment, including a severe salivation, the sputa was no longer tinged with blood; but before convalescence became established, this symptom re-appeared, being as before chiefly confined to the morning. The attention of the

physician now became directed to the throat, in which were found enlarged tonsils, and the vessels of the mucous membrane appeared tortuous and distended almost to bursting, in fact closely resembling what has been called *hæmorrhoids of the throat.* It was now ascertained that the blood generally appeared after breakfast; and on close examination it was plainly seen that the blood exuded from the enlarged pharyngeal veins, the very spot whence it escaped could sometimes be defined, and the coagulum formed on the bleeding vessel seen for some hours after the bleeding had ceased. When the nature of the case become thus evident, tonics and astringent applications soon suppressed the hœmorrhage and removed the condition which had given rise to it.

CHAPTER VI.

EFFECTS OF MORBID CONDITIONS OF THE THROAT ON THE ORGAN OF HEARING.

An analysis of the modes in which the enlarged tonsil interferes with the sense of hearing, offers a new and as yet an untrodden field for the student of aural disease. By modern writers the most obvious connexion between deafness and diseased tonsils, that in which the enlargement presses on the guttural extremity of the Eustachian tube, has been overlooked. Kramer entirely denies the existence of deafness from this cause, and Itard scarcely refers to the subject; though it was held to be of much importance by many earlier writers. Among others, Wathen mentions it as one of the sources of deafness most certain to be removed by chirugical assistance, and Valsalva relates a case of ulcerated tonsil, in which the presence of a tent blocked up the Eustachian tube and occasioned deafness, showing most satisfactorily what Kramer seems to deny, that these passages may be obstructed at their guttural extremities. By some it has been denied that the tonsil glands can ever obstruct the tube, on the ground that when the tonsils are enlarged to any extent, they become pendulous, and are removed

by their weight from the natural position. This is by no means true if assumed as the general rule, or indeed in any sense but as a rare exception. I have pointed out that when it does occur, the functions interfered with are those of deglutition and respiration. In the most frequent kind of enlarged tonsils, where the glands maintain their original position, or at least extend equally in every direction, the Eustachian tubes are generally compressed. There is another variety of enlargement which I am not aware has ever before been noticed; it is where the diseased growth is confined to the upper margin of the tonsil, and which, from being hidden behind the veil of the palate and the anterior palatine arch, is quite out of sight when the throat is merely examined by the eye. In numerous cases I have verified this interesting observation, and effected cures by the indications of treatment which the knowledge of it afforded. We never can be certain that the tonsils have no share in producing deafness until these bodies have been examined carefully with the finger. In some instances where nothing morbid was visible in the throat, the upper part of the tonsils has been of such magnitude as to produce in addition to deafness nasal speech from encroaching on the posterior nares. These novel views have afforded me the most gratifying results, and I feel assured they will exert considerable influence on the future treatment of deafness.

Whether the Eustachian tube is lessened by the

general bulk of the morbid growth, or only by the pressure exerted by enlargement of that part of the gland nearest to the guttural opening, the effect is the same, and is easily explained by a reference to the physiology of the ear. The exclusion of atmospheric air from the cavity of the tympanum is universally allowed to cause deafness. This has been accounted for in various ways: by some it was thought that sounds reached the ear through the Eustachian tube more easily than by the external meatus, and the fact that some deaf persons open their mouths when attempting to hear was considered a confirmation of this hypothesis; but it is found that a watch or any other sound becomes more indistinct when applied to the vicinity of the tube than when held before the mouth or the auricle. Other physiologists believed the freedom of the Eustachian tube necessary to admit of the motion of the air of the tympanum, when it vibrated under the influence of the membrane of the drum. But the laws of acoustics do not admit of the motion of the contained air under the influence of sonorous undulations. The idea of Itard, that the tube performed a similar office for the ear which the hole in the drum-head does for that instrument, is equally incorrect. The hole is of use, not in assisting the vibrations of the air of the drum, but as a channel by which the sonorous undulations can reach the ear. Without the hole, the sonorous vibrations and the resonance of sound in the closed cavity would be equally intense, but there

would be no means of conducting the sound to the external air and the ear but by the solid walls of the drum; and sounds excited in the air by membranes as the drum head, are only transmitted with difficulty and loss of power to solids such as the drum case. The true explanation of the loss of hearing by closure of the tube, seems to be that the vacuum caused by the loss of air in the tympanum, places the membrane of the tympanum under the influence of the atmospheric pressure. We can easily imagine how this weight of 15lbs. to the square inch must affect such a delicate membrane as the drum of the ear. The membrane of the tympanum, when the cavity is a vacuum, bears an actual pressure of more than 7lbs. as it is more than half an inch square; it becomes preternaturally tense, and its vibrations, on the impulsion of sound, greatly impeded. Unfortunately there is no vis conservatrix to defend the membrane from this condition, as the small muscles and bones of the ear act as pulleys and levers, to make the membrane tense when liable to injuries from loud sounds; and there is no adaptation of an opposite nature but the free egress and ingress of air to the cavitas tympani.

Besides the closure of the Eustachian tubes by the actual pressure of enlarged tonsils, there are other modes in which these glands deteriorate the organ of hearing. They act as a constant source of irritation in the throat, and render persons liable to repeated colds which affect the whole mucous lining of the pharynx,

nasal passages, Eustachian tubes, and tympanal cavities. There is always danger of these catarrhal affections exciting deafness, even when the original enlargement of the tonsils does not prove of itself a cause of loss of hearing. Sometimes when a small amount of tonsillary disease exists, it will occasion thickening of the contiguous mucous membrane of the Eustachian tube, or the engorgement and thickening will extend to the tympanal cavity, causing in either case deafness of a very intractable character. When there is hypertrophy of the tonsil glands, or disease of the uvula, a morbid secretion of the mucous membrane is kept up in the Eustachian tubes, and within the tympanum. This lodgment of mucus, which always tends to become inspissated, is as certain a cause of deafness as occlusion of the tube by thickening of its membrane, but it is not near so difficult of removal, and is occasionally got rid of by a sudden pop, caused by laughing, sneezing, coughing, vomiting, or some other sudden respiratory action.

I have observed some instances in which *otorrhœa* could be traced distinctly to enlargement of the tonsils; they were cases in which the disordered condition of the throat had given rise to irritation within the tympanum, which had taken on inflammatory symptoms, and ended in suppuration, the matter discharging itself through the ruptured membrane of the drum. Another very troublesome complication of ear disease, *tinnitus*, often occurs as the sequel of irritation in the

throat and hypertrophy of these glands. Tinnitus rarely exists without a marked degree of deafness; but it does sometimes happen when the tonsils are not of sufficient magnitude to occasion deafness, though loss of hearing generally follows, when this distressing symptom has once established itself.

CHAPTER VII.

TREATMENT—MEDICAL, TOPICAL, AND OPERATIVE.

Medical treatment and dietetic restrictions are of paramount importance in the management of enlarged tonsils, especially when they occur in childhood or youth. It must be borne in mind that a large number of those who suffer from them are of the strumous diathesis: and even where this is not the case, there are commonly signs of general debility and impaired health, the state of the throat being indicative of derangement of the whole intestinal mucous membrane.

When, therefore, children are brought with pale, phlegmatic countenances, a soft, flaccid state of the body, and other evidences of a feeble, cachectic habit, combined with tonsillary enlargements, it is proper, before adopting any local treatment, to endeavour to recruit the general health: with this view a rhubarb aperient should be administered once or twice a week. Rhubarb is unquestionably the most suitable medicine which can be used under such circumstances, because, at the same time that it unloads the bowels, its tonic effects invigorate their weakened muscular fibres.

The prevalent practice of dosing young and delicate children with *calomel*, I hold to be most injudicious. This medicine positively is sufficient to cause the condition of throat in which enlarged tonsils appear, and its administration often increases the size of these morbid growths in cases where they already exist.

When debility is present, a powder composed of calumba, sesquicarbonate of soda, and rhubarb, in equal parts, is the best tonic combination that can be given; it corrects the vitiated secretion of the stomach and alimentary canal, and, as a natural consequence, increases the powers of digestion. In cases where the tonsillary enlargements appear to proceed from general debility alone, this medicine, taken for a considerable time, or left off at intervals and then resumed, will, in many cases, suffice to restore the health, and occasion the dispersion of the morbid growths in the throat.

Where the debility is united with signs of strumous disease, particularly when there is any external glandular enlargement of the neck or other part of the body, the tonic powder should be followed up by a course of iodine, or the hydriodate of potash, administered in small doses. I have already explained my view of the mode of action of this valuable medicine in affections of the throat.* At first it excites an increased secretion from the mucous membrane of the throat and nose; but after these primary effects have passed off, it will often

* Vide Medical Gazette, vol. i., page 587—Session 1841.

restore the throat to a healthy condition even when enlarged tonsils have been present for a long time. The remedy should be administered twice or thrice a day, in doses of one or two grains, largely diluted in water. Occasionally great benefit accrues from alternating the use of the tonic powder and the hydriodate, giving each about a fortnight at a time.

In combination with these means, a diet calculated to give vigour and support to the constitution is required. Children who suffer from chronic enlargements, and are of pale, lax habit, should have a rather abundant supply of animal nourishment. Bulky vegetable food, and pastry, containing nutritive matter of a poor quality, should only be given sparingly, or, perhaps, better altogether omitted. When there are no signs of inflammation about the throat, a little ale or porter may be taken once a day, after dinner.

Clothing is another most important item in the management of children thus affected. They should be warmly clad in the daytime, especially about the neck and extremities, and should sleep warm at night. Exposure to night-air, to damp, or to windy weather, should be avoided as much as possible, as any one of these agencies, by producing catarrh, to which the patients are so susceptible, is likely to add to the mischief. Lastly, a pure air, or change of air, is of great importance in the treatment of enlarged tonsils. These are the chief points of *medical and dietetic* management. Sometimes they will be sufficient to entirely

remove the disease; more frequently, however, *topical* applications are necessary.

Of all the various substances which have been used to disperse these morbid growths, the nitrate of silver, astringent or stimulant gargles, and the various preparations of iodine; the latter are by far the most effectual. They are especially indicated when, as is often the case, there are other glandular swellings about the neck. I am in the habit of prescribing an ointment, composed of one grain of iodine, half a drachm of iodide of potassium, and an ounce of spermaceti, a small quantity to be rubbed in night and morning along the lower and inner margins of the lower jaw; this will be very near to the morbid tonsils: when of considerable size they may, in thin children, be readily felt in the neck. Where the secretion from the diseased glands is copious, and accumulates in the lacunæ of the tonsils, they should be squeezed occasionally with the finger to remove the matter, more particularly when the patient is too young to use a gargle. When a gargle can be used, it ought to be had recourse to at least every morning, at which time the secretion is generally most troublesome. A solution of alum in infusion of roses is the most appropriate gargle with which I am acquainted. In children who cannot be made to understand the process of gargling, a little borax and honey, smeared on the tongue and thus drawn into the throat, is an excellent substitute, or the gargling fluid may be introduced into the

throat by means of an elastic tube and bottle through the nostrils. (See plate 5.)

The nitrate of silver has been much used for the repression of tonsillary growths; but from experience I do not attach any great importance to it as a remedy. Many cases have come before me in which it has been most perseveringly used without effecting any change; and where I have myself tried it, I have found that quite as often as it is beneficial, it provokes the diseased tonsils to increased growth. From the results of my practice I consider it much more efficacious when applied in adult cases, where the growth is not very considerable, than in children, where they generally are large and very prone to increase in size.

Painting the morbid growths with tincture of iodine is another much lauded remedy; in regard to its employment the same remark applies.

When the means now recommended fail to reduce the enlargement, it is necessary to resort to *excision*. There are, however, a few cases in which this operation cannot be performed. They occur in children who are restless and unmanageable, and in adults, when the throat is too irritable to allow of the introduction of the necessary instruments. In the first case, the operation must be deferred until the child becomes sufficiently sensible of the efforts made to relieve it; in the second case, the irritability must be attempted to be overcome by astringent gargles, and other appropriate treatment, or the throat should be accustomed

to the contact of instruments, by a kind of rehearsal of the manipulations.

The propriety of removing enlarged tonsils in adults, where a bad state of throat is caused by the specific action of mercurial medicines, may be questioned. The mere removal of enlarged tonsils in such cases, without due attention to the constitutional taint, will do little to improve this state of the throat, but would incur the danger of sloughing and other inconveniences. Here the cause is decidedly general; and I know of no better remedy than the hydriodate of potash, in small doses, taken in the decoction of sarsaparilla, though a prolonged course of these medicines, and strict attention to diet, are necessary to eradicate the injuries produced by mercury, especially in lymphatic constitutions.

As a general rule the cure of enlarged tonsils should be first attempted by medical and topical treatment; but cases are often met with where the tonsils have been so long neglected, and are producing such serious mischief to the important functions in which the throat is concerned, as well as to the general health, that it becomes advisable to proceed at once to their removal by surgical means. By acting thus a positive evil is at once got rid of, and from the harmless nature of the operation, there is nothing to counterbalance the great advantages resulting from the absence of these sources of mischief. Besides, the means of strengthening the constitution can afterwards be exhibited with greatly

increased effect. Whenever a case can safely be left to medical treatment, it is advisable and prudent to do so; but when the morbid growths are so considerable, and of such long standing, as to render success by such means a matter of great uncertainty, I have no more hesitation in removing them than I should in removing a poison from the stomach.

It may, perhaps, be argued that because, as strength is developed, and age advances, enlarged tonsils disappear, it is therefore superfluous to resort to extraordinary means for their removal. But this is a dangerous opinion to hold, because where they have long existed, they cause other injuries, which do *not* vanish though the enlargements themselves may be absorbed. Thus the great susceptibility to sore throat which they occasion, the increased danger they give to the exanthemata, and the confirmed deafness and permanent distortion of features they often leave, are quite sufficient to dispose of such arguments against their surgical treatment.

The danger, too, of procrastination is strongly exemplified in the following case, which occurred in the practice of an eminent provincial surgeon, who, like myself, has paid considerable attention to the subject of throat disease. He had been consulted by the father of a large family, relative to two of his children labouring under enlargements of the tonsils. The family resided many miles distant and were not regular patients; my friend had only been applied to in conse-

quence of his reputed skill in such cases. An early day was fixed for the operations, but in the mean time *scarlatina* attacked every member of the family. All did well except the subjects of the enlarged tonsils—they died.

So many cases are known to me equally illustrative of the positive danger to life, setting aside their morbid influence on the health from the presence of enlarged tonsils, more especially in young persons who have not passed through the eruptive fevers of youth, that I should no more think of suffering a child of mine to remain the subject of them than of sending it to Sierra Leone.

Surgical treatment by excision being in so many cases indispensable, it is highly satisfactory to know that the operation with moderate skill can be performed without the slightest risk, and, incredible as it may appear, frequently without the slightest pain. My own experience extends to considerably more than one thousand cases, each unattended by accident or subsequent inconvenience, whilst the great majority have been followed by relief of the particular malady, whether defect of speech, deafness, obstruction to respiration or swallowing, cough or impaired health, which singly or conjoinedly may have necessitated the operation.

In the treatment of the relaxed and elongated uvula, the usual remedies have been astringent or stimulant

gargles, and the application of the nitrate of silver, either in substance, or in solution, for the purpose of contracting it or diminishing its sensibility. These means have been resorted to almost irrespective of the nature or cause of the complaint.

The most common form of disorder of the uvula is, undoubtedly, simple elongation. Many delicate persons suffer from it whenever they fall into feeble health, and especially when the digestive organs are impaired, or after an attack of acute catarrh. When it has not existed any length of time, the common treatment of gargles and stimulants will relieve the complaint; but when it occurs after influenza, or is consequent on dyspepsia, these means are merely palliative. For the simple elongation I recommend the astringent gargle already prescribed; when it continues notwithstanding its use, change of air, a tonic regimen, and strict regularity in diet are necessary. In the form of relaxed uvula connected with chronic stomach ailment, the best effects will sometimes follow the administration of the nitrate of silver in doses of one-fourth of a grain, as recommended by Dr. James Johnson. The application of the nitrate of silver to the part produces temporary benefit; but this, probably, springs from its diminishing the sensibility of the uvula for a time, rather than from any healthy change it produces in the uvula itself.

When the uvula, from infiltration of fluid into its substance, or from deposition of fibrin, has become

actually enlarged both in thickness and length, the means recommended for simple relaxation may be tried, but they will rarely be entirely successful. In these cases excision is the best remedy, as it puts an immediate and permanent stop to the many annoyances to which an enlarged uvula so often gives rise. When the uvula is diseased, a morbid condition is generally present in the whole mucous lining of the throat. This may arise from the same cause, whatever it may be, which produces the enlarged uvula, or it may be owing to the spread of irritation from the uvula to the parts around. When it is produced by the uvula it can be cured promptly by the removal of this part. In other cases attention must be given to the causes of the disorder, and gargles, attention to the stomach, and the general health, as the case may be, will prove the proper means of cure.

In the numerous cases in which I have resorted to excision I have never seen any ill consequences, but, on the contrary, the most striking relief. I have often known the injury to the voice and respiration, the harassing cough of years, removed in a moment by the loss of the uvula. Besides getting rid of the positive evils, the operation often renders the voice clearer than before, and increases its compass. In some professional singers I have proved that the excision of the uvula has caused a gain of one, two, or even three notes in the voice, and this not in the falsetto, but in the natural register.

Excision of Enlarged Tonsils.—When the enlarged gland has arrived at a state of induration, operative measures are indispensable for its removal. In my earlier operations, I tried all the means recommended by authors: ligature, caustic, the guillotine knife, common bistoury, and scalpel, neither of which was satisfactory. I found that a strong knife was necessary, which would not bend, as the probe-pointed bistoury does when opposed to an indurated tonsil; nor tear, in the scissors-like manner of the guillotine knife, an instrument which, however specious in appearance, will be found altogether inapplicable in practice, except in the rare cases where the tonsil is pendulous. The same remark applies to any apparatus for the application of ligatures. The scalpel I rejected, because of the risk of wounding the back of the throat with its point. In order to obviate these various objections, I constructed a knife, with a hawk-billed extremity strong back, and placed at an angle with its handle. Assisted by the tenaculum, the surgeon acquires perfect command over the morbid growth he has to remove.

Operation.—I am in the habit of performing the operation thus:—I place my patient opposite a good light, and having requested that the mouth be opened to the greatest possible extent, I introduce the tenaculum (held in the right hand, if about to excise the left tonsil, in the left, if the right,) over the tongue, and include within its grasp as much of the morbid growth as possible. I then draw out the diseased tonsil from

between the pillars of the fauces diagonally across the throat; and over the bridge thus formed I introduce the knife, held like a pen. As I cut forward towards myself, I keep slightly dragging at the tenaculum, so that when the excision is completed, the morbid growth, tenaculum, and knife are all withdrawn together at the same moment. In dexterous hands the operation takes less time than will the perusal of this brief description of its performance.

Excision of the Uvula.—In order to gain all the advantage, and insure no disadvantage from this operation, it is necessary that *the whole* of the uvula should be removed, and not part only, as has been the usual practice. It is owing to this partial removal that patients have occasionally been sadly inconvenienced by the irritation kept up by the food, in its passage through the isthmus, striking against the amputated surface. In consequence of such result, Dr. Bennati, a talented physician of Paris, who some years ago used to amputate the extremity of the uvula in singers, discontinued the practice. In the numerous cases in which I have performed *total excision*, I have never seen such a result.

It may, therefore, be set down as an axiom, that *the shortening* of the uvula is a most objectionable operation; whereas its entire removal, by which the palatine arches are thrown into one, is an operation which, in suitable cases, is to be commended. The utmost pains have been taken to ascertain the results of loss of the

uvula, but in no one case can I find that the slightest inconvenience has arisen from its removal.

The fact that the removal of the uvula involves no subsequent inconvenience to the patient, putting aside all consideration of the comfort and advantage it confers, is of the greatest interest, both in a physiological and practical point of view.

Operation.—The patient being placed opposite a window, is requested to open the mouth to the utmost possible extent, breathing naturally, that is to say, with the expiration and inspiration as regularly performed as if nothing were about to happen. The operator then seizes the extremity of the uvula with the tenaculum, figure 4, plate 4, having his finger or thumb upon the spring handle, ready to disengage the instrument in a moment, in the event of any sudden and unexpected convulsive effort of the patient. Being assured of the necessary presence of mind of his patient, the uvula is drawn horizontally forwards into the mouth, and at the same instant the curved scissors, figure 5, plate 4, are introduced over it, up to its very base, and its excision in the next moment completed.

Simple as the operation appears, it is often attended with considerable difficulty; and owing to the irritability of the throat, I have met with cases in which it could not be performed. In others the slightest touch of an instrument, or even the finger, upon the tongue was sufficient to produce vomiting. In such cases it is necessary to accustom the throat to the contact of

instruments for some days before the operation is attempted.

I have ventured to lay it down as an axiom that a partial removal, or what is called *snipping the uvula*, is altogether objectionable, on account of the irritation which is apt to arise from the excised surface being constantly exposed to injury by the passage of food, or the rubbing against it of the base of the tongue. On the same account I consider it necessary to excise the uvula in an horizontal direction, so that the excised surface, or at all events, the greater portion of it, presents downwards and backwards instead of, as I have seen it when this point was unattended to, downwards and forwards.

A pair of curved scissors has been invented by Weiss, the merit of which is said to consist in rendering unnecessary the use of any other instrument. They are objectionable, for the reasons I have pointed out. Partial excision only can be made with them, and that always in the worst direction; for the moment they touch the highly sensitive uvula and soft palate, up they both go, and frequently only the bare extremity of the uvula can be included between the blades. Whether, therefore, knife or scissors be used, a tenaculum or hook I conceive to be also indispensable.

CHAPTER VIII.

ON OBSTRUCTIONS OF THE NOSE.

From the consideration of morbid conditions of the throat and their concomitant evils, I am naturally led to the subject of the present chapter, which has pressed itself much on my attention.

There are few who have not at some time or other experienced the discomfort and inconvenience of inability to breathe through the nose. A large class of persons will be found permanently subject to this annoyance; and a much greater amount of disorder is produced by such a condition than has hitherto been considered. The class of affections to which I am about to refer depends on chronic inflammation or thickening of the mucous surface, which, throughout the windings of the nasal cavities and passages, goes by the name of the *pituitary*, *schneiderian*, or *olfactory* membrane. This often exists to such an extent as to block up the passage of the nose entirely, and thus obstruct the principal channel through which respiration is, or ought to be, performed, as well as impede the performance of various other functions which will presently be adverted to. Owing to the great difference in the calibre of the nasal passage in different

persons, it happens that in some the slightest tumefaction will cause obstruction, while in others they are so large that it may exist to a great extent without destroying their integrity in this respect. It may at first appear improbable, but I believe it to be true, that this kind of diffused enlargement of the mucous membrane, throughout all the convolutions and cavities of the nose, will obstruct the passage even more than the presence of polypus.

Persons thus troubled are obliged at all times to keep their lips apart to enable them to breathe through the mouth, and when it continues to be done for a long time the features acquire a contracted and vacuitous expression, even in the most intelligent. As the mouth often closes involuntarily in sleep, the impediment to breathing becomes a frequent cause of broken and disturbed sleep, in the same manner as I have described when adverting to the effects of enlarged tonsils in this particular. This is especially the case in children. Cases are common in which they have a thickening of the nasal membrane to such an extent, that although it does not produce entire stoppage, yet the impediment is increased so as to render it complete, whenever the membrane is additionally swollen by catarrh. Here the difficulty to the breathing, especially in attempts to sleep, becomes quite as distressing as when the tonsils are seriously enlarged.

The voice also becomes much affected, the back part of the nasal meatusbeing converted into a shut

chamber, by which the sounds produced in the mouth and throat, acquire a nasal resonance and timbre, which make the voice more distorted than even enlarged tonsils. Owing to the want of a passage for the air behind the soft palate, and through the nose, there is in some cases of this kind a great difficulty in pronouncing the letters which the movements of the soft palate are concerned in producing. It is indeed of essential importance to a proper method of speech, that the air should have free ingress and egress through the nose.

There is generally experienced a difficulty in hawking mucus from the back of the throat and the posterior nares, from the inability of drawing air up freely behind the *velum palati*. I have seen cases in which expectoration had never been performed in the natural manner on this account. From the same cause there is frequently a difficulty and even an impossibility of blowing the nose, which is excessively inconvenient and disagreeable.

The effects of this kind of obstruction to the sense of smell are very perceptible. Without the power of inspiring through the nose, we lose in great measure the capability of drawing odorous particles within the sphere of the olfactory nerve. In addition to the difficulty thus occasioned, it is certain that a tolerably healthy state of the mucous membrane is necessary for the proper exercise of the sense. Common catarrh may be taken as an instance, in which the obstruction caused by the

swelling of the mucous surface, and the alteration in the secretion from the nasal, or schneiderian membrane, either blunts or temporarily destroys the olfactory sense. Those in whom the nose is permanently obstructed by thickening of the mucous membrane are in much the same situation, as in addition to the simple obstruction, the secretion of mucus is generally disordered either by excess or deficiency.

Besides the unpleasant effects on the expression of the face, the respiration, the voice, and the sense of smell, there is one other circumstance to which I would direct particular attention from its being a novel view of a subject to which less importance has hitherto been attached than it deserves, namely, the connexion of nasal obstructions with defective hearing. I was led to this part of the subject by an interesting case which came before me more than two years ago, where the other evils I have described were combined with deafness. A well-known stock-broker consulted me for deafness, who for years had never been able to breathe through the nostrils. The mouth was consequently always slightly open, giving a vacant expression to the countenance, and the voice had assumed that peculiar modification and tone vulgarly, but erroneously, called *speaking through the nose*, owing to the closure of the windings and hollows of the nasal cavities. The obstruction in this as in other cases arose from a general thickening (the result of repeated inflammation) of the lining mucous membrane of the throat, nose, and ear.

Catheterism of the Eustachian passages was employed with great success in restoring the hearing, but the relief of the deafness was scarcely more apparent and valued than the comfort afforded to my patient by being enabled once more to breathe through the nose, which had been accomplished by the frequent passage of the Eustachian tube catheter along the floor of the nostrils. On the recovery of this patient's hearing, he was supplied with the elastic nasal probe, and has continued to use it ever since with as much regularity as his tooth-brush, the one being, he assures me, as indispensable to his comfort as the other.

I have since seen and treated many cases, in which deafness appeared to depend on the nasal obstruction to a much greater extent than in this case, where the affection of the mucous membrane extended into the ears. This induced me to seek for the cause which could produce such an effect; and I am come to the conclusion, that *a free state of the nasal passages is of great importance to the acuteness and preservation of the hearing.*

It is generally acknowledged that the presence of air is necessary in the tympanum, and also that the air should not differ greatly in temperature from the air on the external surface of the membrane of the drum. The means by which these requirements are provided for, are well-known to be the Eustachian tube; but I believe in addition to this a free state of the nasal passage is a necessary auxiliary, and that with-

out it the function of the Eustachian canal cannot be properly performed. This view is supported by the anatomical position of the mouth of the tube, which points towards the external nasal aperture, and is directly in the line of the passage of air through the nose both in inspiration and expiration; further the trumpet-shaped extremity of the tube, and its direction, obliquely backwards to reach the middle ear, favours, and appears to provide for, the entrance of air to the tympanum in inspiration rather than in expiration. It is not that simple stoppage of the nasal passages can cause deafness, because the nose may be closed without producing the slightest immediate effect on the hearing; but I consider that when it is permanently obstructed, the want of a free circulation of air in the tympanum lessens the sensibility and acuteness of the auditory organ, or favours the accumulation of mucus in the middle ear. By examining my own sensations in ordinary expiration, I believe that air does not enter the tympanum during this act, but passes out from the ear with the expiratory stream of air escaping from the nostrils. In a sudden and forcible respiration, when a greater quantity of air is attempted to be expelled than can find a ready exit, it happens differently. It then regurgitates, and rushes into the Eustachian tube and tympanum with great force, and can be felt to strike against the drum, or heard escape through the external meatus in cases where the *membrana tympani* is perforated. The same

occurs in yawning, in which, although the expiration is prolonged, it is more forcible than usual. In yawning the greatest effect of this kind is produced when the act is performed in a subdued manner with the mouth nearly or entirely closed. Air enters the Eustachian tube and middle ear to a still greater extent in sneezing, an act in which the communication between the air tubes and the mouth is sometimes shut off by closure of the posterior palatine arches, so that the breath passes upwards, and escapes by the nostrils alone. There is in sneezing also a violent preliminary inspiration, which generally drives air up the Eustachian tubes with considerable force. Hence it occurs that yawning and sneezing are occasionally the means of curing deafness, dependent on obstruction of the passages leading from the posterior nares to the ear, the sudden rush of air breaking up and expelling any inspissated mucus that may have accumulated therein. In many cases of deafness also which do not arise from obstruction, it is remarkable that sneezing and yawning frequently occasion temporary benefit, and improve the hearing.

Treatment of Obstruction of the Nose.—Before my attention became especially directed to the subject, I was accustomed to depend on medical treatment alone for the removal of nasal obstructions; acting in this, in accordance with the principles laid down in the medical treatment of enlarged tonsils. This plan was, and is, often of great service in dissipating the tumefied

state of the mucous membrane; but from observing the great amount of comfort and benefit which occurred from passing the Eustachian-tube catheter, in cases where the malady was complicated with deafness, I was led to adopt an instrument fitted more particularly for freeing and enlarging the passages of the nose. At first I used the catheter for this purpose, but soon found it advisable to have a new instrument, straight to avoid the curve which exists in the catheter, and flexible to accommodate itself to any sinuosities of the passages. This shape and material fit the elastic probe for passing readily along the floor of the nostrils, without occasioning the slightest inconvenience, and without difficulty.

The effects of this instrument have answered my most sanguine expectations. It has relieved a large number of cases, to whom other kinds of treatment would have been ill-suited and inefficacious. The majority of them were cases of simple obstruction; but it has also proved of essential service in cases of deafness, complicated with thickening of the mucous membrane. The passing of the probe once or twice a day soon dilates the canal to such a size as to permit the passage of air to and fro; and, in addition to this, it appears to exert a salutary influence on the tract of mucous membrane extending to the ear. I have already, particularly in the fourth number of "Contributions to Aural Surgery," developed my views relative to the condition of the mucous membrane in

connexion with deafness; and it is in accordance with the principles there laid down, that I consider the nasal probe acts in relieving deafness arising from disorder of the aural mucous surface. Sternutatory medicines have often been recommended as a remedy for deafness, but for fulfilling the same intention, the nasal probe will be found far more efficient. Its effects are somewhat different, though both, in appropriate cases, stimulate the nasal mucous membrane to a healthy action; but the elastic probe is infinitely superior, because it mechanically dilates the contracted passage, and does not rob the mucous surfaces of the natural secretion which is necessary for their healthy condition, but of which sneezing tends to deprive them. It will not be out of place to remark that the habitual use of errhines, especially the common snuffs, have sometimes the effect of producing chronic engorgement of the mucous membrane of the nose, and thus occasion injury to the hearing and other functions.

In some individuals the *septum narium* is bent so much to one side, without any external disfigurement, that it is impossible to breathe, or to pass the probe through the contracted aperture. Where this is the case, the operation should never be attempted; and there is rarely any cause for it in cases of this kind, because of the increased size of the opposite passage. There are other cases, however, in which the nostrils, and nasal canals, are congenitally of small size, where the elastic probe, or any instrument capable of gra-

dually dilating them, will be very beneficial. Of this kind was the case of a nobleman, whose nares were so small that the passage of the Eustachian catheter, in Paris, by Deleau (a very experienced operator), occasioned much pain; but the careful performance of the same operation in this country, by means of a catheter of small size which I had made expressly, afforded his lordship considerable relief, as far as the nasal obstruction, from which he suffered, was concerned.

Little, if any, instruction is required to enable a patient to manipulate upon himself. A glance at plates 5 and 6, in which the horizontal direction taken by the probe is made evident, will be to most persons a sufficient guide. The following directions, however, will serve to elucidate the subject still further:—Until expertness is acquired, the patient should place himself before a glass, holding the instrument (the point of which has been previously smeared with cold cream) between the finger and thumb. He then introduces it into the nasal opening, *horizontally*, in the manner represented in plate 5. Being once inserted, the slightest force will cause it to glide along the floor of the nostril uninterruptedly, until its extremity strikes against the back of the throat, the sensation of which is instantly distinguished by the patient. Here it should be allowed to remain a few seconds, and then gradually withdrawn, to be introduced in a similar manner along the opposite nostril. The operation should be followed by blowing the nose until the

passages are free to admit the ingress and egress of air to and from the lungs.

I am extremely unwilling that the instrument should go forth to the world supposed to be vested with greater powers than it in reality possesses; but I am bound to express my conviction, the result of careful observation and experience, that in many cases of deafness, by producing a healthy action in the mucous membrane of the ear, and causing a free circulation of air in the middle ear through the Eustachian tubes, it will be found not only the means of warding off an increase of the disorder, but also the means of essential relief or cure.

When it is recollected how many thousands of cases of deafness are proved to be irremediable by ordinary means, and are rapidly approaching by almost imperceptible gradations towards total deafness, the importance of any remedy which affords even a chance of arresting the disorder, still more of ameliorating or curing it altogether, will be duly estimated. One or other of these results will, I have little hesitation in saying, frequently, very frequently, follow the employment of the instrument in question. This is not its only advantage, as it proves, as I have said, of much service, by removing the obstruction to the voice, smell, and respiration, and is beneficial in other minor points.

In plate 5, I have given a representation of a contrivance, consisting of an elastic tube and bottle, which I am in the habit of recommending for the purpose of

gargling the back part of the nares, the upper part of the throat, and the mouths of the Eustachian tubes. In a tumid state of the mucous membrane in these situations, it is of great importance to apply astringents, or whatever else may be employed, to the parts immediately affected. This is very imperfectly done in the usual method of gargling, especially when the posterior nares and mouths of the Eustachian tubes are intended to be acted upon. The action of the veil of the palate in most cases effectually prevents the gargle from reaching its destination. With the elastic tube and bottle, this can be done with the utmost certainty, and in cases where deafness is occasioned by tumidity of the mouths of the Eustachian canals, with the most satisfactory results, cleansing away the vitiated secretion of mucus, and reducing the membrane to its proper condition, and thus enlarging the calibre of the tubes.

The apparatus is composed of a caoutchouc bottle for the reception of the gargle, and of an elastic tube to convey the fluid across the floor of the nostril to the mouth of the canal; a small silver stilet is added to it to prevent the tube becoming clogged with mucus.

Instruction for using the Elastic Tube and Bottle. —Being first sure of the permeability of the tube by introducing the stilet through it, and then attaching it to the bottle (the latter charged with the injecting fluid), the tube is introduced along the nostril in the same manner as the elastic probe. Before pressure is exercised upon the bottle, it is necessary to withdraw

slightly the extremity of the tube from the back of the throat, to admit of the fluid being expelled; or the contents of the bottle may be squeezed out during the act of withdrawing the instrument, whereby not only the throat and adjacent parts, but the nasal passages also, become well washed by the injection.

During the first two or three times of passing both the elastic nasal probe and the tube, slight titillation of the nostril is produced, and sometimes the eyes become suffused with water for a few moments, but this is the only inconvenience which the operation (if such it deserves to be called) can occasion.

SELECTION OF CASES

IN ILLUSTRATION OF THE PREJUDICIAL INFLUENCE OF MORBID CONDITIONS OF THE THROAT ON THE VOICE, SPEECH, HEARING, DEGLUTITION, RESPIRATION, AND THE DEVELOPMENT OF HEALTH AND STRENGTH IN YOUNG PERSONS.

Enlarged Tonsils; Speech, Hearing, Respiration, Deglutition, and the general Health affected.

F. G., 12 years of age, was brought to me suffering from a variety of distressing symptoms, all of which were obviously referrible to the condition of the throat. His voice and speech were so unnatural, that though his friends were able to understand him, he was nearly unintelligible to strangers: he had deafness to a considerable degree; great difficulty of swallowing; his parents noticed that he was always the last to finish his meals. Respiration was evidently impeded in the throat, and altogether obstructed through the nasal passages, so that he was necessitated to carry the mouth open; when asleep, the recumbent position and unconsciousness so much increased the laboriousness of his respiration, that he frequently started up from a dread of suffocation. Ever since the fever this had been so much the case that it had been necessary to watch him when in bed. He was morbidly susceptible to cold, and every attack appeared to end in quinsy, which placed his life in danger. Of course the health had suffered. He was pallid and emaciated; and the constantly open mouth, which the nasal obstruction necessitated, gave an anxious as well as vacuitous expression to the countenance.

These various symptoms originated in enlarged tonsils left by scarlet fever. Fig. 4, in plate 2, is an attempt to show the condition of these glands. The Eustachian tubes were closed by the encroachment of the swellings on their apertures which occasioned deafness. The aperture into the fauces was so much contracted, that deglutition could only have been performed with difficulty and after careful mastication.

Previous to my being consulted, every effort had been made to reduce the size of the tonsils by cauterization, the use of iodine, and other remedies, but all in vain.

Upon examination the morbid growths were so large and indurated, as to leave no hope of dispersing them by such remedies. The knife was therefore employed, and after three different operations the sulci of the arches were cleared. At each step of the treatment all the impeded functions were gradually restored—speech, hearing, swallowing, breathing, and the improvement of health advanced together. Suitable medical treatment went hand in hand with the operations, and to deobstruct the nasal passages he was supplied with one of my nasal probes.

Two years have now elapsed since the treatment of this case commenced. In a communication lately received, his father states that the throat and nose are now quite clear, and that he swallows with the utmost facility; there is no longer snuffling nor loudness of breathing; his hearing has become as quick as ever: before the operation, asleep or awake, he could never keep his mouth closed owing to the obstruction of the throat and nostrils, in this respect he is relieved. Lastly, the health is quite restored.

Enlarged Tonsils, affecting the Health and retarding the Growth, &c.

M. A. C., a girl of strumous constitution, 14 years of age, was brought to me, thin, pale, weak, and of stunted growth. She complained of a variety of painful and distressing symptoms, such as confirmed tonsillary disease can alone produce. Her voice was so thick and snuffling, as to be scarcely intelligible to those unaccustomed to hear her. Her hearing was defective, a watch being inaudible, unless held close to the ear. Her respiration was much affected, particularly at night; and she would often wake up with a loud scream, from the impending danger of suffocation. Occasionally she suffered much from severe pains in the chest, which were aggravated by any unusual exertion. Headache, giddiness, dimness of sight, and other evidences of disordered circulation in the brain. Great susceptibility to colds in the head, and acute sore throat, which never failed to increase the other symptoms of disorder. All these symptoms had been present more or less for ten years, having first manifested themselves at the age of four, after an attack of scarlatina;

and, for some time before she came under treatment, they had acquired such an intensity as to threaten her life.

The difficulty of swallowing and speaking had already indicated to the patient's friends that the throat was the principal seat of disease; and on examination I found the tonsils of such enormous size as almost to obliterate the aperture between the mouth and pharynx. From the state of health of the patient it would have been injudicious to wait the result of medical and topical treatment: one of the enlargements, therefore, was immediately removed, which was sufficient to diminish the most pressing evils of the case. This was followed in about a fortnight by a second operation on the opposite side, the throat having in the mean time put on a healthier appearance, and the urgency of the other symptoms diminished. The tonsils were so large that three operations, at intervals, were required to remove them entirely. This case remained under treatment several months, during which time, in addition to the excision of the morbid growths, tonic and alterative medicines were administered; and the effects of the combined treatment were most gratifying. At the termination of the case, the general health and growth, which had previously been so much retarded, had undergone a strikingly beneficial change; and the symptoms I have described, as inflicting so much misery, had altogether disappeared. A child, whose arrival at adolesence was considered an impossibility, now bids fair to be as healthy and robust as her parents.

Elongated Uvula, causing Cough, and interfering with the Voice.

A clergyman had for years suffered from a tickling cough, much increased by the slightest cold, to which he was susceptible in a striking degree. He constantly desired to swallow, to rid himself of an unpleasant sensation in the throat. It had produced considerable effect on the voice, which was so weak, and enfeebled to a still greater degree on any exertion of it, that he had long been unable to perform his clerical duties, and was obliged to keep a curate. Before his application to me, he was quite conscious that the uvula was the source of his disorder, as his medical attendants had often attempted to restore it to a healthy state by appropriate stomachic medicines, gargles, and astringents of every kind. He had even tried the effect of change of climate, but nothing seemed to afford him the least benefit.

On my examination of the throat, I found the uvula to be so elongated as to hang down upon the epiglottis. Of course, on the removal of the uvula, all his ailments immediately vanished. It is surprising that the measure had not long ago been resorted to, as the nature of the case was so obvious, and he had been constantly under medical surveillance. When he last called on me, he still had perfect exemption from cough, and had gained the ability of talking or reading for a long time without fatigue. There can be no doubt of the permanency of the cure, as it is impossible for the uvula to grow again after being once removed.

Enlarged Tonsils, producing great susceptibility to sore Throat.

B. K., age 35, had suffered for several years from frequent attacks of *cynanche tonsillaris*, complicated with a sub-inflammatory affection of the *trachea* and larger *bronchi*, which appeared to depend on diseased tonsils, as these glands from being in an enlarged and irritable condition became affected by almost every exposure to wet and cold. It should be remarked, that the occupation of this patient obliged him to expose himself often to bad weather. On several occasions the acute attack of throat disease had threatened serious consequences, and in the intervals the disordered condition of the throat had been treated in vain by gargles, stimulant and astringent; and by caustic applications, &c. The proposal to remove the troublesome sources of the disorder was caught at by the patient; and without incurring any risk, with little pain, and in a brief space of time, the throat was restored to a healthy condition. Though some time has now elapsed there has been no supervention of the usual inflammatory attack; nor do I conceive there is likely to be, as there now remains no diseased structure ready to change from a chronic to an active condition on the appearance of even slight causes of irritation, which was so pre-eminently the case before the excision of the morbid tonsils.

Elongated Uvula, giving rise to Cough in a Patient strongly predisposed to Phthisis.

Miss S., a young lady, aged 19, who had long been in delicate health, and several of whose near relatives had died of *phthisis pulmonalis*, was generally attacked with a short annoying cough

at the approach of winter, which proved a source of most lively alarm to her friends. During the last winter it became more severe than usual, so much so, indeed, as to cause her to lose flesh rapidly. She was unable to sleep at night, the cough becoming particularly distressing when the body was in a recumbent position. The teasing cough and the irritation it induced brought on night perspirations, which still further reduced her strength. She had been carefully treated by the family physician: the most approved cough medicines had been administered without producing any impression on the disorder, when at length the case came under my notice. Upon examination the uvula was found to be of unusual length, apparently œdematous and entirely devoid of retractile power, so that it hung loosely down, and became a source of great irritation to the throat and glottis. In this case the utility of removing the uvula was immediately evident, and was attended by the most gratifying result—the relief of the tickling and irritability of the throat being instantaneous; and this together with the cure of the attendant cough has, to my great satisfaction, proved permanent. I think it may be fairly considered that if the cough had been suffered to continue in this case, without alleviation, there would have been considerable danger of the lungs becoming implicated in the disorder, and of its termination in confirmed consumption.

February 9th, 1841. *Elongated Uvula, threatening Suffocation.*

E. T., aged 26, in addition to deafness had suffered for three or four years great inconvenience in the throat. When in an horizontal posture, she was frequently and suddenly seized with a sensation of choking. For months previously to my seeing her, her nights had been disturbed in this manner; and in order to avoid it she had lain with her head and shoulders supported by pillows, having observed that when standing up she escaped the annoyance. Frequently she had been kept awake, for hours together, constantly coughing, as if something were in the throat which ought to be expectorated or swallowed. Three weeks previously to my seeing her she had not been able to eat any solid food without experiencing pain. It was stated also, that if she attempted to speak quickly, she sometimes altogether failed. Her attention had been drawn to this fact for upwards of three or four months.

An elongated uvula gave rise to these various distressing symptoms, which by long persistance had also begun to injure the health.

She preferred the certainty of instant relief by its excision to the uncertainty of relief by local and general remedial measures.

Twelve months have elapsed, and she still has every reason to rejoice at the removal of the uvula.

Enlarged Tonsils, causing Snoring and disturbed Sleep.

R. W. had been the subject of enlarged tonsils for many years. The chief annoyance he experienced from them (except when he took cold) was disturbed sleep and the noise he made when asleep. His snoring was so loud that nobody had any chance of rest near him. For the sake of others, therefore, he came to me to have the tumours removed. The operation was followed by perfect success.

Enlarged Tonsils, attended by Defect of Speech, Respiration, Cough, and General Debility.

E. C., residing at Cambridge, was the subject of enlarged tonsils and a chronic inflammatory condition of the mucous membrane of the throat. Respiration and deglutition were impeded, accompanied by a constant dread of suffocation; cough, too, of a most troublesome nature; added to all these distressing symptoms, my patient laboured under a most distressing respiratory stammer, attended by great constitutional debility.

Treatment.—Tonics. Excision of the enlarged tonsils, followed by perfect relief to breathing, swallowing, and cough; considerable improvement of the general health, and amelioration of the stammer. The latter infirmity finally became still more relieved by the observance of rhythm.

Elongated Uvula, giving rise to Cough.

G. N., a postman, in June 1841, became a patient at the "*Institution for Diseases of the Ear,*" for deafness of long standing, dependant on paralysis of the acoustic nerve. My attention was directed to the patient's throat on finding him troubled with a most harassing cough of a dry character, which was much increased by the least cold, or by damp weather. He told me that for many years he had been unable to lie on his back without experiencing a suffocative attack of cough. I found in the

elongation of the uvula, quite sufficient to account for this distressing symptom. On its removal he immediately felt sensible of having lost the source of years of annoyance. I have frequently seen him up to the present time. The cough has never returned, but the deafness is irremediable.

Diseased Uvula and Tonsils, causing Thick and Unintelligible Speech.

A young gentleman, from Ipswich, was placed under my care in March 1840; he was then sixteen years old, and from his infancy had been a most extraordinary stammerer. Besides the stammer, there was an imperfection in his utterance, which rendered his words quite unintelligible to any except those who were much accustomed to hear him. There was an especial difficulty in pronouncing the sibilant letters. I found the tonsils and uvula so much enlarged by disease, that the entrance from the mouth to the gullet and wind-pipe was reduced to a very small calibre. At different times I removed the morbid growths from the throat, and the amendment both in his mode of speaking and the stammer was very decided and progressive. From a mere mumble, his speech became quite intelligible, and the stammer much diminished. In this case much assistance was derived from educational processes; and for this he was indebted to an intelligent friend, to whose care I requested he might be confided. By the long habit of speaking imperfectly the healthy association between the ear and voice was quite lost, and, like many persons affected with vocal defect, he not only could not produce at will the proper sounds by the organs of articulation, but he was not himself able to perceive the vast difference which existed between his own and the correct mode of speaking.

Enlarged Tonsils, producing difficult Deglutition and disturbed Sleep.

A little girl, aged 7 years, of strumous diathesis, was brought to me by a surgeon at Clapham, for excision of tonsils of enormous size, which by narrowing the isthmus faucium rendered swallowing painful and difficult. It was observed that in eating she was constantly compelled to return the food again and again, to be remasticated, until it was sufficiently pulpy to pass. Her sleep was also from the same cause restless and disturbed. Everything calculated to reduce the swellings had been tried, but their indurated condition left no hope of success.

My little patient submitted to the operation without a murmur, and acknowledged that it gave her no pain.

Independent of the removal of the annoyances by the operation, her health, which before was delicate, became quite established.

July 10, 1841. *Diseased Uvula troubling the Respiration..*

Mr. D. M., 20 years of age, residing at Ripon, Yorkshire, consulted me on account of "something in the throat," which appeared to interfere with breathing, more especially at night when lying in bed. Being a highly trustworthy person, his employer had appointed him to sleep in the shop; but for a very long time past his nights had been restless and disturbed, which, until lately, he had attributed to the effluvia from the gas. He explained the sensation by stating that he felt something which he wished to get out of the way, but did not know whether to expectorate or swallow it, attempting both in vain. It frequently produced a tickling cough, and occasionally in speaking his words were suddenly arrested, and it was only "by main force" he could get them out. Palpitation of the heart was another distressing symptom. Two days before his application to me, he first began to experience inconvenience in swallowing, the food appeared to catch in the throat, and it was with difficulty he could bring it back again into the mouth, or, on the other hand, swallow it. On a day or two previous to my seeing him, he applied to a highly respectable surgeon, who, after examining the throat without detecting any thing wrong, prescribed aperients and gargles.

On examination, the cause of his ailments was plainly evident. The uvula was lying on the tongue, almost reaching to its point, a long, narrow, irregular, smashed looking piece of flesh. On laying hold of its extremity with the tenaculum, I could actually bring it forward to touch the teeth. (See plate 3, fig. 3.)

Its total excision, agreeably to rule laid down at page 56, which, of course, was not delayed a moment, instantaneously relieved him of years of misery and annoyance.

Enlarged Tonsils producing Deafness.

In the spring of the present year, a stable boy, in the service of the Earl of ———, was sent to me, from the family seat in Surrey, labouring under deafness, to such a degree as to render him use-

less in his avocation. It had supervened upon a cold and sore throat which happened to him some months previously. Occasionally, after yawning, sneezing, or blowing the nose, he would recover the hearing for a few minutes to a considerable extent; it would then relapse into its former condition.

On examination, the outer passages of the ears were perfectly healthy, although he had been employing remedies calculated to injure them, such as repeated syringing, oils, and drops of various kinds, recommended, too, by a medical man. When will the profession learn to eschew remedies so unscientific and injurious? The inner passages were evidently encroached upon by enlarged tonsils, left by the sore throat. Catheterism succeeded in affording relief; but, although more prolonged, yet, like the sneezing or blowing the nose, it was only temporary. Medical and topical treatment also failing in dispersing the tumours, excision was finally resorted to, and with perfect success. He suffered no pain from the operation, nor subsequent inconvenience. In six weeks the hearing became perfect.

Enlarged Tonsils, producing Deafness and thick speech.

An eminent physician intrusted his son to my care. The hearing was extremely imperfect, the voice thick and nasal, and the articulation so indistinct as to be almost unintelligible to strangers.

The tonsils were permanently enlarged, and the mucous membrane generally was in a state of chronic inflammation. The most approved medical and topical treatment had failed in affording relief.

The protruding portion of the left tonsil was excised, after which every symptom gradually subsided.

Enlarged Tonsils, affecting the Voice, and producing disturbed Sleep.

May 15, 1841.—A surgeon in the city brought his son to me, with tonsils so enlarged as to meet in the centre of the fauces: the intonation of his voice was snuffling, nasal, and disagreeable; his nights were represented as occasionally frightful—talking in his sleep, and, as it were, struggling with some difficulty. His father had employed every means calculated to disperse the tumours, without success: relief, therefore, could only be looked for by excision.

After the operation, the voice became permanently improved, the nights quiet, great improvement of the general health, and consequently considerable diminution of the irritability of his temper.

The operation was performed without pain, and the subsequent inconvenience was trifling, and entirely subsided on the third day.

April 20, 1841. *Elongated Uvula interfering with the Voice, Singing, &c.*

Mr. J. B., a professional singer, had for years experienced an irritation in his throat to such a degree as materially to affect his health and spirits. His breathing was impeded, and in singing his voice was interfered with, and latterly its quality had become deteriorated. If he attempted to sing above a certain note, he was instantly annoyed by a tickling in the throat, which at once put an end to his song by a fit of coughing; and even if he kept to the scale to which he could conveniently reach, he soon became tired and his voice husky and hoarse. He had frequently been troubled with a tickling cough, for the relief of which he had applied to an eminent physician, by whom he had been treated for incipient phthisis! It happened that one of his friends had seen my paper on Stammering, and had recommended it to his attention; for the first time he began to suspect the condition of his throat, and forthwith made his appearance before me.

The history of the case left no doubt in my mind that something was wrong about the throat; and on inspection, a double uvula (see plate 3, fig. 2), presented itself to my view. The bare fact of its bifurcation would not of course give rise to the evils he had suffered, but one portion had become permanently elongated and the whole body of the uvula had lost its retractile power.

I hesitated not a moment in advising its excision, which was gladly acceded to, and my patient the next moment rose from his seat, freed of all his annoyances.

In addition to the most striking immediate relief, I find, from recent inquiry, that my patient has gained full two notes in his voice, with a power of *sostenuto* previously unattainable. The improvement in its quality is no less obvious.

EXPLANATION OF THE PLATES.

Plate I.

Fig. 1.—Natural appearance of the Soft Palate, Uvula, Anterior and Posterior Arches, with the convex surface of the Tonsils slightly projecting from between them.

Fig. 2.—The Tonsils in an enlarged and indurated condition, encroaching considerably on the area of the Fauces, and thereby interfering with deglutition, respiration, and the free exercise of the voice.

Plate II.

Exhibits views of the position of Enlarged Tonsils, as they respectively interfere with voice and speech, hearing, deglutition, and respiration.

Fig. 1.—Left Tonsil enlarged, but hidden by the anterior arch. If felt by the finger, it will be found to ascend high up between the arches and encroach on the mouth of the Eustachian passage preventing the due admission of air to the Tympanum, and thereby causing deafness.

Fig. 2.—Right Tonsil enlarged, so as to destroy the curve of the arch and encroach on the posterior Nares as well as the Eustachian passage, producing thick and nasal speech, as well as defective hearing.

Fig. 3.—Tonsillary Abscess on the right side, by which the Uvula is thrown to the left side and forced into the mouth. Of course in such a case, deglutition is almost impossible. The drawing was made just previous to puncture, which, by evacuating the purulent contents of the tumour, was followed by instant relief.

Fig. 4.—Enlarged Tonsils, filling up the sides of the Pharynx, and materially diminishing the area of the Fauces. The voice and speech, hearing, deglutition, and respiration are all more or less affected in such a case. The tongue, though pressed down, but imperfectly shows the extent of the enlargement.

Plate III.

Exhibits views of the Uvula, in cases of Elongation, Bifurcation, and Structural change.

Fig. 1.—Uvula elongated in the case of a gentleman, which for many years had produced a teasing and incessant cough, supposed and treated as of pulmonary origin.

Fig. 2.—Uvula bifurcated in a professional singer. Until one of its extremities had become elongated, the mere fact of its bifurcation was of no consequence.

Fig. 3.—Uvula disorganised, lying on the tongue like an irregular, smashed, jagged piece of flesh, so elongated that when laid hold of by the forceps, it could be brought forward to touch the incisor teeth.

Plate IV.

Sketch of Instruments which have been proposed for Excision of the Enlarged Tonsil and Elongated Uvula.

Fig. 1.—*The Guillotine Instrument.*

(*a*) Loop through which the enlarged Tonsil is made to pass previous to excision.

(*b*) Loop with a concave cutting edge, accurately adjusted to and running in a channel or groove of loop (*a*).

(*cc*) Tenaculum affixed to the sheath of the instrument at (*d*), to pierce and secure the Tonsils through the loop.

(*ee*) Sheath through which the rod connected with the cutting loop runs. (*ff*) Spring handle to the tenaculum, which, when pressed towards the sheath of the instrument, effectually draws the Tonsil through the loop previous to its excision.

Fig. 2.—Weiss's Guillotine Knife, upon a similar principle to the last, but more simple in its construction as well as in its application, and therefore preferable.

(*aaa*) Open space for the reception of the Tonsil, which no sooner protrudes through it than the knife (*b*) is made to run along the groove (*cc*), during which the Tonsil becomes excised. (*d*) Extremity of the knife upon which the thumb is placed to press it forward.

Fig. 3.—The Author's Knife for excision of the enlarged Tonsil, characterised by its strong back, hawk-billed shape, and angular position of the blade.

Fig. 4.—The Author's Tenaculum, a modification of Asellini's, differing only in its greater length of blade and strength of spring, by the latter of which no fear need be entertained of the Tonsil becoming disengaged during the operation, unless at the will of the operator.

Fig. 5.—Curved Scissors for excising the Uvula, aided by the tenaculum just described.

Plate V.

Sketch of the Author's Elastic Nasal Probe for the removal of obstructions of the nasal passages, and the Elastic Tube and Bottle for cleansing and gargling the posterior nares and nasal passages generally, the upper portions of the throat, and mouths of the Eustachian tubes.

Fig. 1.—Patient introducing the Elastic Probe, showing also the horizontal direction which it takes to the back of the throat.

Fig. 2.—Patient gargling the Throat through the Nose by means of the Elastic Tube and Bottle.

Fig. 3.—Elastic Probe.

Fig. 4.—Elastic Tube and Bottle.

Plate VI.

Section of the Nose, Mouth, Soft Palate, Uvula, Tonsil, Pharynx, Upper part of the Œsophagus, and Trachea, showing the route taken by the Eustachian tube catheter along the inferior meatus and floor of the nostril into the orifice of the Eustachian tube; showing also the perfect facility and safety with which the most timid patients may introduce the Elastic Nasal Probe to the back of the throat, or gargle the throat by the nasal tube and bottle.

Fig. 1.

Fig. 2.

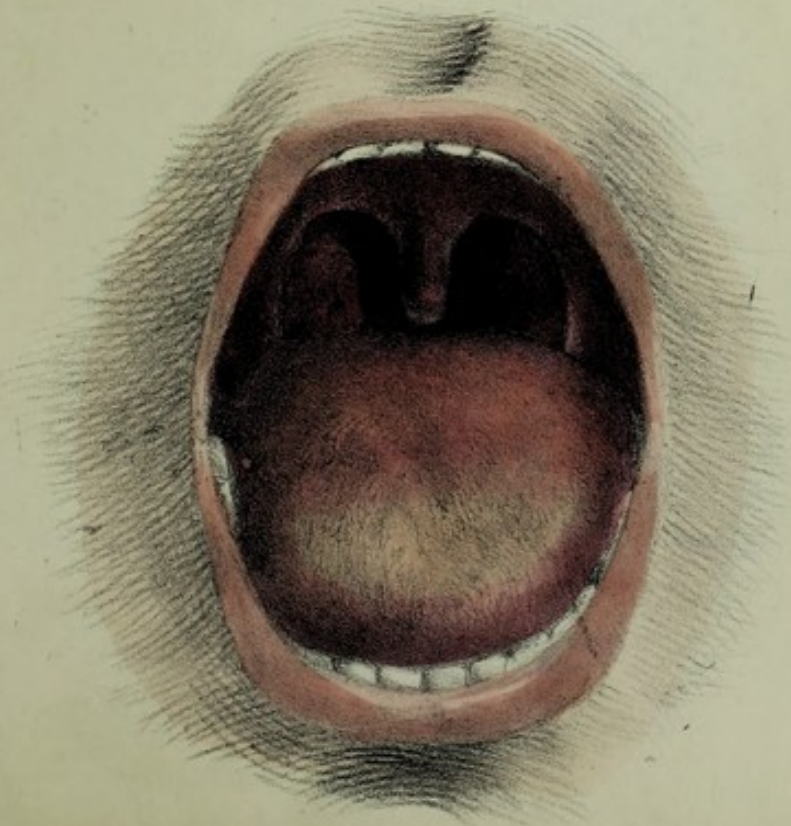

Fig. 1.

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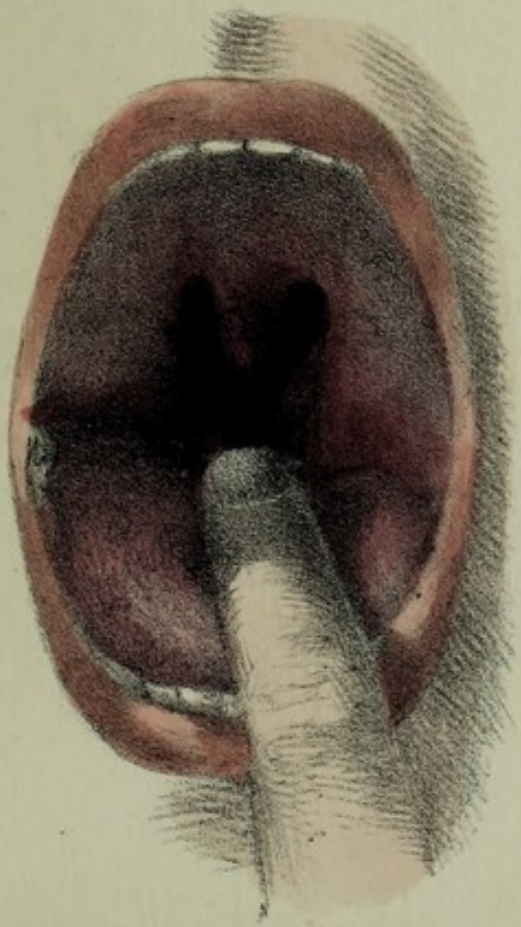

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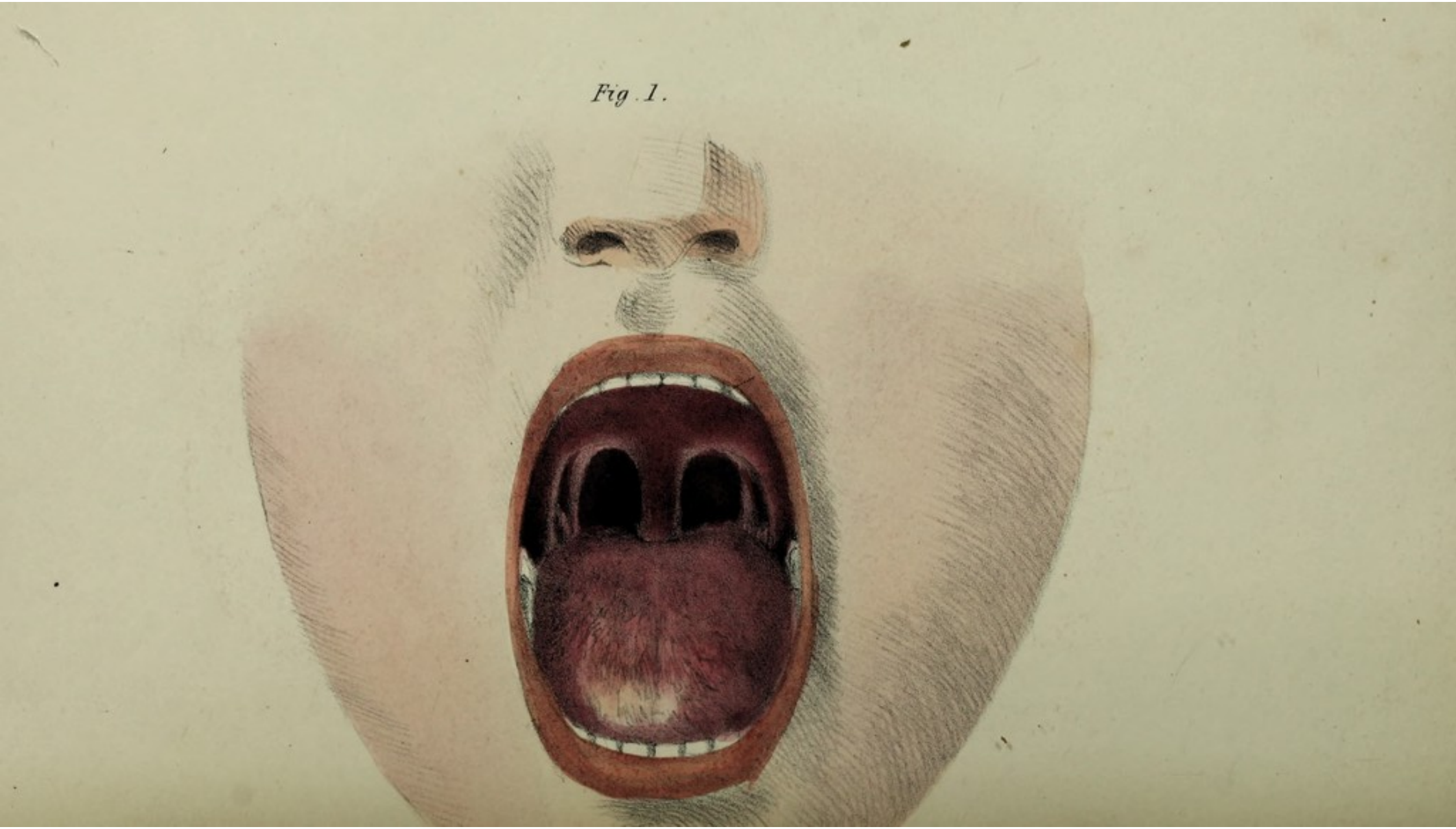

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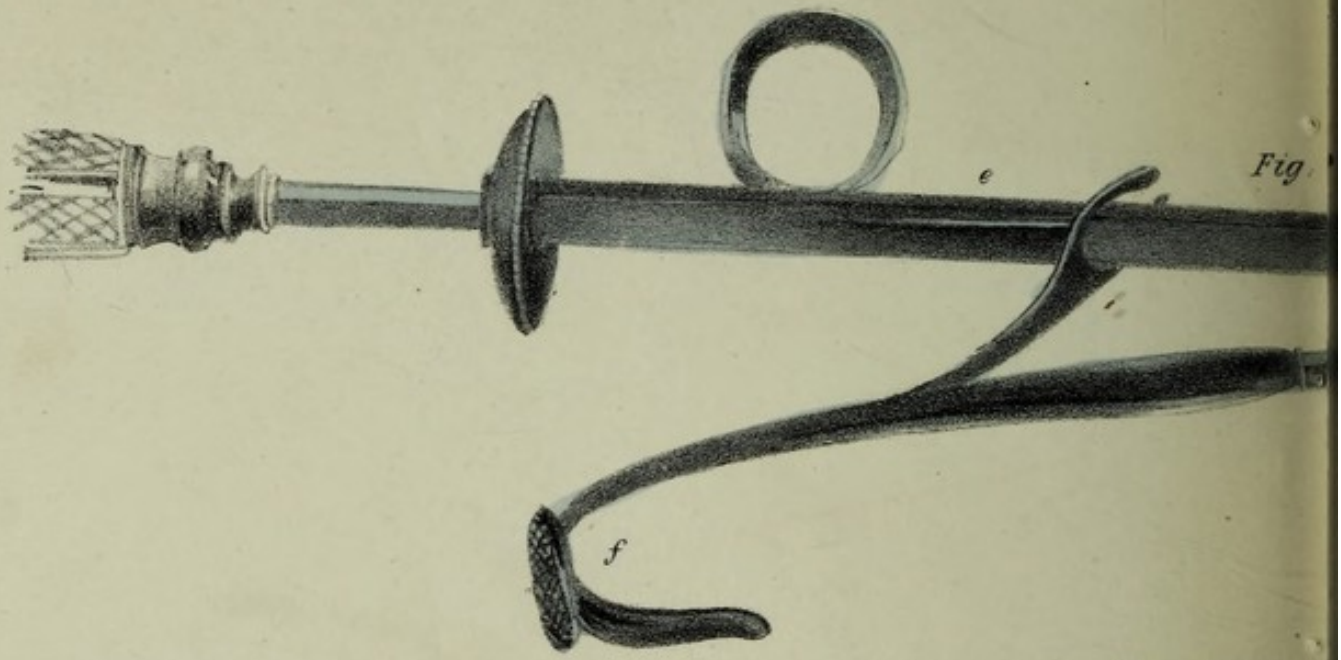

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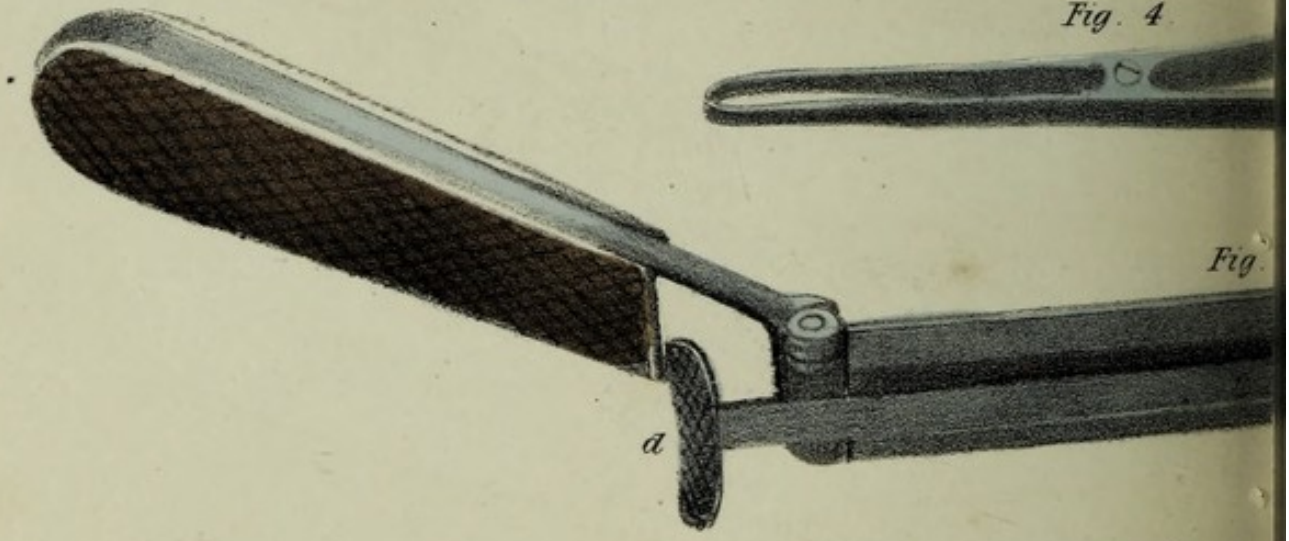

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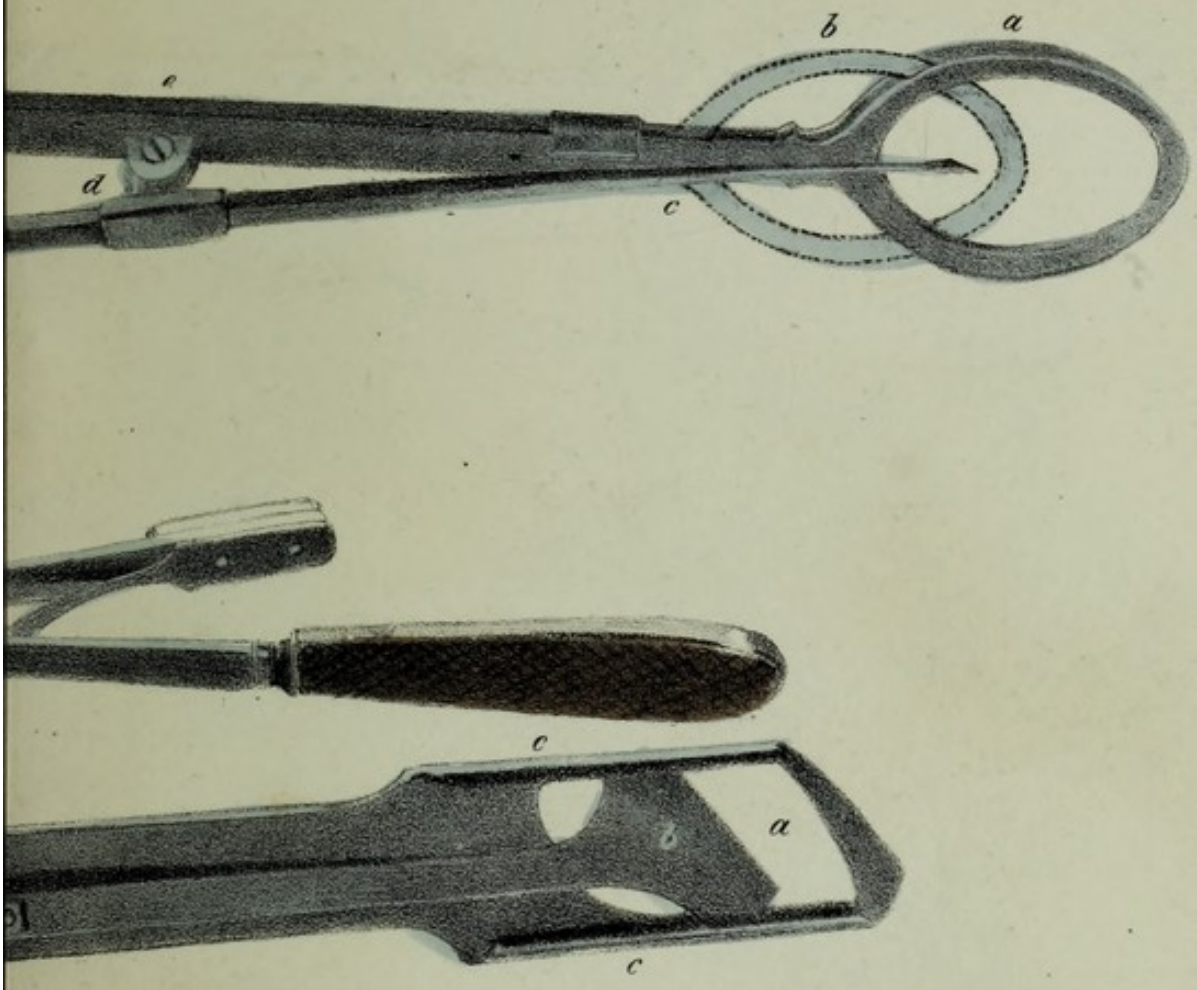
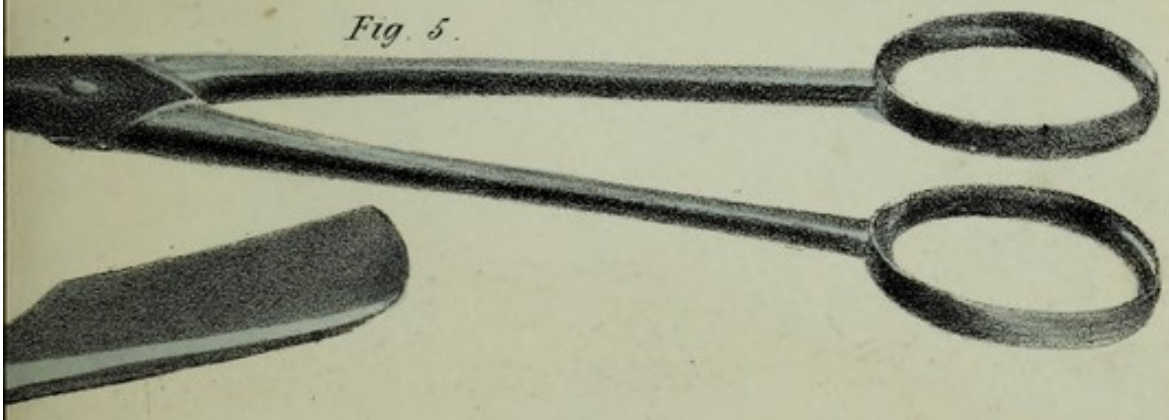


Fig. 5.



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