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DYSPHONIA CLERICORUM

OR

CLERGYMAN'S SORE-THROAT.

DYSPHONIA CLERICORUM

OR

CLERGYMAN'S SORE-THROAT:

ITS

PATHOLOGY, TREATMENT, AND PREVENTION.

BY

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Præterea ut sint fauces integræ, id est molles ac lenes, quarum vitio et frangitur, et obscuratur, et exasperatur et scinditur vox. Nam ut tibiæ eodem spiritu accepto alium clausis, alium apertis foraminibus, alium non satis purgatæ, alium quassæ sonum reddunt: ita fauces tumentes strangulant vocem, obtusæ obscurant, rasæ exasperant, convulsæ fractis sunt organis similis. Finditur etiam spiritus objectu aliquo, sicut lapillo tenues aquæ, quarum fluxus etiam si ultra paulum coit, aliquid tamen cavi relinquit post idipsum quod offenderat.—QUINTILIANI, INSTITUT. ORATORIARUM, liber xi, cap. iii.

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PATERNOSTER ROW.

MDCCCXLVIII.

A voice to light gave being,
To time, and man, his earth-born chronicler;
A voice shall finish doubt and dim foreseeing,
And sweep away life's visionary stir.

WORDSWORTH.

C. AND J. ADLARD, PRINTERS,
BARTHOLOMEW CLOSE.

PREFACE.

Most physicians have, at one time or other, had under their care some of those numerous affections of the throat to which public speakers and singers are liable, and which interfere materially with the exercise of their respective professions, depriving at one time the public of a favorite vocalist, at another, the bar and the senate of an able orator, and more frequently yet Religion of a faithful minister.

These disorders differ materially in their pathological characters, and also in the manner in which they affect the vocal organs. In the present Treatise an attempt has been made to place them side by side, and to point out their distinctive features and appropriate treatment. In the concluding chapter such hygienic measures have been recommended as were judged best calculated to prevent the occurrence of these distressing maladies.

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INTRODUCTION.

The power of clothing the conceptions of the mind in articulate sounds is one of the most precious gifts of God to man, and it is that instrument by which, through successive ages of the world's history, the gradual development of human civilization has been chiefly effected. Eloquence, which is the faculty of speech, carried to its highest perfection, has ever sustained an important part in the emancipation and improvement of the human race. In the ancient republics of Greece public speaking greatly served to excite and keep alive the love of freedom and the devotion of self to the public good; and even when corruption was advancing with rapid strides to infect the body politic, the speeches of Demosthenes were a greater obstacle to the designs of Philip than all the armed warriors of Athens. In Rome how often was the eloquence of Cicero employed to detect and unmask the traitor and the villain, and it was not till craft and tyranny o'ermastered the senate that the fall of the world's mistress was rendered certain. But if the voice of truth and justice was then silenced, it was only because another and a far nobler theatre was to ring with its tones, for to the eloquence of the Forum and the senate

succeeded the *eloquence of the pulpit*, and Paul, Chrysostom, Cyprian, Augustin, and a host of Christian fathers and preachers, made the true-hearted rejoice and the guilty tremble as they "reasoned of righteousness, temperance, and a judgment to come." Fresh fountains of thought and intelligence were opened, the ancient forms of superstition crumbled into dust, the face of the moral world was changed. And when the great light then shed on mankind had waned, and Europe again lay wrapped in darkness and groaning beneath the chains of tyranny and priestcraft, the voice of Luther—the Hier ſtehe ich, ich kann nicht anders, Gott helfe mir, amen!—in the Diet of Worms, was as the potent spell which roused the enchanted sleepers in fabled story. Since the Reformation and the growth of civil freedom, the voice of man has had yet fuller scope, and has had yet more appreciable effects on human civilization. In our own favoured land, the eloquence of the senate, the eloquence of the bar, and the eloquence of the pulpit, have all combined to raise the fabric of social greatness. The voices of Hampden, of Algernon Sidney, of Chatham, and many others, have defended and consolidated our civil liberties. In the senate the voice of Burke denounced the monstrous corruptions of our Indian government; the silver tones of Wilberforce exposed the wrongs of Africa; whilst Romilly and Mackintosh devoted themselves to the improvement of our laws, and at the bar they, with Erskine and others, defended the lives and liberties of the unfortunate. Meanwhile, in the pulpit, though with less of studied effort, and less of artificial help, yet with the deep

and touching eloquence of heartfelt truth, zealous and gifted men have spent their best days and their best powers in the effort to rouse their fellow-creatures to duty and happiness.

The result of these varied exercises of the gift of speech has been to raise England to an eminent degree of social, moral, and intellectual greatness, which is yet, as we trust, to be but the stepping-stone of further advances. But if such be the precious results of human eloquence when employed for truth, it ought not only to hold a high rank in our esteem, but to call forth our best efforts to retain and extend the blessing. It is not, however, the object of the present work to treat of the methods by which the public speaker may best cultivate his powers, but to point out how he may best preserve them from disease or regain them when impaired. It is to guard the public speaker from physical disability, and not only those who declare the sublime truths of revelation, but those also who employ their eloquence at the bar or in the senate, or use their voice much in singing.

The pulpit, however, especially claims our attention, for never was there so great a need or demand for preachers: population rapidly increases, new churches are built and thronged with dense masses of hearers, and for every thousand within the walls of a sacred edifice there are tens of thousands without. A natural result of this state of things is, that the most zealous and valuable of the ministers of religion feeling most deeply the necessity of exertion are led to make efforts of an exhausting and destructive nature

to meet the wants of their fellow-countrymen; and hence the prevalence of that peculiar form of disease which is the theme of these pages, and which it is of great importance thoroughly to understand, in order both to prevent its occurrence and to stop its progress when it does occur, if we would avoid the painfulness of seeing one excellent man after another laid aside, perhaps permanently, from labours of the greatest value to society as to individuals.

In order more fully to understand the etiology and pathology of this disease, it will not, perhaps, be considered undesirable to recall the mind of the reader to the anatomy of the organs of speech, with a slight general description of the morbid and healthy action of them and their investing membrane.

DYSPHONIA CLERICORUM,

OR

CLERGYMAN'S SORE-THROAT.

CHAPTER I.

THE AIR-PASSAGES AND ORGANS OF SPEECH.

When the mouth is opened this cavity will be seen to be divided from the throat by a membranous curtain, composed of a fold of mucous membrane, from the centre of which hangs the conical body called the uvula. The curtain itself, the *velum pendulum palati*, or soft palate, is thus arranged: From its attachment to the bones of the palate, it passes outwards from the uvula, and is composed of two folds of the mucous membrane, which constitute the arches or pillars of the palate. The anterior pillars are continued downward to the sides of the tongue, and the posterior pillars are continued downwards and backwards into the pharynx. The velum palati, besides being constructed of mucous membrane, is furnished with mucous glands, or follicles, and with certain muscles which extend across this moveable septum. The space thus inclosed between the soft palate and the root of the tongue is called the fauces, or the *isthmus faucium;* occupying the angular spaces, between the posterior and the anterior pillars of the velum lie the tonsillary glands, or amygdalæ, thus called from their almond form. These bodies are cellular in their

structure, but composed almost entirely of numerous mucous glands, which open on their surfaces. They are also plentifully supplied with blood-vessels. In inflammation of the tonsils these bodies sometimes enlarge to such an extent as to render respiration difficult, nay, even to threaten suffocation, requiring an immediate operation to allow the matter resulting from the inflammation to escape. They are also subject to chronic inflammation in persons of strumous constitution, and are also frequently involved in the disease to be considered.

At the back of the *isthmus faucium* is the pharynx, a muscular membranous sac, situated immediately before the upper part of the vertebræ of the neck, occupying the space from the base of the skull to the fifth cervical vertebra, and terminating there in the gullet. It is composed of mucous membrane, mucous glands, or follicles, muscles, vessels, and nerves.

Anterior to the pharynx, and commencing at the base of the tongue, is the larynx, the use of which is to convey air to the windpipe, and containing that delicate structure by means of which the voice is formed. The larynx is composed of a framework of strong cartilages, muscles, mucous membrane, glands, and vessels. The largest of these cartilages, which is called the thyroid, is composed of two separate plates (alæ), which, uniting together, form that prominence in the front of the throat called the *pomum Adami*. Each of the alæ is quadrilateral, the upper part forming posteriorly a rounded border, mounting upwards, and called the *superior cornu* of the thyroid cartilage, while the lower border is called the *inferior cornu*. Below the thyroid cartilage, and forming the inferior boundary of the larynx, is a cartilaginous ring, irregular in its shape, narrow in front and broad behind, which is called the *cricoid cartilage*. In the front, between this ring and the thyroid

cartilage is a triangular space, which is occupied by the crico-thyroid membrane. It is at this point that an opening is usually made into the larynx to prevent suffocation in cases of laryngitis, &c. At the widest part of the cricoid cartilage, connected with it by their broad extremities, and forming the upper and back part of the larynx, are two other cartilages of a triangular shape, which, when united together, are supposed to resemble the mouth of a pitcher, and are hence called arytenoid cartilages. The smaller extremities are connected with the inferior cornua of the thyroid. The opening between the two arytenoid cartilages constitutes the superior orifice of the larynx, or the aperture of the glottis. Over the opening is placed the epiglottis, a fibro-cartilaginous valve, of a yellowish colour, and very elastic in its tissue ; it is shaped somewhat like a cordate leaf, and is placed immediately in front of the opening of the larynx, which it completely closes during the act of swallowing, at which time the larynx is drawn up beneath the base of the tongue, the valve at the same time giving a direction to the food towards the œsophagus. The epiglottis is attached by its point to the angle formed by the two alæ of the thyroid cartilage, and ordinarily it retains an erect position by its own elasticity, thus leaving the aperture of the larynx open. Within the larynx are the parts employed in the formation of the voice, and these parts are commonly much affected in all diseases of the air-passages.

Near the lower border of the thyroid cartilage, and passing backwards to be inserted into the bases of the arytenoid cartilages, are two ligamentous cords, called the *chordæ vocales*. They are formed by ligamentous fibres, covered with a fold of the lining membrane of the larynx. These cords are about half an inch or rather more in length, and about two lines in breadth, and can be rendered more or less tense by certain muscles with which they are connected.

The space between the two ligaments is the glottis, or *rima glottidis*, and on each side immediately above the horizontal projection of the chordæ vocales, is a cavity of an oval shape; these cavities are called the ventricles of the larynx. Observations on living subjects, as well as experiments on the larynx made after death, prove that the sound of the voice is generated at the glottis. The structure of the vocal cords is highly elastic, and they are therefore susceptible of regular vibrations, exactly as a strip of India rubber, or animal membrane, a few lines in width, when kept on the stretch is susceptible of sonorous vibrations when acted upon by a continuous current of air. M. Malgaigne, Sir Charles Bell, and other physiologists consider the office of the ventricles of the larynx to be merely that of allowing more room to the vibrations of the chordæ vocales. M. Malgaigne compares these ventricles to the cavity at the commencement of the mouth-piece of trumpets, which is designed to give play to the free vibrations of the lips.

Below the larynx, at the inferior margin of the cricoid cartilage, commences the trachea, which is composed of from fifteen to twenty incomplete fibro-cartilaginous rings, arranged one above another. These rings form two thirds of a circle, and are connected together by a membrane of highly elastic tissue; the rings are incomplete at the back, where the trachea lies over the œsophagus. The trachea, or windpipe, extends from its point of attachment with the cricoid cartilage at the fifth cervical to the third dorsal vertebra, where it divides into the two bronchi. Of these the right bronchus, which is the largest of the two, passes off at nearly a right angle to the upper part of the right lung, while the left bronchus descends obliquely under the arch of the aorta to reach the corresponding lung. After the bronchi have entered their respective lungs they divide and subdivide into numerous branches, so that Neckel not unaptly com-

pares the larynx, trachea, and bronchi to an inverted hollow tree; the larynx and trachea representing the stem, and the bronchi, with their minute divisions terminating in the air-cells of the lungs, to the branches. Mr. Addison, of Malvern, whose extensive microscopical observations render his opinions of great significancy, believes, on the other hand, that the bronchial tubes, after dividing dichotomously into a multitude of minute branches, which pursue their course in the cellular interstices of the lobules of the lungs, terminate in their interior in branched air-passages and in air-cells, which freely communicate with one another.

A number of muscles are in connexion with the pharynx, larynx, &c., to execute the varied movements of which these organs are susceptible. These organs are also plentifully supplied with nerves and blood-vessels. The nerves of the larynx are the superior laryngeal, both of which are branches of the pneumogastric, or *par vagum*. The two nerves have free communication with each other, but the superior laryngeal is distributed principally on the mucous membrane at the entrance of the larynx, and is the nerve of sensation; the inferior nerve, meanwhile, is distributed on the muscles, and is the motor nerve of the larynx. Its office is to excite the muscles to action, whilst the office of the superior is to convey sensation to the *medulla oblongata*. The larynx also receives a nervous twig from the cervical ganglion of the great sympathetic. The acute sensibility of the mucous membrane lining the glottis usually prevents the entrance of foreign bodies into this organ, for the action of the muscles so promptly obey the notice given to them by the nerves when the intrusion of any extraneous substance or noxious exhalation is threatened, that the passage immediately closes. If the nerves which are sent to the larynx are cut or tied, loss of voice is the immediate result. It is not, however, so much on the nerves which supply the

larynx as on the mechanical perfections of the larynx itself that the quality of the voice depends. "To the attainment of a correct voice," says Dr. Mason Good, "it is necessary that there should be great accuracy of ear, a perfect symmetry of the vocal organs, *equal tenseness in the ligaments of the larynx*, which must also be nicely balanced by the power of the muscles on each side; the cartilages of the larynx must be nicely adjusted to each other, the lateral cavities equally deep, and the cornua of the os hyoides of a like length. With such an organization the voice is perfected for exact modulation in speaking or singing; and it is from different defects in this requisite mechanism that some persons cannot speak nor others sing in tune."

The structure of the organs of voice in man is pleasing to contemplate, and is eminently calculated to excite admiration; the means employed are so simple and yet so perfectly contrived and suited for their offices that the wisdom of the Creator is manifest in all. To these organs may especially be applied the language of an accomplished physician, who says—"There is no subject more interesting, no pursuit more gratifying, than the investigation of the properties and processes of our animal frame; there is no subject of contemplation which gives so exalted an idea of the omniscience of the Deity and so humble an opinion of all human inventions, as the excellency, utility, and efficiency of all its parts. How beautiful, how wonderful, then, must be the soul, when such infinite wisdom, such exquisite arrangements are lavished on the structure which it is destined to inhabit but for a short space of time! Such perfection in our organization leads us to believe, with Job, that however disarranged by death and decomposition, it may again be called into reunion, and that 'in our flesh we shall see God.'" *

* Dr. Billing's Principles of Medicine, p. 19.

The whole of these organs, as we have already said, are lined with mucous membrane, and as this is the more immediate seat of the disease under consideration, it will be necessary to describe its general characters, and to notice those peculiarities which have a special reference to our subject.

CHAPTER II.

THE MUCOUS MEMBRANE.

This membrane is much the most extensive of the membranes of the body. It is similar in texture to the skin, and is considered to be merely a reflection of it. It lines all those cavities which communicate with the exterior integuments, and is continuous with them. It is soft and velvety in its texture, and extremely vascular. In the human subject it has two divisions, the gastro-pulmonary, and the genito-urinary mucous membrane; it is, however, the former which requires our more immediate consideration.

The gastro-pulmonary mucous membrane commences at the edges of the eyelids—*nostrils*—and lips; that part covering the eyes communicating with the nose by the lachrymal canal through which the tears flow. Behind the soft palate the mucous membrane from the mouth and nostrils becomes continuous, and from the throat downwards it proceeds in two divisions, the one to cover the air-tubes, the other to line the whole of the alimentary canal. This membrane lines not only these passages but the small ducts leading to them, such as the eustachian tube leading from the throat to the internal ears, the biliary ducts, &c. Haller estimated that the internal covering of mucous membrane of the bronchi and cells of the lungs was in extent equal to fifteen times the surface of the whole body. The mucous membrane being identical in structure throughout its extent, every part sympathizes more or less with the

rest; and when the irritation of any part is violent, the alarm extends to the whole membrane. An inflamed eyelid is often the result of irritation in the mucous membrane of the bowels, and irritation at the end of the bowel, either from ascarides or hemorrhoids, may produce dullness of the eye, itching of the nostrils, &c.

"A remarkable sympathy," says Müller, "is observed to exist between the mucous membranes; thus their diseases, particularly the mucous discharges and the catarrhal affections, have a great tendency to spread in them. By virtue of this sympathy the state of one part of these membranes may be ascertained by examining another part, so that the state of the mucous membrane of the tongue indicates the condition of that of the stomach and intestinal canal. All the mucous membranes have, likewise, an extraordinary connexion with the respiratory movements; thus irritation of the mucous membrane of the nose produces sneezing; irritation in the pharynx, œsophagus, stomach, or intestines, excites the concurrence of the respiratory movements; vomiting, or violent irritation in the rectum, bladder, or uterus, gives rise to a concurrent action of the respiratory muscles, so as to effect the involuntary expulsion of the fæces, urine, or fœtus. Irritation of the mucous membrane of the larynx, trachea, or lungs, or even itching, from irritation of the eustachian tube, excites coughing." *

This remarkable sympathy between the various parts of the mucous membrane is a fact which, as we shall hereafter see, has an important bearing on the disease of which we are to treat.

We have already noticed the striking analogy which exists between the mucous membrane and the skin; like this it is composed of three layers: the first, called the

* Müller's Physiology, by Dr. Baly, p. 478.

epithelium, which is the cuticle of the membrane, and is continuous with the cuticle at the margin of the lips.

The epithelium, seen under the microscope, presents two forms, the pavement or tesselated form, and the columnar form. As the columns are placed perpendicular to the surface round the circular villi, they appear to have a radiated arrangement, their free extremities are sometimes fringed with minute hair-like threads, or ciliæ. When this is the case the epithelium is said to be ciliated, and it is in this form that it lines the air-passages. It requires a powerful microscope to discern the ciliary motion of the epithelium, but when viewed in the field of an instrument of sufficient power I know of no object more interesting. It has been compared, by Müller, to the undulations on the surface of a fluid with small bodies floating upon it, which, near the borders of the membrane, appear as if driven along in a determinate direction. As these motions of the ciliæ are always towards the outlets of the cavities which they line, it is believed that their function is to force the secretions which may accumulate outwards, and thus effect their removal. The ciliary motion of the mucous membrane is supposed to be caused by the action of some unknown contractile tissue. In disease of the mucous membrane the epithelium is undergoing a constant process of removal, but it has the power of reproduction to an indefinite extent.

The second layer is the *proper mucous*, or papillary, which is also analogous to the papillary layer of the skin. It is the secreting surface which produces the epithelium. Its surface presents, under the microscope, diverse appearances according to the situation in which it is found, sometimes appearing as if formed of numerous projecting papillæ, at others of a fine network of polygonal cells.

The remaining layer, the fibrous or submucous, analo-

gous to the corium of the skin, is designed to give support to the papillary layer.

In the loose cellular tissue which connects the two latter layers are situated the glands or follicles, which are peculiar to the mucous membrane; of these we shall only dwell on those which are involved in the disease in question.

These glands or follicles are of two kinds, simple and compound. The simple follicles are thus described by Henlé: "In almost every mucous membrane, even in those which are supposed to be destitute of glands, there exist other organs apparently connected with the secreting action of the membrane. These are round or oval closed cells, visible even with the naked eye, and sometimes quite transparent, but at other times filled with mucous globules."* "The simplest glands are mere recesses of greater or less size in the surface of a membrane; sometimes they are only very shallow depressions, such as the simple crypts of the mucous membrane; in other instances they form distinct sacs with a narrow neck, such as are the follicles of the mucous membrane."† It is supposed by modern physiologists that the contents of these cells are occasionally discharged by the bursting or dissolution of the membrane which incloses the cell.‡

The compound follicles, or glands, on the other hand, are thus described: "The substances of these glands consist of a mass of round or oval completely closed cells of different sizes, and containing some granular matter, and others perfectly-formed mucous globules. A number of these cells united by cellular tissue, and perhaps, also, by a structureless membrane, form an acinus,§ and, as such, are

* Müller's Physiology, p. 479. † Ibid. p. 485. ‡ Eadem.

§ "The parts described as acini are merely masses formed by the agglomeration of the extremities of the secreting canals; frequently, indeed, they are formed of minute vesicles, aggregated together in grape-like bunches, which may be injected with mercury, and are often susceptible of inflation. The

seated upon a branch of the excretory duct into which the mucous globules and other matter contained in the cells are from time to time poured, in consequence either of the membrane of the cells bursting, or of its becoming dissolved at the part where it is connected with the duct."

These compound glands or follicles have been described by some authors as resembling little globular bottles with short necks, the bottle consisting of the apparatus already described for secreting and retaining the secretion, the neck serving as an excretory duct.

These follicles are much more abundant on some parts of the mucous membrane of the air-passages and œsophagus than on others; thus the *tonsils* are almost entirely composed of mucous follicles united together by cellular tissue. The glands of the *uvula* are also both large and numerous, especially towards its point. At the *base of the tongue* are two or three clusters of follicles. The pharynx is well supplied with them, but they are present in the mucous coat only, whilst in the œsophagus are many small lobulated bodies imbedded in the submucous layer, and opening on the surface by long excretory ducts which pass obliquely through the mucous coat in such a manner that the food in passing down the œsophagus cannot find ingress into them.

The epiglottis and larynx are also plentifully supplied with these glands, most of which are imbedded in the submucous tissue of these organs. In the trachea they are even yet more plentiful.

The mucus secreted from these organs when in a state of

arteries do not open by free mouths into the radical extremities of the secreting canals and cavities of the glands, but terminate by numerous anastomoses with the veins, forming a network, which is distributed over the surface of the elementary parts of the glands. Thus the blood-vessels, like the secreting canals, constitute an independent closed system of vessels, the arteries and veins often ramifying in an arborescent manner, being connected together by a network of closed tubes."—Müller's Physiology, vol. i, p. 501.

health is transparent and moderate in quantity, but in chronic inflammation, or congestion of the air-passages, the mucous secretion may become excessive, deficient, or vitiated. It must also be borne in mind that all the mucous membranes are exposed to the influence of certain sources of irritation which have an effect upon their secretions, and there is little doubt but that the office of these secretions is partly to guard the membrane from injury in these cases. They have a natural irritability to healthy and beneficial influences. Thus, for example, the mucous membrane lining the air-passages is naturally fitted to the healthy stimulus of pure air; whilst, on the contrary, an impure atmosphere, deficient in oxygen, loaded with noxious vapours or solid particles of matter, necessarily irritates the membrane and affects the secretions from its surface. If these sources of irritation are frequently renewed, a chronic disease will probably ensue; even as the mucous membrane lining the digestive organs, being accustomed and fitted to the healthy stimulus of good and wholesome food, when subjected to the action of substances indigestible or too stimulating, becomes irritated and manifests abnormal phenomena, either in the membrane itself or in some remote but sympathizing organ, as when cough follows the introduction into the stomach of indigestible food.*

The effect of irritation on the mucous membrane is to exhaust its natural sensibility, and leave it in a state of languor and feebleness not easily removed by stimulants; hence irritation often repeated or long-continued depresses the vital power of these organs. Dr. Craigie enumerates five different sorts of irritation of the mucous membrane:

* "An excess in deficiency of the natural stimuli, or the operation of noxious agents, will convert healthy into morbid irritability; and a natural stimulus applied to an organ, already morbidly irritable, becomes an irritant." —Travers on Constitutional Irritation, p. 8.

1. Irritation of the mucous tissue proper.
2. Irritation of the mucous follicles or crypts.
3. Irritation of the vessels distributed to the mucous follicles.
4. Irritation of the nervous filaments accompanying the arteries.
5. Irritation of the muscular fibres subjacent to the mucous tissues in the compound organs.

These separate forms of irritation it is hardly possible to distinguish in actual occurrence, since they glide into each other by insensible transitions. Thus the irritating cause applied to any mucous membrane very soon excites the circulation in its vessels, and augments, perverts, or deranges the consequent secretion. In like manner, the irritating cause applied to, or operating on, the arteries, cannot fail to derange the influence of the nerves, increasing it at one time and perhaps diminishing it at another, since these nerves are closely entwined around the arterial twigs.

The only forms of irritation which seem to be very often, if not always, distinguishable in actual experience is the irritative state of the mucous tissue and the irritative state of the submucous muscular tissue. "From the phenomena which the diseases of the alimentary canal exhibit, we know that the mucous tissue may be irritated without the muscular being affected; and, conversely, that certain causes may act on the muscular tissue and excite its motions, which do not act on the sensibility or circulation of the mucous tissue. Most frequently, however, in such organs, irritation of the mucous membrane is followed by abnormal and excessive action of the intestinal muscular tissue. In the larynx the inflammation or simple irritation of the mucous membrane excites very often the arytenoid muscles to undue or irregular action." *

* Practice of Physic, vol. i, p. 738.

It must, however, be remembered that, although in irritation there is no organic change in the structure of the part affected, yet irritation is still a morbid action—a morbid process—acting as a kind of stepping-stone to inflammation, stopping short of it when the cause of the irritation is quickly removed, but terminating in it if the cause be still present or frequently repeated.*

As soon as inflammation commences, an organic change takes place in the part affected, and the removal of the cause of inflammation would not, as in simple irritation, immediately repair the effect; since time would be required for the vessels of the part affected to regain their normal state, and the longer these parts have been subjected to the morbid influence the longer will it be before they can be restored to their healthy condition.

Inflammation, like irritation, may attack any part of the structure of the mucous membrane separately, but it may be conveniently divided into three kinds:

Inflammation of the mucous membrane itself.
" mucous follicles.
" subjacent tissues.

Inflammation of the mucous membrane itself is usually spreading and diffusive; it may commence in a small part of a mucous membrane, and extend itself till it covers the whole surface.

Inflammation of the mucous follicles, on the contrary, is circumscribed in its action, but it not unfrequently happens that, in inflammation of the mucous surface, the follicles also become involved in the morbid process, and in this case,

* "Irritation, continued excitation of a healthy part, at last produces inflammation, by exhausting that nervous influence which gives the capillaries power; thus they become weakened, allow of over-distension, and the part is in the state of inflammation or congestion."—Billing's First Principles of Medicine, p. 32.

after the inflammation has ceased in the surface, it continues in a chronic form in the follicles. There is always a tendency in follicular inflammation to spread to the subjacent tissues.

Although inflammation of the mucous membrane proper may spread very rapidly over the greater part or even the whole of the mucous membrane, it yet ceases much more quickly than does the circumscribed inflammation, in which respect it has an affinity to simple irritation.

After inflammation has continued for some time in a mucous membrane, certain morbid lesions take place in it; one of these, which is very commonly observable, is a morbid thickening of the part affected, and its surface often presents a granular appearance, instead of the softness and smoothness which is the characteristic of its healthy condition.

It must always be borne in mind that pain is not felt in proportion to the degree of inflammation or irritation present in the mucous membrane, but the existence of these morbid actions is indicated by other symptoms, as, for example, when inflammation of the bronchial membrane produces cough, or an increase or diminution of secretion. The effect of inflammatory action is to alter the secretions of mucus; this may be either increased in quantity, or it may become thinner, thicker, irritating, puriform, or even bloody.

CHAPTER III.

CAUSES OF DYSPHONIA CLERICORUM.

VERY little has been written in this country exclusively on the subject of the clergyman's sore-throat, although cases are constantly occurring in the practice of those medical men who have to do with the upper and middle classes of society. It is not until a person turns his attention to this malady, and becomes anxious for information, that the existing deficiency manifests itself to him. In 1846 Dr. Horace Green, of New York, published an excellent treatise, which has thrown new light on the subject, this I shall have frequent occasion to quote. He has described the disease as being an affection of the mucous follicles, and this often of a specific character; he calls it *follicular disease of the pharyngo-laryngeal membrane.* He goes on to say, "As this disease, however, in its advanced stage, seems to be constantly attended with a secretion either, within the mucous follicles, of a peculiar concrete substance resembling tubercle, or with an infiltration of this tuberculous matter in the submucous cellular tissues, it may, with propriety, be denominated *tubercular sore-throat.*"

What is commonly understood by clergyman's sore-throat, in this country, is frequently an affection of a much milder character than that described by Dr. Green: many cases have their rise in sources hereafter to be noticed, run their course, and either issue in recovery or become chronic, without exhibiting any special affection of the mucous

follicles, and without any infiltration or tuberculous deposit taking place in them. Certain conditions of the body may give rise to follicular disease, and that the mucous follicles may take on tubercular disease in an impaired state of the general health, or where phthisis is present, is not denied; for, where tuberculous diathesis exists, any morbid action occurring in a particular tissue is very likely to determine the deposition of tubercle to that tissue. In a hundred cases of phthisis, arranged in a tabular form by Hasse,* the mucous membrane of the trachea and larynx was tubercular in about one twentieth.

May not Dr. Green have found follicular disease more prevalent in America from the peculiar habits of his countrymen, who allow themselves a very insufficient time for the digestion of their meals, and are in consequence very generally the victims of dyspepsia; such I should think highly probable, although contrary to this author's opinion, who believes dyspepsia not to be a cause of this malady.

That follicular disease is not always the malady known among us as clergyman's sore-throat Dr. Horace Green's own language would seem to imply; for he says, p. 47: "Of nearly 400 cases that have fallen under my observation, only about 78, or one in five, of this number were in any way public speakers." It is, however, more than probable that public speakers are, in an eminent degree, liable to the disease so admirably described by Dr. Green, and that when clergyman's sore-throat is neglected, if there be combined with it a depravation of the general health, such a result is almost sure to follow.

I believe that, in the commencing stages of a great number of cases of this malady, there is no *organic lesion* whatever in the organs of speech; that, in fact, the affection

* Hasse's Pathological Anatomy, Sydenham Society's Edition, p. 347.

consists merely of an irritation in the investing membrane, but that subsequently a series of morbid changes take place, such as congestion, relaxation, and inflammation of the mucous membrane, enlargement of the tonsils, and elongation of the uvula, irritation, inflammation, morbid deposit, and ulceration of the follicles, gradually extending to the submucous tissue of the parts affected.

When the general health is impaired, and the tuberculous diathesis exists, the morbid deposit in the follicles may be tubercular, and probably a contemporaneous tubercular deposit may take place in the lungs, or the disease gradually extending along the tracheal membrane, and terminating in phthisis.

Hasse, when describing the morbid changes which take place in tubercular affections of the larynx and trachea, says, "The relation of laryngeal and tracheal to pulmonary phthisis varies greatly. In most cases the pulmonary affection pre-exists, the larynx and trachea becoming merely implicated during its progress. Sometimes the disease begins with these organs at once, and predominates in one or other in the sequel. The lung is generally the part that principally suffers, and the instances are rare in which pulmonary consumption lingers, remains stationary, or retrogrades, while the laryngeal phthisis is pre-eminently developed, and is of itself the cause of death. It is believed that the affection sometimes assails the larynx (never the trachea) in the first instance, and afterwards extends to the lungs. This fact, however, is not thoroughly made out; perhaps it may happen where the tubercular diathesis quickens after a long period of abeyance. Where laryngeal disease coexists with the pulmonary affection, the latter is apt to be overlooked, unless a very scrutinous investigation be made. This is obvious from the anatomical relations of the two; laryngeal disease being far more readily, and in a

far greater degree, productive of disturbance to the respiratory functions than incipient pulmonary phthisis, and at the same time more striking, from its influence upon the voice, and from its more painful character. Stokes, therefore, judiciously recommends the closest attention to be paid to the condition of the lungs during the progress of the other affection." (p. 356.)

In Dr. Ranking's 'Half-Yearly Abstract' for December, 1845, is quoted the observations of Dr. Cless, practising physician at Stuttgard, and published in Schmidt's Jahrbuch, Heft iii, 1845 :

"Amongst the cases observed by this author, not a single one appears where the tuberculosis, or ulceration of the larynx and of the trachea, formed the primary and predominating affection; it was always secondary, and attendant upon the simultaneous disease of the lungs."

It is impossible to find any single word, or even phrase, which shall accurately express the whole series of morbid changes which we have in view, and thus be a fit designation of the malady. *Clergyman's sore-throat* is evidently apt to mislead, because the affection may continue in its simpler form for years, even without any sensation of soreness being experienced; perhaps the American vernacular designation "Throat-ail" is most expressive, although not very definite. A symptom which appears to be invariably present in this affection is a declension of the customary power of speaking. In its earlier stages there is no imperfection in the voice itself, but an inability to give utterance to sound without additional effort. As the disease progresses the difficulty of speaking increases, and thus (not to introduce into our already overloaded medical nomenclature a new term) I think the affection may not improperly be called *Dysphonia Clericorum*.

Among the predisposing causes which may give rise to

this malady may be enumerated the nervous and lymphatic temperaments—a strumous habit—relaxed state of the body—great excitability of the nervous system—general debility, from whatever cause, whether arising from vicious habits, sedentary occupations, or mental anxiety—derangement of the digestive organs, and an irritable state of the mucous membrane. Some of these, however, may act either as predisposing or exciting causes, according to the circumstances under which they may produce their influence.

In many instances, doubtless, a naturally weak and imperfect development of the organs of voice themselves operates as a predisposing cause; for the vocal organs must necessarily, to some extent, participate in the conditions of the general system, and when this, from disease in early life, is debilitated, or imperfectly nourished and developed, the former will, in all probability, suffer also. We need not be surprised that many who enter the church are deficient in that qualification for public speaking which consists in strength of the vocal organs, when we reflect by what circumstances the choice of the clerical profession is sometimes determined. A lad perhaps is delicate in health, and is hence led in early life to delight in quiet and sedentary occupations, seeking his amusement rather in solitary reading than in the noisy but invigorating sports of his more robust companions. This produces an earlier maturity of mind, probably a more serious and thoughtful cast of disposition, and the church appears either to himself, to his friends, or to both, to be the calling which will best suit him. Moral and intellectual requisites may be present, but the physical requisite of voice is scarcely, perhaps, thought of. An ingenious medical friend of my own, who is himself a subject of the disease, and from this cause has paid particular attention to it during the fifty years he has been in practice, accounts for the fact that clergymen

suffer more generally from this affection than barristers in the following way. His opinion was communicated to me by letter, and I give it in his own words.

"Your objection as regards barristers not being equally liable to this disease I will answer by saying that, as regards numbers, they certainly do not suffer in the same proportion as clergymen, and I have had, perhaps, an opportunity of forming a correct opinion, from the circumstance of having been long and intimately acquainted with many eminent men in the legal profession; this has tended to bring my mind to a comparison of the disease in question acting upon both these professions, and the causes of that difference in number between each of the two classes I think may be explained in the following way.

"In any given number of young men about to start in their professional careers, no particular choice may have been made, in the first instance, as to their several fitness for the peculiar actions they may have to perform, but it generally happens that, should there be any deficiency of health, or other physical obstructing cause, or doubt of the capability of the youth thus ready prepared to take the field, the universal cry is, 'Oh! I don't think, poor fellow, that he will be fit or strong enough for anything but the church.' Now, I do not mean this observation to relate to mental deficiencies or qualifications, but entirely to the state of the health and bodily powers, bearing out my theory as to *numerical corporeal disabilities*. Whether a young man thus placed happens to have a good resonant voice, with a glottis that may be most enduring of action, is never dreamed or even thought of; it is quite sufficient that he has not strength for any laborious profession, and in the kindness of his friends and their best wishes for his welfare, he is sent into the church, perhaps with a most dangerous predisposition to disease, and if he should be lucky enough

to get preferment, *nolens volens* preach he must, and the very efforts which are necessary for his daily support, and to preserve his life and guard against danger, conduce mainly to a state of lingering wretchedness and disease, if not to death."

"It is thus evident that, in any given number of men brought up to the church and the bar, many, nay, most of the churchmen so brought up, must not be considered physically as the *élite*, or choice specimens fitted for any other active professional avocation, where health, strength, and endurance may be requisite on all and every occasion; but, as I said before, '*I must make my dear boy a parson, for his health will not admit of any other profession.*' Now, I feel assured that the predisposition to this frequently-occurring disease in the clergy may be traced to this original source. For, whether he has good and sustaining vocal powers, or whether these organs are weak and imperfect, the clergyman must go on plodding in the same course as long as he lives, and that often without much of the *vis animi* as a protecting agent. Not so the barrister—none of this class can shine but those who have by nature a fluency of speech, arising from the free and healthy use of their vocal organs. Should they not possess this powerful and healthy advantage, they fail to rise or become known by the due calling forth of their boasted triumphs. We may hear of the fine healthy state of the pugilist or athlete compared with the generality of other persons, but it is only of those who possess these powers from nature that we do hear. And it is the powerful and enduring speech of the barrister also which can alone give him fame; for many of this tribe indeed are only brief in discourse, for briefless are their hands, and consequently no demand is made on their vocal capabilities, and even with them many a jewel shines unseen, in consequence of the want of the proper organs for bringing forth his latent powers."

Certain peculiar temperaments of the body may also be classed among predisposing causes. Such temperaments are especially the nervous and lymphatic. In the former, there is often such a degree of nervous excitability in the system, that when the vocal organs are called into action, they do not act with that uniformity so necessary to the preservation of a healthy condition. Hence arises irregularity in the distribution of blood, and a tendency to a congested state of the vessels of these organs. In the lymphatic temperament, on the other hand, relaxation and congestion are apt to take place in any organ more especially called into action, owing to a general want of tone in the system. The same state also occurs in a strumous habit of body, but this constitution is also most frequently accompanied by an irritable state of the mucous membrane generally, in which condition the membrane lining the vocal organs very readily sympathises.

General debility, from whatever cause it may arise, is a fruitful source of local congestion and inflammation, and these morbid conditions are most likely to take place in those organs on which the greatest stress of action is laid. In the case of clergymen there is a further evil, in the circumstance of their vocal organs being exercised, not daily, and that in a moderate degree, but at periods perhaps of a week of interval, and then in an excessive and exhausting degree.

"Debility has a marked influence in the production of disease of the follicular glands. Few causes tend more powerfully to depress the vital energies, to weaken the nervous system, and dispose the organs to take on the action of disease, than mental inquietude united with intense application to study. To this cause of disease it is that many of the clergy of our country are exposed; and it is for this reason, among others, that so large a proportion of clerical men, in comparison with those of other professions, are

affected with follicular laryngitis. In these remarks I refer not to that portion of the clergy who, located in our cities and large towns, receive, many of them, ample remuneration for their ministerial labours, but to that more numerous class who, settled in the towns and villages of the country, are compelled to sustain themselves and their families on salaries which, with the practising of most rigid economy, are barely adequate to supply them with the necessaries of life."*

But one of the most common causes of this disease is *dyspepsia*, as it is that to which persons of sedentary habits and literary pursuits are peculiarly liable. In derangement of the digestive organs the whole gastro-pulmonary mucous membrane is more or less in a state of irritation, and it only needs that any one organ which it invests should suffer from over-excitement to determine the concentration of a local disease on the part excited. The effect of long-continued dyspepsia is to interfere with the due assimilation of the food and the proper nourishment of the system, and thus to impair the healthy condition of the blood; hence, when the first morbid change has taken place in the vocal organs, the others, which are of a more serious character, will probably follow.

Dr. Horace Green, however,—who considers clergyman's sore-throat in its advanced stage to be constantly attended by follicular disease of the pharyngo-laryngeal membrane, and that often of a tuberculous character—says, "The frequency with which dyspepsia has been found to be complicated with throat-ail, has led many practitioners to adopt the opinion that indigestion is not only a frequent but the common exciting cause of chronic laryngeal disease. But this opinion is altogether erroneous, and it has originated in the too common mistake—in the diagnosing diseases—of giving

* Dr. Horace Green, on Diseases of the Throat and Larynx, p. 162.

to the sequent the place of the antecedent. Where a predisposition to follicular disease exists, derangement of the digestive organs may awaken, and, unquestionably, sometimes does call the affection into action; but in a much larger number of cases, the gastric disorder, if present, is consequent upon follicular derangement, and is in fact dependent upon this morbid condition of the glands."

"This will not appear surprising when we reflect upon the amount of vitiated secretion, which, in diseases of the follicles of the fauces and pharynx, must find its way into the stomach, conveyed there by the food and drinks of the individual."*

It must, however, be borne in mind that this opinion is not only contrary to that usually held by physicians who have paid attention to the disease in this country, but supposing Dr. Green's view to be correct, and that it often consists of tuberculous deposit in the mucous follicles, it is contrary to that law, which is believed by many eminent men to influence the deposit of tuberculous matter. Sir James Clark, in speaking of that morbid condition of the system to which scrofulous persons are liable, and which precedes the deposit of tubercle, says: "But of all these disordered functions, that which claims our principal attention, because it is the *primary one*, and from it arises most of the others, is the disorder of the digestive organs. The dyspepsia of the tuberculous constitution has peculiar characters by which it may be generally known. These cannot, in my opinion, be too strongly impressed upon the consideration of the profession; so much importance do I attach to this disordered state of the digestive organs as a source of tuberculous disease."†

Another modern author on this subject says, "The di-

* Op. cit. p. 168.

† Sir James Clark, on Consumption, p. 17.

gestive organs of scrofulous patients are generally in a state of atony, in consequence of which the assimilative functions are continually disturbed."* And the late Dr. Todd, of Brighton, forcibly points out that state of the digestive organs which is the usual attendant of the tuberculous diathesis, when he says, "we are anxious to draw the attention of the profession to the form of dyspepsia which belongs to the scrofulous constitution, for, in our opinion, it presents a more characteristic feature of this habit of body than any physiognomical portrait which has yet been drawn of it. It betokens indeed little familiarity with scrofula to connect it with any particular temperament, for it belongs to all temperaments, to the sanguine as well as the phlegmatic, to the nervous as well as the melancholic, and to all their varieties and combinations; but upon whatever temperament the disordered habit may engraft itself, we venture to say that this form of dyspepsia will also there be found, and therefore, being constantly present with it, preceding and accompanying the various symptoms which issue from it, it would be contrary to all reason to refuse to it an important share in the development of the disordered habit, and in the production of the local affections which have hitherto too much engrossed the attention, to the exclusion of a proper consideration of the constitutional disease."†

A moist or dry state of the atmosphere also much influences the state of the vocal organs. Many persons are very sensitive in this respect; every physician has seen cases of hysteric aphonia, where the voice has suddenly returned under the influence of a genial change in the atmosphere, and again been lost by an opposite change. When Grassini,

* Researches and Observations on the Causes of Scrofulous Diseases. By J. G. Lugol. Translated by Dr. Ranking.

† Article Indigestion, Cyclopædia of Practical Medicine.

the celebrated singer, came from Italy to England, the humidity of the English atmosphere so relaxed the vocal organs that her voice sunk nearly an octave in pitch, and was changed from a soprano to a contralto character; from this circumstance she acquired great celebrity, from the quality and range of the lower notes. When she returned to the genial climate of Italy her voice again changed to its former soprano character, and she lost the power of producing the lower range of notes, which had made her so attractive as a singer in this country. Singers often find the slightest cold injures very materially their tone of voice, and this in the very earliest stage, before inflammatory action has come on, and this sometimes when the schneiderian membrane alone is involved; in these cases, doubtless, the vocal organs are principally influenced by that sympathy which so commonly pertains to parts covered with the mucous membrane.

The constant wear and tear of mind to which zealous and conscientious clergymen are subject, especially in large towns and thickly-populated parishes, where heavy responsibilities rest upon the minister, is also a frequent predisposing cause, impairing, as mental anxiety ever does, the nervous system generally. In fine, whatever is calculated to diminish the strength of the body or depress the mind may be reckoned as predisposing to this disease. Sedentary habits, as before intimated, are likely to lead to this result, by impairing the tone of the system. When regular exercise of all the bodily powers is neglected, the equilibrium of the circulation is disturbed by slight causes, hence a state of congestion, or inflammation, is very apt to occur in the vocal organs on any extra exertion of them.

Of the exciting causes of this disease the most common, without doubt, is the inordinate action of the organs of speech themselves, not so much that excessive action which takes place during a temporary—it may be a rare or soli-

tary effort, but the long-continued strain which is kept up for a lengthened period, and by which the muscular and tendinous parts of these organs are kept on the constant stretch, without those intervals of rest which occur in common conversation. We all know how difficult it is to hold out the arm from the body in a horizontal posture, even for a few minutes only, without the muscles becoming wearied and painful. The muscles of the vocal organs are, of course, alike influenced by the same law which pertains to the other voluntary muscles. It is easy, then, to understand how necessary it is to the well-being and due administration of any bodily function, that rest should alternate with action. Complete repose is that which refreshes and protects the body, and renders it able to bear the demands of future and repeated exertions; and as every muscle has its aponeurosis and secreting membrane to lubricate it, and prevent all irritation from friction during its action, and as it is only in the relaxed state of the muscle that this secretion can be duly and effectually carried on, it is evident that the longer and more protracted the muscular contraction, the less time and opportunity is left for the proper secretion to take place and be thoroughly distributed. The mere exercise of any part of the body, and of course of the vocal organs equally with others, even though that exercise may be carried to a high degree, is not in itself calculated to inflict much injury, so long as an adequate interval of rest is allowed between each effort. Exercise only becomes painful when it is a protracted strain, without intermission, on one set of muscles and their tendinous expansions, without a sufficient interval of relaxation to enable those secretions of the investing membranes to fulfil that office which is appointed by the all-wise Creator to produce a soothing and protective agency.

It need not be a matter of surprise, as it has sometimes

been, that clergymen, barristers, or indeed all those who employ their voices for a long continuance without rest, should be more liable to this disease than public singers or great talkers, for although, in the case of singers, the exertion of the vocal organs is great, yet it alternates with rest, and even the most voluble talkers in conversation are compelled, by the usages of society, to be silent occasionally, and allow time for their hearers to reply, and in these snatches of rest the organs recover themselves. Not so in the eloquent address of the pleader, the emphatic sermon of the preacher, or the impassioned harangue of the orator. These are delivered with much energy, and without any intermission, giving no time for the investing membrane of the muscles to secrete a proper quantity of lubricating fluid. Hence a vascular turgescence arises in the muscular fibre, and the membrane itself becomes, in its turn, inflamed and thickened, and unfitted to perform its office in the secretion of the requisite lubricating fluid. In this state every fresh exertion made by parts already impaired from over-work must necessarily be performed with difficulty, and during its performance the state already described becomes aggravated. Now, the barrister, the parliamentary speaker, or the mob orator will probably have a long period of rest before he is called on to repeat his effort, but not so the clergyman,—the next Sunday probably will bring the same, or a greater demand on his vocal organs, and hence he suffers more than the other classes. Similar effects may continually be seen in operation in other parts of the body. If a person takes a fatiguing long walk, or otherwise undergoes any unusual muscular fatigue, he feels for some time afterwards stiff and unfitted for exertion, and it is not until the muscles have regained their tone by rest, and the fibres have been properly lubricated by the secretions of the investing membrane, that they fully recover their vigour. If the exercise

be continued too long, or repeated without sufficient repose, a general inflammatory state of the system supervenes.

"The jolly young waterman who, at intervals during the day, has many a tough pull against wind and tide, yet follows his daily occupation without fatigue, danger, or injury to his person, and this safety arises from the frequent pauses, or states of relaxation or repose, that his muscles and their secreting membranes have the opportunity of enjoying; but was the same man to pull the same number of strokes in one continual state of equal exertion that he spreads over the surface of a day without its intervals of rest, he would soon become exhausted, his muscular fibres would inflame from unprotected friction, the several tissues would lose their natural and healthy characteristics, and he would prematurely come to the state of a worn-out old man, enfeebled by exhaustion."

Another exciting cause in clergymen may be that whilst reading the Liturgy they usually speak above the natural pitch of the voice, or if they do not do this, they at least *emphasize* their reading by laying stress on particular words. This, it may be said, is also done in ordinary reading, and even in common conversation, but then it arises from the natural and spontaneous burst of feeling, while in the former case, that of reading a prescribed form of words, it must, to some extent, be the result of effort and practice, and be perhaps not strictly in accordance with the then state of the mind. Thus that nice adjustment between the mind and the power of utterance, by which the latter easily and naturally obeys the dictates of the former, is less closely kept up, and greater fatigue is the consequence.

On this subject the opinion of Mr. Macready, the eminent tragedian, is deserving of the greatest attention; in a letter addressed to me he says, "Relaxed throat is usually caused, not so much by exercising the organ, as by the kind of

exercise, that is, not so much by long or loud speaking as by speaking in a *feigned* voice. I am not sure that I shall be understood in this statement, but there is not one person in, I may say, ten thousand, who, in addressing a body of people, does so in his natural voice, and this habit is more especially observable in the pulpit. I believe that relaxation of the throat results from violent efforts in these affected tones, and that severe irritation, and often ulceration, is the consequence. The labour of a whole day's duty in a church is nothing, in point of labour, compared with the performance of one of Shakspeare's leading characters, nor, I should suppose, with any of the very great displays made by our leading statesmen in the Houses of Parliament. I am confident as to the first, and feel very certain that the disorder which you designate as the clergyman's sore-throat is attributable, generally, to the mode of speaking, and not to the length of time or violence of effort that may be employed. I have known several of my former contemporaries on the stage suffer from sore-throat, but I do not think, among those eminent in their art, that it could be regarded as a prevalent disease."

The atmosphere of hot and crowded rooms, or places of public assembly, even when an individual exercises only a moderate quantity of public speaking, is apt to excite the malady, especially if followed by exposure to a cold draught of air. When to these injurious influences is joined improper dietetic management the risk is much increased, for, as may be easily understood from what has been already said of the sympathy which exists between the various parts of the mucous membrane, when this is in a state of irritation from dyspepsia, a very slight exciting cause applied to the organs of speech will produce the first stage of the malady, and when that state is once produced every succeeding exposure to the same exciting cause will greatly increase it. The

preacher, from the elevated position of the pulpit, is exposed to the impure and rarefied air given off from the lungs and skin of a large congregation, and this atmosphere must act most injuriously on the mucous membrane lining the vocal organs, especially when affected by disease, even in its faintest and merely incipient form.

Certain impressions on the nervous system may also constitute an exciting cause. That timidity and want of confidence which are felt by young men who have recently entered the church always produce more or less irregularity in the action of the vocal organs, and when these exciting circumstances are frequently renewed, this irregularity may produce a congested state of these organs; but, independently of any change in the distribution of the blood, a simply nervous state may be induced, from which an imperfection of utterance, or even complete loss of voice, may ensue. This state is nearly akin to those cases of aphonia which occur in hysterical persons from some impressions made upon the mind, or upon one of the senses. A lady whom I attended, many years ago, for this affection, would sometimes be free from it for months, but it always returned from some impression being made on the olfactory nerves; her voice would, perhaps, be clear, loud, and distinct when she left home for a morning drive, but if she accidentally passed near any place where a quantity of recent stable manure was being carted away, or even in the neighbourhood of a tanyard, her voice would be reduced to a whisper, and often continue so for weeks afterwards.

CHAPTER IV.

PATHOLOGY OF DYSPHONIA CLERICORUM.

When treating of the causes from which impairment of the voice had its origin, it was shown that, in its earliest stages, it might frequently be a mere nervous affection, dependent upon some anæmic condition of the nervous centres or of the ultimate branches of the laryngeal nerves; in such cases there is no organic lesion of the part affected, but a simple deficiency of nervous power; the inconvenience experienced in such cases may be very trifling, and continue for a short time only, or it may be much greater, and extend to complete aphonia, and last for years. At one time mere mental emotion is all that is requisite to produce it, at another, and this by far the most common, mental anxiety continued for some time may give rise to the affection. But this deficiency of voice may sometimes precede and indicate a more serious disease of the nervous centres. There is an interesting case of this kind thus described by Dr. Graves in his 'System of Clinical Medicine:' "A barrister, whom I attended with Dr. Beatty, was walking up and down in the hall of the Four Courts, waiting for a case to come on, and chatting with one friend and another; as the hall was rather crowded and hot, he went out into the area of the courts for the sake of the air, and had not remained there more than ten minutes, when an old friend from the country came up, and spoke to him. He was pleased to see his friend, and wished to inquire about his family, when he

found, to his great surprise, that he could not utter a single audible sound; he had completely lost his voice. He recovered the use of his tongue in about three weeks, but not completely, for some slowness of speech remained. When the loss of speech was first perceived, his friend brought him home in a carriage; and during the day he had several attacks of vertigo, and afterwards hemiplegia. For several hours, however, before distortion of the face, or any of the usual symptoms of paralysis had commenced, the only existing symptom was loss of speech. This gentleman died of apoplexy in about two months." (p. 688.)

Deprivation of the power of utterance may entirely depend upon simple irritation of the mucous membrane, either of the vocal organs themselves or of the mucous membrane lining some of the viscera at a distance, such as the stomach and bowels. A very common cause of direct irritation of the mucous membrane lining the vocal organs is an elongated uvula, while dyspepsia and constipation often cause irritation from sympathy. Cases of this kind may continue for an indefinite length of time without any serious lesion to the vocal organs resulting, and whenever the cause which induced and still keeps up the irritation is removed, the malady dependent upon it will also cease.

I attended a gentleman for some years, for a local affection which had much impaired his strength and shattered his nervous system. During the whole period his digestive organs were more or less deranged, and the organs of voice constantly sympathized with this derangement. At times, when the stomach was much disordered, much effort was required to read aloud for any length of time, and occasionally, when the effort was continued, he was seized with a spasmodic closure of the glottis, which threatened instant suffocation. At length this gentleman, in a great measure, recovered from his local disease; his dyspepsia, and the

vocal affection, as well as the irritative state of the nerves of the glottis, also ceased without leaving any trace. This was a case purely sympathetic with the state of the digestive organs, the irritability of the vocal apparatus probably increased by the shattered state of the nervous system.

A case of complete aphonia* apparently arising from constipation was related by Mr. Hale Thomson, at the meeting of the Westminster Medical Society, on the 10th of November, 1838. "A policeman, in the B division of the Westminster force, while on duty, found himself, about four o'clock on Tuesday morning, the 30th of October, suddenly deprived of speech. He had been conversing with the sergeant of his beat a few minutes previously, and was not then indisposed. He states that about three or four years ago, while in Paris, he laboured under a similar affection, for which he was admitted into the Hôtel-Dieu, and after remaining there for ten or twelve days his speech suddenly returned. As far as he recollects of the treatment then pursued, it was of a stomachic and stimulating nature, but his account of it is of course imperfect. On his admission to the Westminster Hospital, on the morning of Tuesday, he evinced no other signs of indisposition than the entire deprivation of the power of speech; he readily replied to any question put to him by writing on a slate which he carried in his pocket, and when pressed to make an effort to speak, he merely made a noise very similar to that of a dumb person. He did not appear to have lost the motion of the tongue or lips, and the making an effort to speak did not seem to occasion any uneasiness. He stated that he was of an extremely costive habit, and his bowels were then in a confined state. He was ordered to take a dose of the compound jalap-powder directly, and this was repeated four or five times. On the Wednesday, as the bowels had not been acted upon, salts and senna

were given, which did not operate until Thursday night. At four o'clock on Friday morning his speech suddenly returned, and he continued well up to the time of his leaving the hospital, which was within a week of his admission. He immediately returned to his duty, which he now performs as usual."*

When, however, the mucous membrane lining the organs of voice has itself been irritated, and the irritation frequently repeated, either by over-exertion of the voice in speaking or singing, by breathing an impure irritating atmosphere, or from some other cause directly applied, not only does the power of utterance become impaired for the time, but certain other conditions will ensue which will lead to changes of a more lasting and serious character, which may be conveniently arranged under certain heads.

I. The nerves supplying the blood-vessels of the part affected being excited by the irritation, the capillaries become expanded, and as the mucous membranes are especially susceptible to this erethism or expansibility with which the mucous membranes are endowed, the change takes place the more rapidly in that lining the throat. As the vessels enlarge, the blood circulates more freely in them; a proportionately increased quantity must also flow in the arteries supplying the capillaries, and a quicker return through the corresponding veins; a like increase of action will take place in the secreting vessels, which will in a great measure tend to relieve this state of plethora or determination of blood to the part. And if the cause which produced this state of excitement is now removed, the parts will return to their normal condition, and any temporary inconvenience in speaking, resulting from this temporary determination of blood, will at once cease with the cause which produced it.

* Lancet, vol. i, p. 367, 1838-9.

II. But if the excitement be continued or frequently repeated, the diameter of the capillary vessels themselves will become permanently increased, their coats weakened, and a state of congestion will take place in the vessels of the part; from this over-distension of the vessels and weakening of their coats, the current of the blood circulating in them will become languid, or be retarded. This state of congestion may be either active or passive; in the former there is an increased flow of blood to the part, so that the capillaries, the arteries, and the veins have two or three times the quantity of blood circulating in them that they usually have, while at the same time the velocity of the blood is accelerated. This condition will modify the functions of the part affected; the change from arterial to venous blood will not so effectually take place, and the minute capillaries will become more readily visible, the secretions of the part will be in a measure suspended, the cellular tissue a little swollen, and the whole throat will appear of a brighter red than natural. This state of active congestion, however, does not continue for any length of time, unless the cause which produced it remains still in active operation, for the distended vessels become permanently dilated, their coats weakened, the course of the blood in the loaded capillaries more languid and sluggish; the tone of the distended vessels being thus lost, they become unable to propel forward the blood which is forced into them by the heart's action, and are thus left in a state of passive congestion. These states of active and passive congestion lead the way to more important changes.

III. From the state of passive congestion above described very frequently a state of effusion results; from the attenuated coats of the gorged capillaries serous fluid transudes into the surrounding parenchymatous structure, giving the whole velum and fauces a somewhat tumid but pale and flabby

appearance, along which the dilated capillaries are seen here and there running, carrying blood of a brighter tint than is usually observed in minute vessels; the voice will, under these circumstances, be found much weakened, and is usually marked by hoarseness. This state may be very properly called simple relaxation of the throat.

IV. After congestion has continued for a longer or shorter time, unless removed, it is very likely to terminate in inflammation; but this change may happen so gradually, or the two may be so combined together, that it may be impossible to draw the line of demarcation between them. The inflammation, when it follows the preceding actions, may be of various grades of intensity, but it is generally of a subacute character, affecting first the surface of the mucous membrane either of the whole throat, or of a part only of the vocal apparatus. Should, however, the cause which produced it be still in operation, the inflammation will gradually extend to the follicles and sub-mucous textures, either still retaining its subacute character, or becoming more active. From any strong exciting cause, however, inflammation even of the most active kind may arise in the vocal organs, and the previous changes above described may be of so short a duration that they may not be observed; but this acute inflammation, when it becomes more chronic in its character, will also usually terminate in the same way as the subacute, and will also especially linger in the mucous follicles; the secretions which at first, in both cases, were deficient, will increase and become vitiated; during the progress of inflammatory action, serous fluid will be poured out into the cellular membrane, and when it has assumed the chronic form, if the throat be examined, the whole of the fauces and palate will appear pale, flabby, and relaxed, and the uvula so much elongated as to be of itself a constant source of

irritation to the already excited vocal organs. This state may continue for an indefinite length of time, incapacitating the patient for any exertion of the voice.

V. In certain depraved conditions of the body, especially where the scrofulous diathesis or other constitutional taint is present, the congestion may not proceed to inflammation at all, but terminate in other morbid changes, such as the deposition of adventitious structure in the surrounding parts, or there may be deposited in the follicles of the air-passages a yellowish matter of a soft cheesy consistence; this deposit very frequently takes place in the follicles of the tonsils. Laennec clearly points out the distinguishing characters between this secretion and tubercle. He says, "the former emits a fetid odour when squeezed, and greases paper when heated on it." This cheesy deposit in the follicles of the tonsils is a very common cause of fetid breath, and which, for a time, may be immediately cured by squeezing the tonsils and pressing out the cheesy substance. Tuberculous matter itself may, without doubt, be deposited either on the surface of the mucous membrane or in the follicles, but this has been treated of elsewhere.

When chronic inflammation lingers for a considerable time in the glandular structure of the mucous membrane of the throat, it may give rise to other morbid changes. These have been most admirably described by Dr. Green, of New York, and to him belongs the merit of first clearly pointing them out. He says, "Among the structural changes which are the product of inflammation of the mucous follicles are hypertrophy, altered secretion, and a deposition of tuberculous matter in the follicles themselves."

VI. "One of the earliest changes in follicular disease of the pharyngo-laryngeal membrane is hypertrophy of the

mucous glands. The investing membrane of the respiratory tube, as we have seen, is studded with mucous follicles, which in their normal state are scarcely visible, but affected by disease, a deposition of textural matter follows, and these glands become not only apparent but in some instances greatly enlarged.

"Hypertrophy is not always a morbid process, as it sometimes depends upon an increased nutrition of the part; but the altered secretion and the changed structure, which attend this form of it, mark it as being united with diseases, or as constituting in itself diseased action. Not only are the cryptæ of the fauces, pharynx, and air-passages enlarged in follicular disease, but in many instances the lenticular papillæ, those large mucous glands which are situated at the back of the tongue, just before the foramen cæcum, are found in an hypertrophied condition."

VII. "*Induration of the follicular glands.*—Hypertrophy of the mucous follicles is not always accompanied with induration. In a large majority of instances, even where the disease has existed for years, this morbid alteration is not present. Cases do occur, however, where the chronic inflammation, which is attended by enlargement, is productive also of induration of the follicle. In the solitary glands this change is of rare occurrence, but in the mass of follicles which are aggregated in the tonsils long-continued inflammation is generally accompanied by induration; a condition of these glands which has been frequently but improperly pronounced to be scirrhous degeneration of the tonsils."

VIII. "*Morbid secretion of the follicular glands.*—The fluid secreted by the mucous follicles of the air-tubes is, in the normal condition of the glands, bland and transparent; not abundant in quantity, and possessing no qualities of an

acrid or an irritating nature. When, however, the mucous crypts become the seats of that chronic inflammation of which we have been treating, the fluid which they elaborate is at once increased in quantity and vitiated in quality.

"The secretion of a fluid, possessing all the sensible and chemical properties of pus, is the frequent result of disease of the pharyngo-tracheal follicles.

"I have, on a former occasion, expressed the opinion that tuberculous deposits are sometimes found on the surface of the membrane lining the larynx, or collected in the mucous follicles of this cavity."

IX. "*Ulceration of the follicular glands.*—In all cases of long-continued chronic irritation of the mucous glandulæ there exists a tendency in the morbid action to terminate ultimately in ulceration. Ulceration is always preceded by some degree of inflammation; but irritation and engorgement of the cryptæ may continue for a long time, in many cases before the occurrence of that process—a solution of continuity with suppuration, which constitutes true ulceration. In other cases, after the irritation has persisted for some time, the engorged follicle presents a small ash-coloured point, which is surrounded by an inflamed base, and has red and slightly elevated edges. In follicular disease these ulcers, which ordinarily spread slowly, are generally first observed about the arches of the palate and on the back of the pharynx; they next attack the laryngeal face of the epiglottis and the epiglottic glands situated at the base of this cartilage, and spreading by continuity, they in some instances invade the mucous follicles in the ventricles and around the chordæ vocales. Indeed there is no part of the larynx and trachea that may not be the seat of ulceration.

"In their early stages, ulcerations of the mucous glandulæ are small and superficial; continuing for a long

time, not only are the glands destroyed, but the mucous, the sub-cellular tissues, and even the cartilages themselves, may become involved in the ulcerative process.

"Thickening of the mucous membrane of the pharynx, &c., is an early change in the progress of follicular disease, but eventually an opposite state of things takes place, for not only are the surrounding engorged membranes unloaded, and their increased thickness removed, but the sub-cellular tissues and the pharyngeal muscles become atrophied, in part probably from the increased absorption which has been set up; and we then have, on inspection, those enlarged and cavernous throats, so frequently observable in long-continued follicular disease, and to which allusion has more than once been made.

"After the removal of the disease by a successful plan of treatment, a deposition of healthy structural matter commences, and the calibre of the enlarged throat is in a short time greatly reduced in its diameter."*

X. If the constitution be sound, the digestive organs in good order, the habits and occupations of the patient not of a sedentary character, the inflammation excited by frequent irritation of the vocal organs may assume a very chronic form, continuing on the surface of the mucous membrane without attacking the glandular structure, and producing more or less hoarseness from the relaxed and congested condition of this membrane. This state of the throat is often observed in street criers, or those who are in the habit of using their voice much in the open air; clergymen and public speakers, however, under certain circumstances, suffer occasionally, though not often, from the same condition of the throat. In those persons who use the voice much in the open air, the state of chronic

* Dr. Green's Treatise, p. 157.

inflammation is often kept up by the constant use of stimulants. The throat, when examined under these circumstances, presents all the appearances described under the fourth head, only the blood-vessels are more tortuous and turgid; occasionally one of the gorged vessels gives way, and the loss of a small quantity of blood relieves for a time the over-congested mucous membrane, and the voice becomes less hoarse, and the throat more comfortable. From the constant irritation, excitement, and chronic inflammation, the coats of the blood-vessels supplying the vocal organs may become attenuated, and the veins assume almost a varicose condition, similar to hæmorrhoids. An interesting case of this kind lately came under the observation of my friend, Dr. William Roots, of Kingston-on-Thames, who thus describes it: "A labouring man, about 50 years of age, and hawking *crockery-ware*, called to ask my advice relative to an affection of his throat, or, as he described it, '*his gullet*.' He had been formerly a watchman in Southwark, but attributing a constant sore throat and hoarseness to *crying the hour in cold foggy nights*, he took to the little less agreeable occupation of crying cabbages and potatoes in the neighbourhood of London; finding this avocation also eventually detrimental to his vocal powers, and after having suffered many difficulties and impediments to the exercise of his trade, he wound it up by carrying a basket of crockery or china-ware, which proclaims its own presence to the eye without the aid of his bawling notice, and by which he gets on comparatively well, and gains a precarious livelihood. He describes his complaint as having existed for upwards of twenty years, gradually increasing during the *watching period*, but somewhat diminished to the present time, with the exception of the intervals which I will afterwards mention. His present symptoms struck me as arising from an actively congested and inflamed state of

the glottis; but, being an intelligent man, I desired him to relate his own story, and the history of his disease is as follows:—For several years past he has been occasionally, say once in four or five months, attacked with a fulness or swelling in his throat, which at times nearly deprives him of the power of breathing or speaking, but occasions no interruption to the *swallowing of fluids*, nor is it attended by much cough, with the exception of a hacking endeavour to get rid of some *impeding body at the orifice of his windpipe*, and with but little irritation in the trachea or bronchial tubes. After a few days of great distress, a bleeding suddenly takes place to some considerable extent, (this, on pressing him closely, seems not to have amounted to more than one or two ounces,) and great relief immediately follows; after which, with the exception of a slight and temporary soreness of the glottis or surrounding parts in breathing or speaking he continues in comparative comfort; the voice regains its power though it remains hoarse; he can bawl, as he says, though hoarse, as loud as ever. This state of relief sometimes continues for four, five, or six months together, when, and as I have reason to believe, after a course of much dram-drinking, the swellings again take place; the same troubles, difficulties, and, I may add, dangers follow, and only at a certain ripe state of distension do the turgid vessels give way, and thus afford the usual relief, without being followed by any dangerous or ulcerative process. This has gone on for so many years that the poor fellow only looks forward with anxious hope for the period of *rupture* and *relief*. When he applied to me it was to know if I could devise any means for accelerating the rupture. On examination with my *forefinger* I could decidedly feel one or two elastic tumours apparently surrounding the glottis, but the convulsive spasms, induced by the introduction of my finger, prevented me from forming an accurate

opinion of their size and position ; but on a second attempt, and pressing rather strongly, one of them gave way, and about a teaspoonful of blood was ejected, which greatly relieved him, and made him more anxious to have the other, as he called it, broken, being convinced in his own mind that there were two, though *he feared the other was hardly ripe.*

"Finding, however, his breathing and speech were much better, I did not feel warranted in using any further or stronger means, but giving him every encouragement to let me hear of him again whenever his itinerary pursuits led him towards Kingston, I dismissed him, after receiving a thousand thanks for the relief which I had thus accidentally given him. The blood that escaped was *entirely venous.* The only time he ever experiences any difficulty in swallowing is just before the period of the tumours giving way, and which is entirely removed on this event taking place, but leaving a continual inclination to swallow for some days after. The uvula was large, and had a highly vascular appearance, but rather flaccid, and of a venous hue ; the tonsils were not preternaturally enlarged ; before the tumour gave way I could hardly hear him articulate ; but immediately after he spoke distinctly, and breathed with comparative ease. His countenance was at first much distressed and pallid, but it cheered up wonderfully before he left me. He told me that *when the second* gave way, which he expected would be the case in a few days, he should live in comfort for the next four or five months.

"The man's countenance and structure did not betray visceral, or indeed the existence of any serious disease ; it was evident that the tumours were either external of the glottis, or immediately surrounding and emanating from the margin of the rima, and that they were of venous fabric there could be no doubt ; and from the curious circumstance

of these cysts or sacculi filling and rupturing on complete distension, and affording immediate relief without any injurious consequences following, I am induced to believe that their structure is similar to that of *anal hemorrhoids*, and that they have been produced by a constant plethoric state of the vessels of the part, arising from the continued irritation in bawling out the hour when a watchman, and his wares when hawking vegetables; the congested and inflamed state of the throat no doubt increased by occasional potations of spirituous stimulants."

XI. Under the preceding heads have been considered those morbid changes produced by congestion, inflammation, ulceration, &c., upon the mucous membrane and follicles generally of all the parts concerned in the act of speaking; but the same morbid processes may be confined entirely to the immediate organ of voice, the larynx, with which, however, the epiglottis usually sympathises. The inflammation affecting this organ may be either acute or chronic. Acute laryngitis is a most alarming and dangerous disease, both from the suddenness of its attack, and from the formidable nature of the symptoms which accompany it; for, by the tumefaction resulting from the inflammatory action, the chink of the glottis is narrowed to such an extent as to threaten instant suffocation. In a more chronic form laryngitis may continue for a considerable length of time impairing the functions of the larynx, but sooner or later the disease extends or becomes complicated with a similar affection of the mucous membrane of the other parts of the throat, and there result the various morbid conditions of these parts already described. It must also be borne in mind that chronic laryngitis is a frequent attendant of pulmonary phthisis; hence, whenever this disease manifests itself, the lungs ought to be carefully examined.

CHAPTER V.

SYMPTOMS OF DYSPHONIA CLERICORUM.

The symptoms which present themselves will, in a great measure, depend on the stage of the disease. In some conditions this may have made considerable progress before any distressing symptoms occur. This is not, however, the case in those purely nervous affections of the throat in which there is no perceptible lesion of the soft parts, but simply deficient power in the nerves of the larynx themselves, or some anæmic or other condition of the nervous centres. In proportion as this deficiency is more or less, every shade of imperfection in the voice will manifest itself, from the almost imperceptible increase of effort in speaking to complete aphonia.

Of these simple nervous affections, one of the most common is that which has its origin in mental anxiety. The voice then appears muffled, as though the person were speaking through flannel, or some other thick substance, but as soon as the mental emotion is removed, the tones regain their accustomed clearness and strength. This loss of voice from mental causes may occur very suddenly. I have known an energetic and conscientious clergyman, when preaching on some solemn subject, suddenly break down in the midst of his sermon from deep feeling, the voice becoming changed in character, and requiring increased effort to be audible. A few hours' rest in such a case is often all that is requisite to restore the power of the vocal organs; but when there is

a frequent recurrence, or a long continuance of this failure of voice, it is probable that there may be an anæmic condition of the nervous centres generally, or in that part from whence the laryngeal nerves have their origin, or there may be general debility of the system to account for it.

Where the vocal affection is sympathetic with dyspepsia, or some irritation of the mucous membrane lining the alimentary canal, the symptoms are somewhat different. There is not so much a difficulty of utterance felt by the speaker, but rather a sort of gruffness or huskiness of the voice, a slight tickling in the throat, exciting cough, with an inclination to clear the throat. These symptoms are worse after meals, especially after eating any indigestible substance, and may continue for months and even years, without much inconvenience, and indeed without exciting attention. But should the patient be a clergyman or public speaker, and thus be called upon to exercise his vocal organs for a lengthened space of time, this continued irritation will produce a determination of blood to the mucous membrane, and thus increase its susceptibility to future impressions, and after this state has continued for some time, the vessels themselves will become congested, and slight effusion into the cellular membrane will take place, and the state of simple relaxation be produced. Hence there will be present not only the previous symptoms, dependent upon irritation of the mucous membrane lining the stomach and bowels, but the tone of the voice will be altered, the patient will be slightly hoarse, and an extra effort will now be required to speak in the former natural tone. This will be easily understood when it is considered that the vocal cords will partake of the same slight relaxation which the effusion has induced in other parts of the throat.

When the general health is good, simple relaxed throat may continue, under certain circumstances, for many years, and yet

produce no injurious consequences. The patient feels that his voice has not that clear tone that it formerly had, and if he be accustomed to sing, he finds a difficulty in reaching notes which he formerly could reach with ease. "I do not find my voice return to me clear as the sound of a bell," said a patient who was suffering from this slight state of congestion and consequent effusion. Such cases, however, do not often come under medical treatment, unless where they are accompanied by affections of the stomach or alimentary canal. The trifling inconvenience which the patient usually suffers is temporarily relieved by the use of a Cayenne lozenge, or some other stimulant; but although he experiences but little present inconvenience from this state of the throat, it must be borne in mind that this condition of the vocal organs waits only for some exciting cause to produce a fresh state of congestion and inflammatory action, during the progress of which other morbid changes and greater inconveniences will result.

This inflammatory action may, in the first instance, be subacute in its character, or it may be more active, and as a general rule, according to its activity will be the gravity of the symptoms; but often in its most acute form there is only a little hoarseness, and the other concomitants of a common sore-throat, but with less of that pricking pain, less fulness of the tonsils, less stiffness of the jaws, and less feverishness of the general system than usually accompany common inflammatory sore-throat. The fauces, however, with the velum, the root of the tongue, and back part of the pharynx are both red and swollen, the mucous follicles enlarged, and the secretion from them thin and scanty. Sometimes with the diminution of the secretion it is more frothy and adhesive than usual, producing a feeling which excites the patient to be continually hawking it up. This active stage of the malady is often confounded with common

inflammatory sore-throat, and the patient will refer to this or that occasion as having given him the cold which he supposes has produced it.

After this state has continued for a longer or shorter time, the inflammatory action will either cease or assume a chronic form lingering about the mucous follicles, and the type which the malady will take will greatly depend upon the state of the digestive organs and the general healthiness of the system. If the health be tolerably good, or the dyspepsia from which the patient suffers be of a mild character, there will only result from this previous state of inflammation slight effusion into the contiguous cellular structure, from which the whole throat will become pale, flabby, and relaxed. The hoarseness may or may not remain, but it is usually very much diminished, while, on the contrary, the effort required for continuous speaking will be considerably increased. If the throat be inspected, not only will the uvula, velum, and back of the pharynx appear pale and doughy, but here and there an enlarged vein or capillary in a state of congestion will give the parts a streaky appearance. The uvula is not only elongated, but sometimes œdematous, and the tonsils swollen. The mucous membrane lining the trachea and larynx, and the vocal cords also, are doubtless in a similar condition with those parts of the throat which can be seen.

In this condition of the throat the patient suffers but little inconvenience as long as his vocal organs are in a state of repose, but any continuous effort to speak becomes very distressing, especially towards evening, after the organs of speech have been exercised in the duties of the day, and the great effort required for speaking will, at every fresh protracted exertion of the voice, excite anew the inflammatory action, and thus encourage it to linger in a chronic form in the mucous follicles.

This inability to sing, read, or speak for any length of time, depresses the patient's spirits and disturbs the nervous system, and even when there has not been much previous derangement of the digestive organs, these now begin to perform their functions but imperfectly; nutrition is impeded, the system is weakened, the heart's action becomes irregular, and thus, without any structural lesion, the general health becomes impaired. Whilst in this depraved state any fresh exciting cause may superinduce an inflammatory action of a low chronic character, especially attacking the glandular structure. The mucous follicles may thus become indurated from the deposition of abnormal structure, or take on follicular disease.

This state of relaxation of the throat does not, however, necessarily precede the more serious disease; but at the commencement of the throat affection, should there be present a depraved state of the general health, the scrofulous diathesis, or great derangement of the digestive organs, there may at once be produced that affection so ably described by Dr. Horace Green, of New York, as follicular disease of the pharyngo-laryngeal membrane. When the follicles become thus diseased, the secretions from them will be vitiated, being also, at the same time, much increased in quantity, and of an irritating, or glairy, adhesive quality.

Dr. Green says that he has seen cases of follicular disease without any of the preceding conditions above described, and especially without any previous derangement of the digestive organs. This last fact, however, is opposed to my own experience, and that of several of my medical friends who have had much acquaintance with these cases, and who have furnished me with their opinions on the subject, further observations upon it are therefore probably required. Dr. Green says "the frequency with which dyspepsia has been found to be complicated with *throat-ail*, has led many

practitioners to adopt the opinion that indigestion is not only a frequent, but the common exciting cause of chronic laryngeal disease. But this opinion is altogether erroneous; and it has originated in the too common mistake, in the diagnosing of disease, of giving to the sequent the place of antecedent. In a letter received from an eminent clergyman, who for several years has suffered under an aggravated form of follicular laryngitis, that gentleman writes: "In my own case it may be proper to remark that I have always enjoyed uninterrupted health. Never, since my remembrance, have I lost my dinner for want of health and appetite to receive and enjoy it; this is true up to this day. Whatever abstinence I imposed upon myself has been in accordance with prudential considerations." To an almost equal degree has the same exemption from dyspeptic symptoms obtained in a large proportion of the cases to which my attention has been directed. Where a predisposition to follicular disease exists, derangement of the digestive organs may awaken, and, unquestionably, sometimes does call the affection into action; but in a much larger number of cases the gastric disorder, if present, is consequent upon follicular derangement, and is, in fact, dependent upon this morbid condition of the glands. This will not appear surprising, when we reflect upon the amount of vitiated secretion which, in disease of the follicles of the fauces and pharynx, must find its way into the stomach, conveyed there by the food and drinks of the individual."

At the present time I have under treatment the case of a young clergyman, which appears to be a good example of the disease arising from dyspepsia and intestinal irritation. He applied to me for medical advice for his present malady, which is follicular disease of the throat in an early stage, during the month of September, 1847, before which period I had not seen him for twelve months,

although previous to that time I had attended him professionally for several years; he is of the nervous temperament, and has been for years subject to dyspepsia and constipation. The throat affection came on about twelve months ago, and its apparent predisposing cause was irritation of the mucous membrane of the throat, arising from sympathy with an irritated state of the mucous membrane of the stomach and bowels; the mere continued irritation being gradually incited into congestion and inflammation by exerting the voice in the desk and pulpit in a louder than its natural tone; the inflammation has now assumed a chronic form, and chiefly affects the follicular glands; the secretion of mucus is increased and vitiated; the voice hoarse, and the effort required for speaking great. The throat is now beginning to assume that cavernous form so well described by Dr. Green.

Disease of the mucous follicles may, however, continue for some time without producing any very marked symptoms, but usually the mucous secretion is much increased, and it either becomes very watery and irritating, or adhesive, ropy, and frothy. The irritation produced by it causes an uneasy sensation at the top of the throat, either a constant feeling of dryness, or as if something was sticking there, inducing a frequent attempt to hawk it up or to swallow it. The celebrated Edward Irving, who died from this disease of the throat terminating in phthisis, used to describe the sensation produced by the irritation of the vitiated mucus to be as if a bit of the husk of corn was sticking at the top of the throat.

If the throat is inspected before ulceration takes place in the follicles, the mucous membrane will be found much relaxed in every part, the posterior fauces marked by tortuous and enlarged capillary vessels in the form of red streaks or patches; these patches occasionally shifting their

seat rather rapidly,—when they continue long in one place the centre is marked with a yellowish opacity. The uvula is thickened and elongated, and the tonsils often enlarged; the mucous follicles at first are not much increased in size, but afterwards become much more swollen, so as to give an uneven appearance to the surface of the mucous membrane. There may or there may not be cough, but usually there is a slight hacking. If the patient does not much exert his vocal organs this state may continue for a considerable length of time without any greater inconvenience than the symptoms above described; but if he still persists in frequently exerting his voice, and that for a length of time together in reading, speaking, or preaching, or if some other exciting cause either be present or supervene, this state of chronic inflammation of the mucous follicles will gradually terminate in ulceration of these glands. This morbid process has been admirably described by Dr. Green.

"If the affection has continued for some time we shall frequently find some of the diseased follicles in an ulcerated state; these are generally first observed about the palatine arch, the posterior wall of the pharynx, and along the border, and on the laryngeal surface of the epiglottis. In the first stage these ulcers are small and superficial, appearing in the form of ash-coloured patches, surrounded by an inflamed and elevated base. Continuing, they at length destroy the mucous follicles, and sometimes involve not only the mucous but the subcellular tissues in their progress.

"Accompanying the above symptoms there is often found œdema and elongation of the uvula, and in many instances, hypertrophy of the tonsils.

"If the patient be exempt from all hereditary phthisical tendencies, these symptoms may continue for years without making any decided progress. At times the unhealthy

appearances will be nearly altogether absent, and will return again whenever the individual is exposed to any of the ordinary exciting causes. Some cases have come under my care in which the disease,—its symptoms alternating in this way,—has continued for fifteen or twenty years, affecting only the follicles of the lining membrane of the air-passages; but in other instances, where the disease had not been in progress as many months, yet where a strumous diathesis existed, I have found the lungs in this period irremediably affected, although the disorder was entirely local in its origin, and been limited in its incipiency to the pharyngo-laryngeal cryptæ.

"In the incipient stage of follicular laryngitis, of the uncomplicated form, there is seldom much cough present. The irritation that is felt in the larynx, and which is caused by the increased and vitiated secretion from the diseased follicles, is generally relieved for the moment by hawking in this stage of the affection. As the disease advances, however, and the glandulæ of the larynx and trachea become involved in the morbid action, a cough will steal on, which, from being slight at first, is at length severe, and in most cases is attended by a free, tenacious expectoration.

"In this respect the cough which arises in follicular disease differs from that which occurs in the early stages of tubercular affection of the lungs. In the latter the cough will frequently continue for months without any expectoration, or, if expectoration should occur, it will consist only of a trifling amount of transparent frothy fluid.

"In another respect these two diseases are essentially different. That peculiar mental condition, incident to pulmonary disease, by which the spirits of the patient are buoyed up, and hope often continues bright to the last, is well known. The reverse of this obtains in follicular laryngeal disease. In this latter affection *mental depression* is to

some extent so universally present, particularly when the affection has been protracted, that I have been led almost to consider it a characteristic of the disease." (pp. 180-3.)

When the lungs have become affected by the gradual advance downwards of the throat disease, or by the simultaneous development of the morbid process in the throat and the pulmonary texture, the symptoms which will manifest themselves will still be those which appertain to the throat affection, and hence without due caution the chest disease may be overlooked; in these cases the chest should be carefully examined.

When the ulceration extends to the epiglottis there will usually be added to the other symptoms a difficulty of swallowing and often of breathing. Dr. Green says that when the follicles which are situated on the laryngeal side of the epiglottis become ulcerated, this organ loses its natural crescentic form, and becomes flattened like the tongue.

As the disease extends to the trachea and bronchi the cough will become more troublesome, and the matter expectorated more transparent, and sticking to the bottom of the vessel into which it is spit, as in simple bronchitis, with which it is often confounded.

As the disease advances, and the changes above described take place, the general health gradually suffers, hectic fever and diarrhœa supervene, and the patient sinks, with the symptoms of advanced phthisis.

On acute laryngitis it is unnecessary to dwell, except so far as it may terminate in a chronic form; for in active inflammation of this important organ, the alteration in the voice is of trifling import compared with other symptoms which threaten the immediate dissolution of the patient. The disease is, however, interesting, both in an historical and a medical point of view,—in an historical, as having been the cause of death of General Washington, and in a

medical, because, although in his case and that of some of the ornaments of our own profession, amongst the rest Dr. David Pitcairn, the symptoms were most accurately described, but the real nature of the malady was not understood; hence one of the most efficient means for the relief of the patients, that of making an opening into the larynx, was not adopted. Dr. Pitcairn, when he was no longer able to articulate, and when he was threatened with suffocation, wrote upon a piece of paper that he was suffering from a severe attack of croup, and requested that he might be treated for this disease. The eminent Dr. Bailey, who attended him, acknowledged that he was unacquainted with the exact nature of the malady from which he died. To Dr. Farre is due the credit of having first clearly described the nature of the morbid lesion in this disease. Acute laryngitis often terminates fatally in a few hours; it may not, however, run so rapid a course, but continue for four or five days, or the acute form may gradually terminate in the chronic.

Simple chronic laryngitis arises from the same causes as the acute, but is much milder and less dangerous in its character, continuing for many weeks or even months. It usually commences, like a common catarrh, with a dry, husky cough, a sense of soreness at the top of the windpipe; the inflammatory action may be entirely confined to the larynx, or the pharynx, velum, uvula, and tonsils may partake of it; hence it may easily be mistaken for common sore throat. The usual effect of inflammatory action in the larynx is to thicken the mucous membrane and submucous tissues, and these changes give rise to the hoarseness which is so symptomatic of the affection. Dr. Stokes says that when the stethoscope is placed over the larynx, the ear can readily distinguish the harshness of sound, as if the air was passing over a rough surface. When the

disease first commences, the alteration in the voice is very trifling, but as the malady advances the voice becomes more and more affected and imperfect, as if it were cracked; the hoarseness, which was at first only slight and occurring occasionally, becomes constant, so that the natural voice is entirely lost. The cough, which in the early stages of the disease is dry, hacking, and not very frequent, becomes more loose, but continuous; difficulty of breathing is often a distressing symptom, especially during the night; and when the epiglottis participates in the disease there is often a difficulty of swallowing, the solids or fluids getting into the larynx, and producing paroxysms of cough and suffocation; there is often a hissing or stridulous voice during respiration, arising from the chink of the glottis having become narrowed from serous effusion into the tissues. The sensibility of the larynx is much increased, breathing a gust of cold air often producing violent dyspnœa; from this sensitiveness of the larynx, spasm of the glottis is apt to follow a paroxysm of cough, or difficulty of breathing. If the larynx be pressed upon, it is tender to the touch, and if moved about by the fingers, a feeling of uneasiness is produced. The expectoration, which in the earlier stages of the disease was thin and scanty, gradually increases in quantity as the disease proceeds, and becomes thick, puriform, and even sanious. When thus changed, and the hoarseness is complete, ulceration has usually taken place, and as this advances, the cough and dyspnœa increase in severity, the constitution rapidly gives way, hectic fever, nocturnal perspirations, and colliquative diarrhœa waste the frame, and the patient dies of suffocation, either by serous fluid being effused into the cellular textures, producing œdema of the glottis, or by some article of food getting into the diseased larynx during an act of deglutition.

CHAPTER VI.

PROGNOSIS AND TREATMENT OF DYSPHONIA CLERICORUM.

When the failure or imperfection of voice is of a purely nervous character the prognosis is generally favorable. The affection may, however, arise from some organic change in the laryngeal nerves themselves. At the meeting of the London Hospital Medical Society, on the 12th of March, 1847, Mr. Barrett read an account of the case of a patient who died of malignant stricture of the œsophagus. For a considerable time prior to death the voice had altered in tone, becoming a deep gruff bass, and subsequently failing almost entirely. Towards the close of the man's life any attempt to speak was attended with considerable difficulty, and required frequent respiratory efforts. In the *post-mortem* examination the left recurrent laryngeal nerve was found atrophied, having been pressed upon by the scirrhous tumour.*

When the imperfection of the voice is purely functional in the vocal nerves or muscles, it is usually dependent upon an anæmic condition of the laryngeal nerves themselves, or of the nervous centres, the latter often the result of general debility. This affection, as has been previously remarked, is often hysterical, and is most common amongst females, though by no means confined to them. When it attacks persons of irritable and sanguineous temperament it comes on with a feeling of strangulation, but rarely continues for

* Lancet, vol. i, 1847, p. 489.

any length of time, a little rest from the exercise of the vocal powers being all that is requisite; but when it arises from debilitating causes it is more obstinate and difficult of removal, though with the restoration of tone to the system the return of the voice generally takes place.

The plan of treatment best adapted to such cases is, daily exercise in the open air; the administration of mineral and vegetable tonics—and of these, preparations of iron should hold a prominent place; valerian and the fetid gums; stimulating frictions over the larynx; the inhalation of the steam of water, iodine, or chlorine; insufflations of alum or benzoin; cold sea-baths, or the cold shower-bath. Should these means fail, the preparations of strychnine, the use of galvanism, blisters, or setons to the throat. The application of croton oil has also been much recommended in aphonia depending on anæmia, especially in those cases of "muffled voice" which are the result of nervous anxiety. Abstinence from public speaking is absolutely indispensable in all cases of aphonia which depend on debility alone; but when the malady originates in mental emotion, or mere nervousness, and is not accompanied by any redness of the fauces, it is desirable to persevere in the exercise of the voice in public until the nervousness is overcome, since in time the organs will regain their tone, more confidence and a better management of the voice be acquired. It must, however, be remembered that this nervous diffidence in speaking is sometimes itself the accompaniment of general debility. It especially affects young men of anxious temperament, who find themselves, perhaps without much previous training, placed down in a populous parish, where there are sick to be visited, children to be instructed, a congregation expecting from them weekly sermons, which require no trifling effort to prepare as well as to deliver, and withal a sense of weighty

responsibility, such as attends but few, if any of the other callings in life. Oppressed by various and contending claims on their time, thoughts, and feelings, ever seeing something before them, which, with all their efforts, remains undone, unattained; the bodily powers are debilitated, and the mind is laid open to nervous tremors in the performance of public duty. The vocal organs being especially called into action, soon manifest, by their irregularity, the wear and tear of the mental machine. To attempt in such cases to remove the effects without first removing the cause is futile: the patient must be relieved from the labours which have been too much for him, or he will ultimately sink into such a state of general debility and prostration of the nervous system as may require years to remedy.

When the imperfection of the vocal organs is, though still purely nervous, dependent upon irritation of the mucous membrane of the alimentary canal, arising either from dyspepsia or constipation of the lower bowel, our endeavours must be directed to the removal of these causes. In dyspepsia the treatment should consist of daily exercise in the open air, a careful attention to diet, mild mercurial alteratives, and the alkalies combined with bitters; astringent and stimulant gargles are also often found useful. At the meeting of the London Medical Society, March 31st, 1845, Dr. J. Risdon Bennett related an instance of aphonia in a gentleman who became affected with it after slight vomiting, produced by something which disagreed with his stomach. He recovered his voice through the use of astringent gargles. Dr. Mason Good gives the cases of two clergymen, who had been occasionally under his care for nervous affections of the throat, apparently dependent on the state of the digestive organs, but which he erroneously classes under the head of Nervous Quinsy. "Two clergymen of this metropolis, who bear an equally high character for pulpit

eloquence, and have a very sufficient self-possession, have been occasionally under my care for some years, in consequence of this complaint. One of them has most commonly been attacked during dinner; the regular action of the muscles in swallowing being converted from debility of the organ into the irregular action of spasm. The other received the first paroxysm while reading the service in his own parish church, and was incapable of proceeding with it. In this case the regular action of the muscles of the glottis in speaking excited irregular action in those of the œsophagus from contiguous sympathy; and the effect was so considerable, that when the clergyman came to the same passage of the Liturgy on the ensuing Sunday, he was obliged to stop again, for he could not get through it. But he preached with as much fluency as ever; and this, too, with nothing more than a syllabus of his discourse before him. It was many weeks before he could summon courage to make another attempt in the desk; and his first effort was even then made in another church, and before another congregation. In this he was fortunate enough to succeed, and he has now entirely overcome the morbid habit. In both these cases I have found the most effectual remedy at the moment to be a tumbler of cold water swallowed gradually, and the application of a handkerchief dipped in cold water to the throat. The spasm, thus counteracted, soon ceases, and in the cases before us has returned not only less frequently, but with far less violence. Yet during the intervals, general tonics, a light diet, regular hours, and as much as possible horse-exercise, have been had recourse to, and contributed their respective services. The usual antispasmodics, as volatile alkali, ether, camphor, assafœtida, and even laudanum, had formerly been tried, but I was told with little success."*

The following case of nervous dysphonia, apparently

* Good's Study of Medicine, p. 123, vol. i.

dependent upon, or at least sympathetic with, the state of the stomach, was related to me by Dr. Paxton, of Rugby.

The Rev. Mr. B. suffered from great pain and irritation of the throat from preaching, which was afterwards excited by any active exercise; the disease was aggravated by a full meal, and there was occasionally difficult deglutition. As there was no visible change in the throat, this disease was considered neuralgic in its character. Galvanism was tried, which, although it produced a change in the sensation, greatly increased the irritability; perfect rest of the vocal organs was enjoined; and with the introduction of a seton in the back of the neck, saline aperients, and the iodide of potassium, by this treatment the patient is perfectly recovered.

When dysphonia results from constipation of the lower bowel, common aloetic purgatives, or salts and senna will usually be necessary to get entirely rid of the affection; but should it remain after the bowels have been well evacuated, the atony of the vocal nerves will often give way to the use of stimulating embrocations to the external, and gargles of the same character to the internal throat.

Nervous dysphonia may also depend upon the suppression of some habitual discharge; in such cases the efforts of the physician must be directed to restore that original condition which was evidently necessary to health. The following case, extracted from the work of M. Columbat de l'Isère, is an interesting example.

Case of Aphonia from suppressed perspiration.—M. Adolphe Rich.—, 27 years of age, having been shooting in the marsh, in the month of November, 1830, returned home stiff and fatigued (*courbaturé*), with a dry cough, a sore-throat, and a great hoarseness. After some days of treatment, which consisted of warm mucilaginous infusions, of gargles of barley-water, &c., the cough, the sore-throat, and the coryza, with which he was alike affected, disap-

peared, but a hoarseness remained, which increased to such a degree that it soon changed to complete aphonia. M. Rich.— remained in this state till the month of March 1831, when he came to consult me; he had then such difficulty in making himself heard that he was compelled to write what he had to say, as the efforts which he was obliged to make in speaking fatigued him so greatly.

Having attentively examined the vocal organs, and convinced myself that there remained no trace of the laryngeal inflammation, which had at first produced the hoarseness and the cough, I rightly thought that the aphonia might depend on suppressed perspiration; I inquired of M. Rich.— if he had not been subject, before the malady for which he consulted me, to some kind of habitual perspiration, which had ceased from the day when he went shooting in the marsh. M. Rich.—, much surprised at my question, because he had no idea that his aphonia had anything to do with an old perspiration checked, told me that he had in fact been subject from childhood to a great perspiration of the feet, but that he could not be certain that the suppression of this dated from the day when he went shooting in the marshes. He told me also that he was accustomed to shoot in the water, but that this had never had the effect of stopping the perspiration. He added that he had felt very glad to get rid of an annoying infirmity, and that also none of the medical men whom he had consulted had asked him this question, and that he believed his loss of voice could not arise from this cause, but probably from the exertion of coughing during the first part of his cold.

Notwithstanding all that M. Rich.— said to me, I felt all but certain that his aphonia was entirely caused by the abrupt suppression of the perspiration of the feet to which he had been subject, and, in this conviction, I prescribed the following treatment.

1. I recommended the patient to take every day, night

and morning, a foot-bath, with the addition of an ounce of hydrochloric acid and a large handful of mustard.

2. I prevailed on M. Rich.— to wear, day and night, woollen stockings, over which he was to put on a kind of boot of oiled silk; I desired him to change the stockings as often as they became damp with perspiration.

3. I added to these measures an infusion of the flowers of the honeysuckle and the flowers of the borage, sweetened with syrup of mulberries, and taken as warm as possible, in doses of two or three cups, on going to bed at night.

The second day after M. Rich.— had made use of this treatment he had an excessive general perspiration, that of the feet being especially abundant during the night, and the astonishment of his family was as great as his own, when his voice, which had been lost so long, reappeared as if by enchantment, and nothing but a little hoarseness remained, which ceased after the further application of the above remedies for a week. M. Rich.—, who lived at forty miles distance from Paris, wrote to me to communicate his amendment and his joy. I advised him to take now foot-baths of simple water, to continue to wear, for some time, woollen stockings, and to use morning and night a gargle of red wine and infusion of roses; this last prescription being intended to give a little more tone to the mucous membrane of the throat, which seemed to be the seat of an atony which impeded the formation of the higher notes as easily as before the aphonia. A fortnight after the first treatment and the use of the gargle, the voice had resumed its normal state, and since that time M. Rich.— has never been attacked with even the slightest hoarseness."*

In the chapter on the Pathology of Dysphonia Clericorum the states of plethora, and congestion of the vessels of the throat, were especially described as the earliest links in the chain of morbid changes which take place in this disease

* Traité Médico-Chirurg. des Maladies des Organes de la Voix, p. 339.

This state, however, rarely comes under the observation of the physician, since, in the former, a few hours' rest to the overtasked organs is all that is requisite to restore them to their natural state, and since, though the congested condition may continue for a longer period, sufficient repose is still the appropriate remedy, at least as far as respects active congestion, but if it assumes a passive character, astringent gargles may be necessary. If congestion continues for any considerable length of time it usually terminates in slight effusion, producing relaxation of the throat. This state of simple relaxation of the throat often comes under medical care, as it is attended with some inconvenience to the patient; complete rest from public speaking, with the use of astringent and stimulant gargles, are usually the only means requisite to restore perfectly the tone of the vocal organs. This milder form of relaxation must not be confounded with that which is the result of inflammation, which is much more stubborn in its character.

The treatment requisite in the cases of nervous dysphonia, and those resulting from plethora, congestion, and simple relaxation, having been pointed out, the appropriate treatment of those changes which result from inflammation must next be considered.

Some of the first of these changes are the elongation and enlargement of the uvula. If the uvula be elongated, partial excision of the organ almost immediately gives relief. It is no unusual thing for the uvula again to grow, and regain its former length, even after this operation, and herein we may remark the wonderful provision of Nature for the renewal of an organ so important to the functions of articulation and respiration. "In my own case," says an intimate friend of mine, "Sir Benjamin Brodie, fifteen years ago, took off almost two thirds or rather more of my then elongated uvula, which gradually recovered its former size, and again became inconvenient by irritating the glottis, and a few

months ago Mr. Aston Key once more removed it, I may say *in toto;* but I find, at the present moment, that Nature is making vigorous efforts to reproduce it by way of *outrigger* or *jury mast*, and that, without any apparent diseased characteristics beyond the tendency to luxuriant growth. Several other cases besides this I have lately witnessed of a similar description; and I am of opinion that the increased action of the velum palati in the moment of swallowing, in order to make up for and compensate to the fullest extent the absence of its necessary appendages, thus urges the mutilated parts to shoot forth, and once more form an adjuvant to the process of deglutition."

The same observing physician remarks on his own case that the last excision of the uvula was followed by considerable inconvenience in the act of deglutition, particularly in swallowing fluids which contained any portion of solid mixed with them. This is opposed to the assertion of Mr. Yearsley, who says, "The utmost pains have been taken to ascertain the results of the loss of the uvula, but in no one case can I find that the slightest inconvenience has arisen from its removal."

When the uvula is merely enlarged, its size may generally be reduced by the nitrate of silver, applied in the same manner as directed for enlarged tonsils.

Elongation of the uvula not only interferes with the action of the vocal organs, but also often gives rise to cough and other symptoms of a more alarming character. The following case is from M. Columbat de l'Isère:

Primitive Laryngeal Phthisis and Aphony.—"M. Stanislas Ludowski, aged 35, valet de chambre of the English General Ramsay, living at Paris, having been exposed to excessive cold whilst attending his master, who was at a *soirée*, was attacked by complete aphony, accompanied by the following symptoms: violent sore-throat which prevented him swallowing even his saliva, a feeling of heat in

the mouth and throat, a hacking dry cough, troublesome, though slight, dryness in the mouth, tickling in the throat exciting cough and the desire to vomit. To all these symptoms were added severe headache and high fever. He then sent for the English physician who attended his master. The physician wished to bleed him, but tried both arms in vain, obtaining only a few drops of blood; he prescribed a decoction of barley. A fellow-servant, seeing the symptoms increase, brought one of the house pupils of the Hôpital Beaujon to see the invalid, who bled him largely from the arm, prescribed lavements of soap and water, gargles of barley-water, an infusion* taken in small quantities. Under this treatment the malady amended, and the application of two sinapisms to the legs increased the effects of the other means; after eight days' treatment he became pretty well, but there remained a tickling in the throat and a little hoarseness, to which he did not pay much attention, expecting them to disappear of themselves. This expectation was not fulfilled; on the contrary, they increased, and he had a continual desire to vomit, and to swallow his saliva, which dried up his mouth, and occasioned him often entirely to lose his voice. After having consulted several medical men, he came to me, believing himself to have, as he had been told, laryngeal phthisis, which would have infallibly taken place if some remedy had not been adopted.

After having ascertained the state of the chest by the stethoscope, I found the lungs sound, manifesting no symptoms coinciding with the state of the larynx; having examined the throat, which was slightly red and dry, the uvula much elongated, I concluded that I had to do with the commencement of a case of primitive laryngeal phthisis, independent of pulmonary affection, and caused by the friction of the uvula against the base of the tongue. I proposed

* Tilia Europæa, with syrup of mulberries.

to the patient the excision of the uvula, to which he submitted without difficulty, and at the end of a few days his health and his voice returned as before. I might also add that two other cases of the same kind have come under my care, which were supposed to be laryngeal phthisis with aphony, and which were promptly cured by the excision of the uvula."*

The tonsils also are often the cause of depravation or loss of voice. Hypertrophy of the tonsils, however, most frequently occurs in persons of a scrofulous constitution, and is a common accompaniment of the other morbid changes in the organs of voice. When the tonsils are so enlarged as to interfere with articulation, they must be either excised, or cauterized by the application of nitrate of silver, by means of a canula through which the caustic is allowed to protrude about a line, and this being pressed upon the hypertrophied tonsils every third or fourth day, will usually soon reduce the size of these organs.

After inflammatory action has altogether ceased, the vocal organs may still remain in such a state as will incapacitate the patient from exerting his voice, owing to effusion having taken place into the cellular tissue, and thus relaxing the vocal cords, while, at the same time, the minute branches of the laryngeal nerves have also often lost their tone. The symptoms present in this stage of the malady are described in this treatise;† in such cases perfect repose of the vocal organs is the first and most important remedy. It is usually actual over-exertion which is the immediate exciting cause of the malady, and it is vain to hope for cure whilst this is kept in operation. Complete cessation, or at any rate considerable rest from public speaking and singing, is indispensable. So important is this preliminary, that it may be considered as a fundamental

* Traité des Maladies des Organes de la Voix, p. 344.

† Page 55.

law, not merely in the more serious forms of the malady, but also in its milder visitation. In many cases, indeed, rest of itself is sufficient for the cure. Combined with rest, a visit to the sea-shore, exercise in the open air, and any other means calculated to give tone to the system, are very desirable, and in addition to these measures, astringent and stimulant gargles may be found useful. These gargles may be composed of alum, sulphuric acid, gallic acid, or tincture of capsicum, in the proportion of ½ an oz. to 7½ oz. of distilled water, or creasote, in the proportion of 1 drachm to 8 oz. of distilled water, or the fauces and posterior part of the pharynx may be painted over with a camel-hair pencil, dipped in compound tincture of iodine, or a strong solution of lunar caustic. Perseverance in the above plan for a little time will ordinarily remove entirely this stage of the affection, and due care not to overstrain the vocal organs, with an occasional use of astringent or stimulating gargles, and attention to the general health, will usually counteract the tendency to a relapse.

In the state of the malady of which we have just been speaking, change of air is very beneficial, especially a change from a sharp keen air, or a cold foggy one, to the southern and south-western coast, as to Hastings, the Isle of Wight, Sidmouth, Torquay, or Penzance. The Cornish climate appears especially favorable in these cases. One of the oldest medical practitioners in Cornwall, who has had much experience among the clergy, writes, "Possibly the mildness of our climate and the situation of the parsonage houses, render them less liable to attacks of the chest and respiratory organs, and I have known young clergymen from the eastern counties who have come to us apparently bordering on phthisis, after a couple of years' residence, become very robust and enjoy perfect health.

The voice may still remain imperfect; this may arise from atony of the laryngeal nerves. In this case great ad-

vantage is often derived from stimulant gargles internally, and embrocations externally applied, flying blisters, or croton-oil liniment. Should these fail, galvanism may be tried.

A case is recorded in the 'Encyclographie Médicale,' in which a young man, having killed his comrade in a duel, became epileptic, and lost his voice from excitement. When all other means had failed in restoring the voice, galvanism was had recourse to. A galvanic battery, consisting of 30 pairs of plates, was used for the purpose, the zinc pole being applied to the first cervical vertebra, and the copper to the side of the larynx. On the first day, 200 shocks were given, and on the second 300. Two days after, at the third sitting, 300 shocks were given with a galvanic pile of 70 pairs of plates. This plan was continued, and at the last four sittings 400 shocks were given, the copper pole being placed under the tongue instead of the side of the larynx. At the end of twelve sittings the voice returned to its natural state.

A species of aphonia resulting from inflammatory action, as occurring in young persons, is noted in Dr. Graves's 'Clinical Medicine,' pp. 690-694.

"A form of hoarseness is frequently observed in growing boys and girls, which assumes a very chronic character, and often resists for a long time almost every form of treatment. A boy gets cold, followed by sore-throat and feverish symptoms, which may last for a few days, and then disappear under the use of aperient medicines, or perhaps without any interference on the part of the parents or the physician. The feverishness and soreness of the throat subside, but the hoarseness remains, and the boy can speak only in whispers. This condition may last for weeks, and even months, without any other symptoms whatever. The patient has no cough or difficulty of breathing, his appetite is good, sleep and digestion natural, and there is no appearance of emaciation. The only thing amiss with him is the impairment of voice,

and this continues so long, that it gives rise to a considerable degree of anxiety on the part of his parents. When you examine the fauces, you find no appearance of inflammation in the mucous membrane, and there is no superficial or deep-seated tenderness in the region of the larynx. How are you to treat this form of disease? It depends on a relaxed and weakened state of the chordæ vocales, and perhaps the muscles of the larynx—the result of inflammation of an exceedingly chronic character—and will not be benefited by leeches, or antiphlogistics, or low diet. The best thing you can do in such a case, is to have recourse to the use of strong stimulant gargles."

Dr. Graves goes on to other remedies; such as the use of counter-irritants, the *observation of complete silence*, the inhalation of the vapour of iodine and conium, and the exhibition of mercury internally, and by means of inhaling the fumes of hydrargyrum cum cretâ. This last remedy he calls the sheet anchor, but observes, that before we employ mercury in a case of chronic hoarseness, we must feel well assured that we have not to deal with a hoarseness arising from a phthisical tendency, for in that case mercury would prove injurious to the constitution.

Washing the throat and neck night and morning with cold water, and a wet bandage wrapped round the throat, are often found useful in this stage of the disorder, especially as a prophylactic, but this will afterwards be considered when treating of the means of prevention. Hydropathy has been vaunted as being useful in these cases, but it is worth while to consider whether any benefit thus received is not rather due to the rest, air, and exercise, which this system enjoins, and which may in some manner counteract the injurious and debilitating effect which the imbibition of large quantities of cold water would be likely to produce upon organs already injured by the preceding inflammation.

Having considered the results of inflammatory action in a healthy condition of the system, and the treatment adapted to give present and permanent relief under such circumstances, there is now to be considered the treatment best suited to those cases in which the inflammation is modified by an unhealthy state of the system, in which cases the inflammation is chronic in its character, and instead of confining itself to the surface of the mucous membrane, attacks the glandular structure. One of the first effects of this morbid process is to decrease or change the secretion of the mucous follicles, and the dryness of the throat, or the unhealthy morbid secretion acting as a constant irritant, continually serves to increase the malady.* It has already been remarked, that to Dr. Horace Green, of New York, is due the credit of first clearly demonstrating the pathology of these morbid processes; but this deficient or changed condition of the mucous secretions of the throat has been long known to physicians. It is accurately described by M. Colombat de l'Isère, who thus speaks of it:

"At the close of a long exercise of the vocal organs, and often even without the possibility of recognising any of the appreciable causes which we have assigned for other alterations of the voice, the mucous membrane which lines the vocal tube, especially the isthmus of the throat, undergoes certain modifications, which seem to depend on a change of vitality, or a physiological lesion, the true origin of which cannot be recognised and defined.

"This chronic modification, *sui generis*, of the mucous membrane, often produces dysphonia, and sometimes even aphonia, especially that which I designate by the epithet of relative.

"This class of affections is sometimes characterized by a kind of mucous discharge, *leucorrhée buccale*, of all the

* See page 44.

pharyngeal cavity. The mucous membrane preserves most frequently its ordinary colour, but it seems to be thicker, and to be strewed with *visible follicles and anormal papillæ*, more or less prominent."

The secretion of unhealthy mucus itself only claims attention so far as it indicates the morbid process which produces it. In the earlier stages of follicular disease of the throat, a favorable prognosis may usually be made. Repose of the vocal organs is of course imperative; without this all other treatment will be useless, and as this is an important point in the different states of disease now under consideration, it is perhaps desirable to dwell a little on it.

In every form of this malady, whether milder or graver, rest is absolutely necessary. As well might we expect that union should take place in a fractured thigh-bone whilst the patient was continually moving it, as that the morbid process, which has been called into action by the inordinate exercise of the vocal organs, should be cured whilst they are kept in constant action. The two following cases are selected from many others which testify to the great advantage of mere rest of the voice, apart from the aid of other treatment, and to its efficacy in checking the advance of the disease, even where complete recovery is not effected. The first case was in the early stage, when there was a deficiency of the mucous secretion. Now it must be self-evident, that when the secretion of the mucous membrane of the throat is deficient, every movement of the vocal organs must tend to increase the malady—much as machinery is spoiled by friction in the absence of proper oiling—with this difference, that in the latter case the parts acted upon are in their nature insensible and passive, while in the former they are highly sensitive, and easily excited to increased action.

The first case was that of a clergyman, whose family had an hereditary tendency to pulmonary affections. The mucous follicles of the throat were in a state of chronic inflammation, and failed to secrete a proper quantity of mucus on any vocal exertion. He at first persisted, under painful efforts, in fulfilling his professional duties, and the uvula became thickened, dry, and elongated, adding greatly to the irritation of the surrounding parts, deprived as they were of their proper safeguard, from the suppression of the necessary secretion of the mucous membrane. In this stage of the malady, which was in the year 1832, the excision of the uvula was advised, but to this he resolutely refused to submit. Repose of the vocal organs was then prescribed, and the patient, by exercising the greatest degree of care and caution not to overwork his remaining powers, continues to this day to perform his clerical duties, although frequently with considerable inconvenience. He is at the present moment a high dignitary of the church.

The second case is particularly interesting, from the extended period during which it was under the observation of the friend by whom it was communicated to me, and also as rest was the principal element in the treatment, and that on which the chief reliance was placed. The patient was the private tutor of Dr. W. Roots, living in Hampton Court Palace, and chaplain to the royal household. It was about the year 1792 that he was attacked by this malady, and consulted Dr. George Fordyce, then senior physician to St. Thomas's Hospital, whose laconic advice to him was, "to go home and hold his tongue;" further telling him, in his rough way, that his complaint was the curse and ban set upon all parsons. The chaplain was inclined to murmur at the rude phraseology and unsatisfactory advice of

the physician; he so far, however, complied with the latter as to abstain for several months from doing the constant chapel duty and from reading in *continuance*. He also removed from his confined and gloomy apartments in Hampton Court Palace to a fine and healthy spot in one of the keeper's lodges in the Park. The father of Dr. Roots, a professional man of considerable eminence and talent, showed his acuteness in diagnosis in this case; for at the time it was supposed that his son's tutor was on the direct road to death, and that it was probably dangerous for the young pupil to be in close association with him, he pronounced that he was not suffering from constitutional or pulmonary disease, but that the illness arose from continued soreness of the throat, aggravated by never-ceasing local exertion, which if continued might be pushed on to another stage, and perhaps terminate in ulceration of the lungs themselves. At this time he was becoming hectic, irritable, and emaciated, but after a few years' abstinence from duty, and never reading aloud, he was ultimately enabled to go through the prayers, avoiding preaching whenever he could, and by these preventive means he attained the age of 80 years and upwards, dying only a few years ago.

It has already been shown that follicular disease ordinarily results from an unhealthy condition of the system, arising from an hereditary taint, or from divers other causes. The local treatment in every instance may be somewhat the same, and the injunction to silence, without exception, imperative; but the treatment of each case must have a reference to the constitution of the patient, and the cause which has produced the malady. When dyspepsia is present, great attention must be paid to the secretions, and if these are in an unhealthy state, small doses of blue pill, or hydrarg. cum cretâ, should be administered. If

the bowels are confined, saline aperients, with the mineral acids, may be given. Iodine, the iodide of potassium, and iodide of iron have been found very useful in the early stages, especially where the strumous diathesis is present.

"In a large proportion of the cases of follicular disease which have come under my notice," says Dr. Horace Green, "where the morbid affection of the mucous cryptæ had been long continued, it has been found that there existed more or less of a diseased condition of other parts of the glandular system. Symptoms, indicative of the presence of a derangement of the hepatic organs, have frequently been manifested in connexion with follicular disease. Hence iodine, or some of its preparations, have proved in my hands of essential service in the treatment of this complicated form of the affection.

"In the administration of iodine in follicular disease, I have found almost invariably a specific effect produced upon the organs of secretion, by the use of the medicine. For some time after commencing the remedy, an increased quantity of viscid mucus is thrown off by the diseased glandulæ, and the patient often complains of a disagreeable taste, produced by the morbid secretions from the faucial and pharyngeal membrane, and in some instances the irritation of the throat is at first increased by this salt. After a while the secreted fluid is diminished in quantity, becomes bland, and is of a healthier quality, while the lining membrane presents an improved condition. Equally salutary are the effects produced, ordinarily, on the secretions of the digestive organs by the use of iodine.

"The iodide of potassium I have generally considered as the best preparation for administration in disease of the mucous follicles. Although the constitutional effects of iodide of potassium are very analogous to those of iodine, yet it may be given in larger doses, and for a longer period,

without producing disorder of the system, than the free iodine. When indications of a scrofulous diathesis are present in any case, it will be preferable, and will prove more efficacious to exhibit the two preparations in combination." (pp. 237-8.)

The following case illustrates the beneficial effects of iodine.

The Rev. Mr. —— was suffering from follicular disease of the throat in the earlier stage. The secretion from the fauces was viscid, with such frequent disposition to hawk it up as was painful to witness. Various plans of treatment were adopted, both antiphlogistic and tonic. He was obliged to desist from his clerical duties for two years, during which period he took the iodide of potassium, and employed iodine externally. By these means, with daily exercise in the open air, he perfectly recovered.

Sarsaparilla, with muriatic acid, citrate of iron, quinine, &c., may be given, and the patient should have the advantage of a mild and dry atmosphere, daily exercise in the open air, and warm or cold sea-baths or shower-baths.

Topical remedies may be employed, consisting of nitrate of silver dissolved in ether, 5 gr. to the oz., and applied daily, by means of a brush or sponge, to the fauces; the insufflation of powdered rock-alum through a glass tube, or the application of very coarse powdered alum to the fauces by means of the finger, and when some of the mucous follicles appear larger and more prominent than the rest, touching each of them separately with nitrate of silver will accelerate the cure. Painting the fauces over with a camel-hair brush dipped in the compound tincture of iodine, is an excellent application; also the inhalation of iodine, or chlorine, by means of a common nhaler, to be repeated daily.

Dr. Green says, "In the simple and uncomplicated

form of follicular pharyngo-laryngeal disease, however severe the local affection may have been, this remedy alone, namely, the crystals of nitrate of silver, topically applied, has proved in my hands a specific in a large number of cases. Its use, when the affection has been of long standing, should be continued for some time. Ordinarily it is better to make the applications at first every other day for two or three weeks, until the granular and vascular mucous surface assumes a smooth and healthy appearance, and impaired vocalization is restored." It must be remembered that Dr. Green used a much stronger solution of the nitrate than that (5 grs. to the oz.) recommended above.

Stimulating embrocations applied to the throat are also often found useful. Should the tonsils or uvula be enlarged, means should be taken at the commencement of the treatment to remove these sources of irritation.

By perseverance in some of the above plans of treatment the disease will, after a short time, be subdued; the mucous membrane of the throat will become less rough and inflamed, the mucous follicles will diminish in size, and their secretion will lessen also and become more healthy; the voice will regain its former tone, and the effort required in speaking will not be distressing; but the greatest care will still be necessary to avoid overtasking the vocal organs, until a certainty exists that their original tone is restored.

When, however, the disease has advanced farther, and ulceration of the mucous follicles has taken place, as described at page 46, a more active treatment is required. There must be not only old Fordyce's simple remedy of "holding the tongue," a plain but nourishing diet, outdoor exercise, and such other hygienic measures as are calculated to improve the general health, but in conjunction with these, small doses of calomel and the other preparations of mercury, as alteratives. Iodide of potassium,

sarsaparilla, with infusion of cusparia, may be exhibited. Cod-liver oil in strumous cases has been found useful; quinine also, and the preparations of iron, when the system will admit of them. One of the symptoms which, from its alarming and harassing effect on the patient especially claims attention is the troublesome hacking cough. This must be relieved, when febrile symptoms are present, by hydrocyanic acid, conium, extract of lettuce or hyoscyamus, and the inhalation of soothing vapours. When the expectoration is excessive, and the patient can bear a more stimulating treatment, the salts of morphine with squills may be advantageously employed. Dr. Green strongly recommends in these cases a decoction or tincture of the Sanguinaria Canadensis, which is much used in the United States in bronchial and pulmonic affections. It is a stimulating expectorant, slightly narcotic, and he recommends that it be combined with opium or sulphate of morphine. The sanguinaria has not been much used in this country. This plant belongs to the natural order Papaveraceæ. According to Dr. Pereira, it is an acro-narcotic, and, in doses of from 10 to 20 grs. it operates as an emetic; in larger doses it causes depression of pulse, faintness, dimness of vision, and alarming prostration of strength.

Counter-irritation externally on the throat and nape of the neck by blisters, tartarized antimony, croton oil, issues, or setons. Stimulating gargles may also be used. But the principal topical remedy in these cases is the application of the solution of nitrate of silver to the pharynx, epiglottis, and larynx.

Before using the nitrate it is desirable to ascertain the exact state of the larynx. Mr. Avery, of Charing-Cross Hospital, obtained the prize from the Society of Arts for invention of an ingenious method of inspecting the internal

passages of the human body, by reflecting a powerful and concentrated light through bright polished metallic tubes. By means of this apparatus it is easy to obtain a view of the larynx, as far as the chordæ vocales. Dr. Watson observes, that a little practice will enable a person to pass his finger into a patient's throat, and to familiarise his sense of touch with the ordinary condition of the upper part of the respiratory apparatus, so as to be able to detect swelling or irregularity, or thickening, about the chink of the glottis. He further says, that the practice of applying remedies directly to the diseased or irritable part, was much followed by the late Mr. Vance, who had been for many years a naval surgeon, and he called it in naval phrase *swabbing* the affected organ. "A small piece of sponge," he adds, "secured with a string, or fastened to the end of the finger of a glove, is dipped in a strong solution of nitrate of silver, and then carried down into the throat as far as that spasmodic state of the muscles which the attempt induces will permit, and pressed downwards against the superior surface of the larynx."* Dr. Green, however, ascribes the credit of the first application of the nitrate of silver to the larynx to MM. Trousseau and Belloc. They used either a silver syringe, or a sponge fixed to a small rod of whalebone, which being dipped into the solution, and pressed against the back of the pharynx, distils the fluid into the opening of the glottis.

I have often practised this method successfully, but Dr. Green recommends one more simple and certain; he also prefers the crystals of the nitrate of silver to the fused nitrate, as this last often contains the nitrates of potash, lead, or copper. He says, "When pure, the crystals are transparent white, or nearly colourless, and are completely soluble in distilled water. A solution of the strength of

* Watson's Lectures, vol. i, p. 810.

from two to four drachms of the salt in an ounce of distilled water does not act, as has been supposed, by burning, or by a destruction of textural matter; it forms immediately a union with the albumen and other secretions of the mucous lining, and this compound, thus formed, defends the living tissue from the action of the caustic, whilst it operates to produce a most favorable change in the vital actions of the part.

"In the treatment of laryngeal disease" he continues, "by the direct application of the nitrate of silver to the diseased surface, I have employed ordinarily a solution of this substance, of the strength of from two to four scruples of the nitrate to an ounce of distilled water. When, however, there are found extensive ulcerations of the epiglottis, or about the opening of the larynx—ulcerations which it is desirable to arrest at once—I have not hesitated to apply directly to the diseased parts a solution of double the strength of the last named. But one or two applications only of a medicine of this power should be made at one time; ordinarily, however extensive the lesions may be, it will not be necessary to employ a solution of greater strength than one composed of four scruples of the salt to an ounce of water. On the other hand, it has been found, that one of less strength than of from 40 to 50 grains of the nitrate to an ounce of fluid will have but little effect upon a diseased mucous surface where ulcerations exist.

"In cases in which it becomes necessary to cauterize the interior of the laryngeal cavity, the aperture of the glottis should not be passed at once; the part should be *educated*, by applying the solution daily for several days to the faucial and pharyngeal region, to the epiglottis, and about the opening of the glottis.

"Proceeding in this manner, that exquisite sensibility which belongs to the lips of the glottis is in a good degree

overcome, and the instrument may then be passed into the larynx without producing half the amount of irritation which its introduction below the epiglottis would have awakened at first.

"The instrument which I have always employed for making direct medicinal applications into the cavity of the larynx, is one composed of whalebone, about ten inches in length, curved at one end, to which is attached a small round piece of sponge.

"The extent to which the rod is to be bent must be varied according to circumstances, for the opening of the glottis is situated much deeper in some throats than in others; but the curve which I have found suited to the greatest number of cases, is one which will form the arc of one quarter of a circle whose diameter is four inches.

"The instrument being prepared, and the patient's mouth opened wide and his tongue depressed, the sponge is dipped into the solution to be applied, and carried over the top of the epiglottis and on the laryngeal face of this cartilage, is suddenly pressed downwards and forwards through the aperture of the glottis into the laryngeal cavity.

"This operation is followed by a momentary spasm of the glottis, by which the fluid is discharged from the sponge, and is brought into immediate contact with the diseased surface.

"Every physician who has been present when this operation has been performed, has manifested much surprise on observing how little irritation has been produced by the introduction of the sponge.

"If the patient on opening his mouth take a full inspiration, and then be directed to breathe gently out at the moment in which the sponge is introduced, the irritation

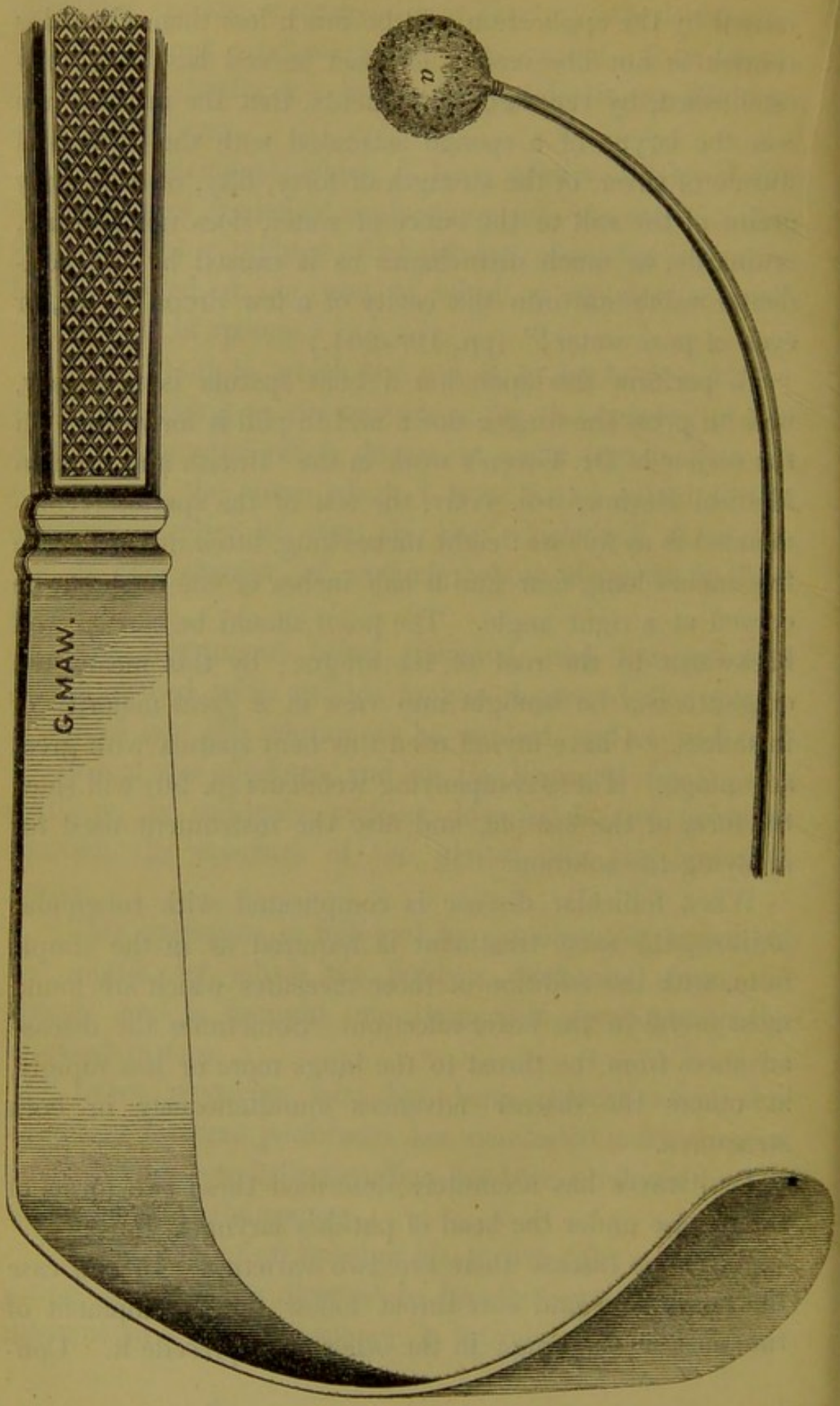
caused by the application will be much less than when this caution is not observed. The fact indeed has been fully established, by repeated experiments, that the introduction into the larynx of a sponge saturated with the crystals of nitrate of silver, of the strength of forty, fifty, or even sixty grains of the salt to the ounce of water, does not produce, ordinarily, as much disturbance as is caused by the accidental imbibition into this cavity of a few drops of tea, or even of pure water!" (pp. 198-201.)

To perform this operation a bent spatula is necessary, both to press the tongue down and to pull it forwards. In the review of Dr. Green's work in the 'British and Foreign Medical Review,' vol. xxxiv, the size of the spatula recommended is as follows: eight inches long, fitted into a handle five inches long, four and a half inches of the blade to be curved at a right angle. The point should be carried well backwards to the root of the tongue; by this means the epiglottis can be brought into view in a great majority of instances. I have myself used this bent spatula with great advantage. The accompanying woodcuts (p. 90) will show the form of the spatula, and also the instrument used for applying the solution.

When follicular disease is complicated with tubercular phthisis, the same treatment is required as in the simple form, with the addition of those measures which are found most useful in the latter affection. Sometimes the disease advances from the throat to the lungs more or less rapidly, at others the disease advances simultaneously in both structures.

Dr. Graves has accurately described these two forms of the disease under the head of phthisis laryngea, thus:

"Of this disease there are two varieties. In one case the hoarseness and sore-throat follow the development of tubercles in the lung; in the other they precede it. Con-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sumptive patients frequently get, shortly after the occurrence of scrofulous inflammation of the lungs, sore-throat, hoarseness, and laryngeal cough. But this is different from the hoarseness and cough which precede phthisis. In the former the laryngeal symptoms are secondary, and form only a part of the general disease; in the latter they constitute the first link in the chain of morbid action. The former take place only in a constitution decidedly scrofulous; the latter occur in constitutions which have been impaired by various debilitating causes, and thereby rendered analogous to, or identical with, the scrofulous. One disease, however, explains the other; for it is clear, that if a certain state of the constitution is capable of occasioning scrofulous inflammation of the lungs, and tuberculous deposit in the pulmonary tissue in the first instance, and laryngeal disease in the second, it is clear, I say, that the order of succession may be very easily inverted, and, that in such a constitution the accidental circumstance of a cold falling on the larynx, may determine the appearance of disease in that part long before the lungs become engaged.

The following is an instance in a scrofulous habit of body of a *successive* advance of the disease from the throat to the lungs.

W. W., aged 35, of the leucophlegmatic temperament, applied to me in the month of October, 1845. He was apparently in good health, but complained of a feeling of dryness in the throat and huskiness of the voice. He said nothing else was the matter with him; that he ate well, slept well, and indeed felt perfectly well, with the exception of this uncomfortable feeling in the throat. On examination of the part affected, the throat appeared congested, and the follicles slightly inflamed, with a deficiency of the mucous secretion. At this period, and for some months afterwards, no disease of the pulmonary organs could be

detected by the most carefully repeated examinations of the chest. Notwithstanding the treatment employed, the disease rapidly advanced, the secretion from the throat became thick and ropy, then mixed with pus, the follicles having run into a state of suppuration; the voice became raucous, cough came on, at first slight and hacking, then almost incessant, and about the month of January the lungs showed marked signs of disease. Gradually the patient became worse, his voice was reduced to a mere whisper, and he died on the 23d of April, 1846, much emaciated.

When follicular disease exists *simultaneously* with phthisis pulmonalis, the local affection may often be reduced by suitable treatment, and the patient may recover his voice whilst the pulmonary disease still progresses to a fatal termination. An interesting case of this kind was under my care in the year 1843.

Miss K. had been much in the habit of using her voice as an amateur singer. She described her vocal powers as failing her, as it appeared from simple relaxation of the throat. This continuing and becoming worse, she applied to her medical attendant, and subsequently had frequent consultations with an eminent London physician, who pronounced the case to be one of laryngeal phthisis, but the lungs themselves not affected. He advised a removal to Hastings. I did not see her until nearly a month after her arrival. She then had tenderness over the larynx, soreness of the throat during deglutition, hoarseness, almost amounting to aphonia, and a hacking cough, with slight expectoration of a ropy opaque secretion. On examination of the throat, it appeared congested, and the follicles considerably enlarged and inflamed. There was slight dullness on percussion under the clavicles, and the respiratory murmur was not heard so clearly at the upper part of the chest as it ought to have been, yet the pulmonary disease had made

but little progress. She had lost flesh, but this was accounted for by the constant irritation of the throat for so long a period. Nitrate of silver, in the proportion of from 10 to 20 grains to the ounce of distilled water, was applied to the throat twice a day, under which treatment the tenderness and difficulty of swallowing were removed, and the voice became stronger and less harsh, but the tuberculous disease rapidly developed itself, and threatened to run its fatal course. I saw that the case was hopeless, and advised my patient to return home, which she did in the early part of the month of October. Her medical attendant informed me, that some time previous to her death, which occurred in the latter end of November, her voice had perfectly returned. At the post-mortem examination, her throat and chest were carefully inspected; the former exhibited no trace of disease, whilst the lungs were studded with tubercles, and contained two large excavations within their structure.

The prognosis in follicular disease, complicated with phthisis pulmonalis, must of course depend upon the extent of the lung diseased, and the degree of depravation of the patient's health. When disease has made considerable progress, medical treatment can be of little avail as to complete recovery, but much may be effected by palliative treatment, especially by those measures which have been pointed out as giving relief to the local malady; for as this is removed, the irritating cough will be relieved, and thus one symptom, which more than any other distresses the patient, will be got rid of, and he thereby placed in a more favorable position for the treatment of the lung disease. In the application of local remedies to the throat affection, not only does the part thus treated receive benefit, but the lung disease is also frequently relieved by sympathy with the mucous membrane lining the pharynx and larynx.

The *treatment* of chronic inflammation of the larynx in sound and healthy constitutions must now be considered.

The symptoms diagnostic of the disease are described, page 63. As this affection is very often a sequela of cynanche tonsillaris, it is apt to be overlooked in its earlier stages, when a few leeches applied to the side of the larynx, followed by a small blister, will ordinarily get rid of the disease; but if this is suffered to advance further, treatment of a more continuous kind must be resorted to. In the first place—we must again quote old George Fordyce—the patient must "hold his tongue," or at least talk as little as possible.

"A person with an inflamed larynx who exercises his voice as usual, acts as foolishly as a man who reads with inflamed eyes, or walks with a sprained ankle." If the tenderness over the larynx continue, leeches must be frequently repeated, counter-irritation at the same time being applied to the back of the neck, either by means of a blister kept open, or tartar emetic ointment; the mouth may be cautiously put under the influence of mercury, the patient should inhale frequently the vapour of warm water, and breathe as much as possible a regulated atmosphere. The cough to be relieved by sedatives, as conium, hyoscyamus, prussic-acid, lactucarium, combined with, or without, small doses of ipecacuanha or tartarized antimony. The nitrate of silver to be applied to the larynx itself in the manner above described.

Should the disease still persist, and become more decidedly chronic in its character, in addition to these remedies a seton may be introduced at the back of the neck, tartar emetic ointment, or croton oil may be applied over the external throat, or an issue may be made on each side the larynx, watching at the same time the general health. Often a course of sarsaparilla with the mineral acids is useful.

Alterative doses of hydrarg. *c.* creta, as recommended under the treatment of follicular laryngitis. Inflammation, even in the mildest form, if long continued, will produce some thickening of the mucous membrane lining the larynx and covering the epiglottis. In these cases it is desirable to put the patient cautiously under the influence of mercury, even if he has been so in the inflammatory stage of the disease. For this purpose small doses of calomel are best adapted for the purpose, but if the glandular structure is involved, the bichloride of mercury is better fitted to fulfil the intention.

CHAPTER VII.

PREVENTION OF DYSPHONIA CLERICORUM.

It is by a careful consideration of those causes which lead to affections of the throat, the nature of which have been already described, that we arrive at a perception of the best means of preventing their recurrence.

Amongst the first of these causes is that anæmic condition of the system which has been pointed out as giving rise to the various forms of nervous dysphonia. The treatment of these affections has been already described, but the means of preventing that debilitated state of the system must now be noticed. These must consist of those hygienic measures which are always necessary to maintain the physical powers at their natural pitch of vigour. Attention to those means which will keep the body in a sound and healthy condition is not only of importance in reference to the affections of the vocal organs, but also to the exertion of the mental faculties; for whenever the body is enfeebled the mind will also participate. Hence the younger clergy, who, with their other laborious duties, have also necessarily much mental labour in the composition of their sermons, ought especially to guard against whatever will debilitate the body; bearing in mind that intimate relation which exists between body and mind, and that the slightest change in the condition of the former often produces an effect upon the mind, sometimes so sudden as even to seem miraculous. The body is the mind's palace; but darken its

windows, and it is a prison. It is the mind's instrument: sharpened, it cuts keenly; blunted, it can only bruise and disfigure. It is the mind's reflection: if bright, it flashes day; if dull, it diffuses twilight. The mind is of immense value; to say all in one word, it is that which is capable of religion: but as its efficient manifestation in this life greatly depends upon the body, it is very important that this, its house, should be kept in due repair.

For this purpose there must be *first*, daily exercise in the open air, either on foot or on horseback. As the opinions of society, and their own delicate, perhaps even scrupulous sense of propriety, preclude the younger clergy from following those field-sports which often serve to give robustness to other men of study, it is the more necessary that they should avail themselves to the utmost of such out-door exercises as are still permitted them. The most important, and at once the most accessible of these, is walking, than which nothing is perhaps more conducive to health. This should be persevered in without over-fastidiousness as to the state of the weather.

"There is no exercise," says a modern writer, "so natural to us, or in every respect so conducive to health as walking. It is the most perfect in which the human body can be employed; for by it every limb is put in motion, and the circulation of the blood is effectually carried on throughout the minutest veins and arteries of the system. Both the body and mind are enlivened by walking; and even when carried to an extreme it has often been found highly serviceable in nervous diseases. This salutary and most excellent exercise is in the power of everybody having the use of their limbs, and can be adapted, in degree and duration, to the various circumstances and wishes of each individual."

It will probably be asked how much time a man who is

closely confined in his study, ought to spend in exercise in the open air; the answer must be, not less than three hours daily, if he wishes to retain a vigorous state of health.

Next to the amount of exercise, the time of taking it has to be determined. This should not be immediately after a meal, neither is it desirable to arrange the walk so as to have no interval of rest before a meal; as, on the one hand, the body is unfit for exercise during the first process of digestion, and, on the other hand, fatigue is likely to interfere with the performance of that function. Neither should the time of exercise be deferred till late in the day, especially in winter, as thereby the frame is deprived of the full influence of the sunlight, which is a powerful agent in the maintenance and restoration of health. The pale complexions of too many of our young clergy betray a want of out-door exercise and adequate exposure to the sun's invigorating rays. The "pale cast of thought" is no necessary index of mental vigour, it fails to fulfil the requirement "mens sana in corpore sano." Whatever debilitates the system deteriorates the quality of the blood sent to the brain, and this has a real influence in impairing the judgment and diminishing the power of estimating objects at their true value. The pallid countenance is often a sign of this deterioration.

Mental labour within due bounds is not incompatible with health: on the contrary, a vigorous but not excessive exercise of the intellect is conducive to the health of the body; and when this is warmed and regulated by the influence of right and kindly moral feelings, and due regard is also paid to the requirements of the body, the physical organism is maintained in its highest state of efficiency.

The statistics of human life show that many men who have been deeply engaged in literary pursuits have attained advanced age. Of this Goëthe is an instance, and Sir

Walter Scott might have been another, had not his pecuniary involvements forced him to exchange country life, and a judicious combination of sedentary occupation with out-door exercise, for excessive and anxious labour in a metropolitan city. From the researches of Dr. Madden it appears, that, notwithstanding excessive intellectual exertion is often ruinous to the health, the average duration of life amongst persons thus occupied is equal or superior to that of most other classes; for he found, on taking twenty individuals belonging to each of the professions devoted to science, literature, and the arts, in different parts of Europe, the average duration of life was as follows:

Writers on	Natural Philosophy	74·7 years.
,,	Moral Philosophy	70·8
,,	Artists	70·6
,,	Law and Jurisprudence	69·7
,,	Medicine	68·4
,,	Revealed Religion	67·7
,,	Philology	66·1
,,	Musical Composers	64·4
,,	Novelists	62·8
,,	Natural Theology	62·7
,,	Dramatists	62·4
,,	Poets	57·2
	Average	66·5 years.

From the researches of Caspar, quoted by Quetelet, the duration of human life in Prussia is greatest amongst theologians; agriculturists come next; and physicians shortest of all; it must be remembered that the term physician in Prussia includes all those who are engaged in general practice. The duration of life amongst medical men in England is also less than that of any other class, except those engaged in certain trades which are positively injurious.

The young clergyman who is confined in his study six days out of seven, and whose walks are often merely a

hurrying from one sick room to another, leads a life really akin to that of the artisan of our manufacturing districts, and his complexion equally undergoes what has been aptly called the process of etiolation. This result, however, most frequently takes place in cities and populous towns, as in the rural parishes the routine of ministerial visits generally involves a considerable portion of walking or riding exercise, and the hard-working curate is only second in this respect to the village surgeon.

But this physical labour is far more conducive to health than excessive mental occupation. Dr. Johnson observes, that "a great majority of our corporeal disorders, in the present state of civilized society, spring from and are aggravated by mental perturbations,—that the passions and the tempests of life, which too often set at defiance the rudder of reason, driving the vessel on shoals and quicksands, and ultimately wrecking it altogether,—that the bench, the hustings, nay, even the pulpit, pour forth the destructive elements of discord,—that the fury of political strife, the hazards of commerce, the jealousies, envies, and rivalries of the professions, the fear of poverty, the terrors of superstition, and the hatreds of sectarianism, are perpetual sources of ill health and a long train of moral evils,—that nearly all the cases of nervous maladies may be traced to *anxiety of mind, intensity of thought, sedentary occupations, and plenary indulgence*,—that the besetting sin of the present age is not so much intemperance in eating and drinking as *reading and thinking*,—the penalty of which falls far more frequently on those who live for the good of society, than on those who live in luxury and idleness; and yet," he adds, "of the mode in which the mind operates on the body, we know as little as we do in regard to the *modus operandi* of gravity and magnetism."

Attention ought also to be paid to the healthy state of the skin. It is well known that from this extensive surface an aqueous transpiration is constantly taking place, amounting to between two and three pounds in the four-and-twenty hours, and it is of great importance to health that this function should not be impeded by any choking up of the pores. Sponging the body all over with cold water immediately on getting out of bed, or the use of the cold shower-bath, with the friction of a coarse towel or flesh brush, are valuable aids for securing a healthy state of the skin, and indeed the health generally.

Diet is a matter of great importance, especially, as has been already pointed out, as there are some forms of dysphonia which are sympathetic with deranged stomach, or with some irritation of the prima via.

I have already spoken (p. 29) of the connexion which exists between the derangement of the digestive organs and that depravation of the general health which leads to follicular inflammation of the vocal organs of a specific character, and I firmly believe that every form of clergyman's sore-throat would be of much more infrequent occurrence were more attention paid to diet; for what more predisposes to congestion and inflammation of the mucous membrane in all their modifications than the irritation produced in the coats of the stomach by improper food? The importance of this branch of hygiene may well justify a few more detailed remarks.

The diet ought then to be simple, nourishing, and easily digestible; the stomach should never be overloaded by eating till the appetite is fully satiated. Exclusively animal and exclusively vegetable diets have each had their advocates. The late victim of the Irish famine fever, Dr. Curran, of Dublin,* never tasted animal food for many years

* See Dublin Medical Review, Nov. 1847.

previous to his death, and yet enjoyed good health; and whole tribes of men, as we know, live on animal food; but for persons to enjoy good health in a climate like our own, a mixed diet is ordinarily preferable. Different temperaments will require different proportions in this mixed diet; those of a lax fibre and lymphatic temperament need a greater preponderance of animal food than those of an opposite constitution. Climate and the previous habits of the individual, will present other modifications. The late discoveries in animal chemistry have thrown much light on these subjects. It has been demonstrated by Liebig, that vegetable food contains the same elementary principles as animal food; that vegetable albumen and vegetable fibrine are identical in character and composition with animal albumen and animal fibrine, consequently that the nutritive principles are first formed in the organism of plants, and that the process of digestion in animals is simply that of *assimilating* these principles to themselves. As long then as the food which is taken contains sufficient of the nourishing principles to keep the body in health and vigour, it is a mere question of efficiency in the digestive organs, whether this nourishment will be adequately drawn from the food supplied. The *matériel* is there, but the power of assimilation may be greater or less. There can be no doubt that the function of digestion is much more active in those who live chiefly in the open air, and are constantly engaged in manual labour. Such persons rarely suffer from dyspepsia, although they may exercise very little care as to what they eat or drink. Most persons, on the contrary, engaged in mental pursuits, even the most robust, require to be cautious as to their diet, if they would continue to enjoy health.

Of the alimentary vegetable substances, the farinaceous seeds, when properly prepared, present the most substantial,

easily digested, and nourishing food. Bread made of wheat flour, not finely dressed, is certainly superior, both as to taste and nutritive qualities, to any other; and this, with that valuable root the potato, may fitly form the staple of the vegetable portion of diet, although there are many of the other esculent vegetables which may be taken as an agreeable variety. Scarcely any other vegetable, however, contains an equal degree of nourishment with the potato. The nutritive character of this root is owing to the quantity of starch it contains. Arrow-root and sago are composed entirely of the same nourishing principle.

Of animal foods, beef and mutton are the most nutritious, and the best adapted to give vigour and firmness to the muscles, but the flesh of all animals contains fibrine in large proportions. This is the most nourishing principle; this quality, however, is largely possessed by gelatine and albumen, which are also contained in animal food; the latter especially, when alone, in the form of white of egg, is not very easily digested by some persons. Osmazome, of which all flesh likewise contains a portion, is not very, if at all, nutritious; it is not, however, the less valuable, as it is that principle which gives flavour to meat. It is because, in the process of roasting, osmazome is not wasted away as it is in boiling, that roast meats have more flavour than boiled. It is an important point to conciliate the stomach by what contains flavour, and hence a preference may sometimes be given to the more sapid kinds of meat. Some animal foods agree much better with the stomach than others. Persons of sedentary habits frequently cannot eat pork, as it contains much fat, nor can they eat but little of the fat of other meats with impunity. The same may be said of butter, and other oleaginous substances, especially if butter has been mixed with flour in the making of pastry, and has thus become oiled, as it is called, by

exposure to heat. To persons in sound health these precautions are perhaps unnecessary; much more in their case depends on the quantity of food and on its proper mastication, than on its quality. Nothing indeed appears to have a worse effect upon the digestive organs than overloading. Beyond that quantity of food which is required for the due nourishment of the body the rest becomes an irritant. The distribution of this quantity of food into separate meals, and the hours at which these meals are taken, are not matters of indifference. Three meals daily have been found the best proportion for persons of sedentary and studious habits, and these should be taken at nearly equal intervals of time, as for example—if breakfast be taken at eight, dinner should follow at one or two, and the evening meal about six, and so on with other hours, avoiding, however, a supper too closely approximated to bed-time.

The subject of alcoholic drinks is one of great importance, as to individuals in general, so especially to clergymen, whose example has great influence on the community, and to whom the *morale* of the case is therefore peculiarly interesting. It is a subject of some difficulty, since on both sides of the question there is evidence of great respectability. Of late, indeed, it may be safely affirmed, that the opinions of the most reflecting and enlightened medical men have been against the use of alcoholic drinks, and much weight, in a medical point of view, has been very recently thrown into this scale by the able article in the concluding number of Dr. Forbes's Review, which may be considered as the closing strain of a distinguished publication which has now ceased to exist in the world of literature.

As this article contains a calm scientific consideration of the subject, free from those extravagances and exaggera-

tions with which the topic has been clogged by men of imperfect education, it may be worth while to examine a few of the positions so elaborately set forth.

The writer introduces his subject by some remarks on the sanction which, sometimes from ignorance, sometimes from thoughtlessness or indecision, the use of alcoholic drinks has received from medical practitioners, and then observes:

"The medical profession in this country, however, is beginning to be awakened from this pleasant *insouciance* by the pressure from without, and to find it necessary to place itself in the midst of the current of human progress, which might otherwise sweep past it, and leave its *dicta* among the despised relics of an immoveable conservatism. Some hundreds of medical men, of all grades and degrees, in every part of the British empire, from the court physicians and leading metropolitan surgeons, who are conversant with the wants of the upper ranks of society, to the humble country practitioner, who is familiar with the requirements of the artisan in his workshop, and the labourer in the field, have given their sanction (as we shall presently see) to the statement, that the maintenance of health is perfectly compatible with entire abstinence from fermented liquors; and that such abstinence, if general, would incalculably promote the improvement of the social condition of mankind." This last clause he strengthens by several quotations tending to show to what a fearful extent intemperance is the cause of crime, and thus calls attention to the importance of the subject. He then proceeds (after a sketch of the Temperance movement) to examine the supposed benefits of alcoholic liquors step by step.

The first position is that which he deduces from modern physiological discoveries, that alcohol cannot become the pabulum for the renovation of the *muscular* substance,

which process can only be effected by the assimilation of albuminous materials in the food, and that the habitual use of alcohol, therefore, cannot add anything to the muscular vigour. And this conclusion, he adds, receives most striking confirmation from the well-known fact, that in the preparation of the body for feats of strength, the most experienced *trainers* either forbid the use of fermented liquors altogether, or allow but a very small quantity to be taken, their trust being placed in a highly nutritious diet, active muscular exertion, and the occasional use of purgatives, which purify the blood of the products of decomposition, or draw off superfluous alimentary materials.

The writer then notices the common notion that alcoholic drinks serve to keep up the heat of the body, and are, therefore, useful as a preservative against cold. To the well-known opinion of Liebig, in favour of this property of alcohol, he opposes the experiments of Dr. Prout, which go to prove that the ingestion of alcohol instead of promoting *checks* the oxygenating process. The fact mentioned by Dr. Paris that Mr. Spalding found that he consumed the air in his diving-bell *more* rapidly when he drank spirituous liquors and eat animal food than when he drank only water and lived on vegetables, seems to have escaped notice. After a careful consideration of the evidence, the fact seems to be that when fermented liquors are taken in *small* quantities, and in combination with food, they do diffuse a pleasurable warmth through the body and accelerate all its functions, but when taken in larger quantities, or without food, they have a directly contrary effect. It is well known that when they are taken to the extent of producing a narcotic influence on the brain they interfere with the exercise of the function of respiration.

The next point taken up is the assistance given by stimulants to the digestive process. On this the reviewer

remarks, that where a man duly observes the laws of health the appetite will always desire the amount of food which the system needs, and the stomach will be able to digest it. *Consequently* there ought to be no need of stimulants, and to use them by way of increasing the appetite is injurious. This is perfectly true as far as it goes, but it must be remembered that times in a man's life will occur when he *cannot* observe the laws of health. Grief, anxiety, the pressure of sudden bereavements, are of this nature. These causes and others, which may hereafter be mentioned, forcibly withdraw a person from under the operation of the laws of health, and seem to call for some *extra*ordinary agent to stand in the gap and aid the overmastered powers.

The influence of alcohol on the nervous system is next noticed; and the writer again contends that the nervous system can derive no benefit from the *habitual* use of fermented liquors, since in a healthy state of body it ought to be equal to the work which it is called upon to perform, and if overtasked, it must be renovated by repose.

Here, again, the same *demurrer* must be put in, to the effect that of *necessity* the nervous system has sometimes more to sustain than it is quite equal to, and that adequate repose is not always at the control of the individual.

The use of alcohol as counteracting the influence of climate is next dwelt upon; but this may be passed by as having less to do with the object of this treatise. The reviewer then sums up his subject by laying down as an established position, that total abstinence from fermented liquors is consistent with the maintenance of the most perfect health, even under the constant demands created by labour of the severest kind, or by extremes of temperature; and that on the whole the abstinent system is preferable, on physical grounds alone, to the most moderate habitual use of them. On this point an eminent authority, Dr.

Robertson, of Northampton, says, "This is partly true; but only partly so. No doubt, in sound and robust persons perfect health may be maintained under almost every variety of diet; but can the same be said of the feeble, the leucophlegmatic, and the aged, and more especially of those who labour under the congenital misfortune of a strumous constitution? . Have the eminent medical characters who have signed the above sweeping aphorism* never had occasion to order wine, porter, or ale, to the scrofulous, the emaciated, or the atrophic? If they have so done, is there not some inconsistency in their signing such a document as the above? They may, perhaps, say that they have ordered alcoholic beverages in such instances as *medicines*. But this will hardly avail them as an excuse; for medical men do not generally order, even as medicines, things that they believe to be intrinsically hurtful."

It is to be observed that in the enumeration of different trades and callings in life which the writer has made, and in which instances are adduced of persons performing their labours as well or better without alcoholic drinks than with them, it is *physical* labour, waste of the tissues, with which he has to do. The cases of those who are subjected to severe mental labour, and on whose nervous system there is great demand, may well be looked upon as somewhat different.

My own opinion, founded on carefully reviewed experience, is, that to many persons of this class a small amount of wine is not only useful but absolutely necessary.

The reviewer protests most decidedly, and with great reason, against the *empirical* method in which wine is often employed as a therapeutic agent; but he admits that it sometimes enables the digestive apparatus to prepare and introduce into the system such an amount of the nutriment

* See Prov. Med. and Surg. Journal, p. 302, 1847.

which constitutes its real pabulum, as it would not otherwise be able to assimilate.

The cheering and exhilarating effect of stimulants must also have some weight with us, as it is sometimes of great importance to attain this effect. Dr. Hooper says, in answer to a query put to him, as to whether, under any circumstances, the occasional use of alcoholic stimulants were, in his opinion, beneficial, "The fact of giving it (grog) did good in one way—it made the men joyful, not from excitation, but as we all rejoice in cutting the Christmas pudding." The occasion of giving grog, of which he speaks, was one of extreme hardship and exposure to cold.

Captain Bligh, in his narrative of the sufferings of himself and his companions after the mutiny of the Bounty, also observes: "The little rum we had was of great service; when our nights were particularly distressing, I generally served a teaspoonful or two to each person, and it was joyful tidings when they heard of my intentions."

I think the opinion of Dr. Pereira as to the innocence and even usefulness of a moderate amount of wine is deserving of some attention. He says, "Wine when used in moderate quantities, as to the extent of two or three glasses daily, proves a very grateful, and to those who have been accustomed to it, an almost indispensable stimulant. It quickens the action of the heart and blood-vessels, diffuses an agreeable warmth through the system, promotes the different secretions, augments the muscular force and activity, excites the mental powers, and banishes unpleasant ideas and reflections. Many persons who have during a considerable period of their lives accustomed themselves to the daily but moderate use of wine have attained a good old age, and it cannot therefore be denied that the most perfect health is quite compatible with the moderate enjoyment of wine."

Dr. Watson also says, "There are cases in which the digestion seems to be helped by a moderate quantity of wine, beer, or spirits, yet no one can say beforehand, at least I cannot, which of them is to be preferred. Upon these points patients should interrogate their own sensations and experience, instead of seeking the oracular counsel of a physician. Drinks which are followed by evident disturbance and discomfort are manifestly hurtful. And even where a favorable effect for the time appears to be produced, there is always a risk of ultimate detriment to the powers of the stomach by this habitual excitement."

It is important to our present purpose to remember that all stimulating liquors taken habitually, in ever such small quantities, have a tendency to produce that state of the system in which, on the presence of any exciting cause, active congestion and inflammation are liable to supervene, and therefore it is very desirable for those persons who are anxious to keep their vocal organs in a state of efficiency, to refrain from habitual and regular use of them as articles of diet.

The action of cold upon the heated body has been mentioned as one of the exciting causes of dysphonia. (p. 36.) The influence of cold on the respiratory passages is doubtless a fruitful source of disorder of the vocal organs. Cold acts either directly on the organs of voice, causing congestion and inflammation; or indirectly inducing a state of debility, in which the effort required for speaking becomes irritating and distressing; both causes generally operate at the same time. Dr. Horace Green observes, that the epidemic influenza of 1830 was a most prolific source of follicular disease, acting by depression of the vital powers.

He says, "I have elsewhere stated that after the appearance of the epidemic influenza of 1830, which not only extended over Europe, but so far as is known, over the

whole civilized world, cases of follicular disease became greatly increased in numbers and in severity. So likewise the occurrence of the epidemic of 1837, which was almost equally pervasive with that of several years before, and that which prevailed extensively in this country and in the United States, in June 1843, served in each instance to multiply greatly cases of follicular laryngitis."

"Although the brain and nervous system generally suffer severely in most cases of an attack of epidemic influenza, as is evinced by the extraordinary prostration of the strength, and usually great depression of spirits, yet it is upon the mucous membranes that the violence of the morbid action falls, and especially upon those with which the air-passages are lined. Hence there often remains in the aerial tissues a greatly increased susceptibility to other diseases of a character more dangerous than that of the primary malady. An augmented liability to pulmonary consumption and chronic bronchitis it has been long known is the common sequent of an attack of epidemic catarrh. Follicular disease we have had abundant reason to believe is not unfrequently called into existence by the same exciting cause."

Common cold or catarrh is usually brought on by exposure to cold or damp, at a time when the body is unable to generate heat sufficiently to counteract its influence. It is a mistake to suppose that sudden transitions from cold to heat are always dangerous; on the contrary, as Dr. Watson observes, "unusual heat of the body at the time when the cold is applied, so far from implying danger, is really the condition of safety, provided the heat is steady and permanent." The danger is when, after being overheated, the body is beginning to cool. Damp clothes or wet shoes can do no great harm whilst exercise is continued, and a comfortable warmth kept up in the body;

but to keep them on after exercise has ceased altogether, or has become insufficient to keep the feet and body warm, is highly injurious.

Sitting in a current of air, especially when fatigued, and consequently less able to resist the lowered temperature, is another and very frequent means of catching cold.

Sleep is another condition of the body during which cold is readily caught; and, in short, everything which serves to depress and weaken the innate power of resistance lays the system open to this morbific influence.

The first effect of catching cold is that a shock is given to the minute branches of the nerves of the mucous membrane lining the nasal cavities and the air-passages, by which the capillary vessels lose their tone, or are weakened, and the circulation through them diminished. The respiration is also somewhat impeded, and a general feeling of dullness creeps over the whole frame, which is increased by the slightest draught of cold air. The weakened vessels distributed over the whole surface of the cavities of the nose and air-passages become congested with blood, secretion is stopped, serum is poured out from the enfeebled capillaries into the parenchyma, thus thickening the desiccated mucous membrane, exciting sneezing and, if the trachea and bronchi be thus affected, cough, and interfering with the due arterialization of the blood. At the same time the circulation throughout the system is diminished, all the secretions deranged, and among others that of the skin, which, as has been before observed, carries off from the system between two and three pounds of fluid daily, which fluid is now retained in the blood. One of the most important uses of this insensible perspiration is to take off a portion of the heat of the body, and this function being now stopped, the heat is retained within the body, producing fever, and this again loss of appetite. Nutrition

and secretion being impeded, the acuteness of the senses becomes dulled, the intellectual faculties languish, and the patient feels indisposed for exertion either of mind or body.

A consideration of the causes which lead to catching cold, and of the manner in which cold, when caught, operates on the system, will prepare the way for a consideration of the best means for hardening the body, and preventing cold in general.

One of the most successful means of fortifying the body against cold will be found (as has been already said) in the use of cold water in sponging, and cold bathing. The cold sponging should be persevered in at all seasons of the year, and practised immediately on rising from bed. Some persons find cold affusion, by means of a large towel dipped in cold water, wrapped round the person, and then replaced by a thoroughly dry towel, a preferable method to sponging, especially for those parts of the body not easily reached by the hand. In either case the surface should be rubbed well dry with a coarse towel. The body will, by this use of cold water in sufficient quantity, be in a great measure hardened against those atmospheric changes to which all must be subject who live in a climate so variable as that of England. To the morning sponging may be added bathing the throat and upper part of the chest with cold water once or twice in the day.

Daily exercise in the open air in all weathers, is another great means of rendering the body insensible to cold. Persons should *go out comfortably warm*, not with cold feet and chilled surfaces, as is sometimes foolishly done, under the notion of not feeling the difference so much. When thus chilled, the body is *much less*, instead of *more*, capable of facing the external cold without suffering from it. When the weather is cold or damp, the person should be well wrapped up and keep moving briskly, not sauntering or

standing still, still less sitting down in damp garments or wet shoes. These outer wraps should be taken off as quickly as possible after coming in.

The adaptation of clothing to temperature in our climate is rather a matter of difficulty, because December and July will occasionally change places; yet the principle should be borne in mind that clothing should be adapted to the season, since it is almost equally injurious to be too warmly as too lightly clad. An excess of clothing in warm weather heats the body and excites perspiration, the evaporation of which from the body often gives cold; besides, the under garments become saturated with moisture, and are as injurious in their contact with the skin as if they were damp from external causes. Excessive perspiration also debilitates the system, in that it is so much loss beyond the natural evaporation from the skin, and thus the body becomes more liable to be injuriously acted upon by the surrounding atmosphere. When the temperature is low, as in winter, autumn, and spring, flannel should be worn next the skin; and patients who are delicate, especially those who have the slightest tendency to scrofula, should both wear their winter clothing later, and resume it earlier in the season, than those who have more tone. To attempt to harden the constitution by improper exposure to cold, that is, without the precautions of sufficient clothing and others here mentioned, is contrary to common sense, and the uncomfortable sensations of which the body cannot but be conscious under such treatment, are tolerably sure indications of the injury which is being received. To *feel* chilly, cold, and shivering, is generally, if it continues long, to take cold.

Hence, to pursue sedentary occupations in rooms without fire, when the weather is cold and damp, is very injurious. The present inconvenience of cold feet and a chilled frame

are monitory symptoms, and should not be disregarded. Many delicate young persons suffer much in their health at schools from this cause. Nor is it merely in the winter that this is the case. Many days in the late spring, the early autumn, and even in the midst of our capricious summers, have far too low a temperature to permit persons of languid circulation and sedentary habits to sit all day without fire with impunity. On the other hand, a fruitful source of evil is the overheated temperature of the little low-ceiled apartments in which so many studious men pass a large part of their time. The same individual discretion must be used in this particular as with regard to clothing. The temperature of a sitting-room ought not to be too high; close, ill-ventilated sleeping-rooms, and beds surrounded with curtains, are also to be avoided.

A generous diet is another preservative against cold, but whether alcoholic drinks do not rather predispose the system to its effects by the reaction which follows their temporary stimulus is, as has already been said, very doubtful.

There is an article of clothing in common use, and especially among the clergy, which, though it has no great connexion with the subject of cold, has yet in another way an injurious influence on the health of the vocal organs. The human body is so constituted throughout, that every organ called into moderate exercise is strengthened by that exercise; but if mechanical impediments are thrown in the way, and the free natural movements are hampered and obstructed, action becomes fatiguing. Everybody is at once sensible that it would be more laborious to walk with the legs tied than in the natural way. Why is it that we do not as readily see that it is more fatiguing to speak at length, and in a raised tone, whilst the throat is confined in a *stiff unyielding cravat*, than if it were left at liberty for

the free action of the muscles? Many cases of dysphonia clericorum are probably aggravated by the increased efforts necessary to counterbalance the restraint of this self-imposed fetter.

There is a close sympathy between the vocal organs and those organs on which the continuance of our species depend, and the voice may, to a certain extent, be influenced by intemperance, even in lawful things. More need not be said—the words of St. Paul, "Be temperate in all things," have a sanitary, as well as a moral bearing. To the same effect is the maxim of Hippocrates, "Labor, cibus, potus, somnus, venus, omnia sunt mediocra."

The use of tobacco and snuff is doubtless highly injurious to the voice, and therefore should be carefully avoided. The former acts as a stimulus, which, applied to the air-passages, excites congestion in the mucous membrane. The latter injures the voice by the direct application of a still more powerful stimulus to the lining membrane of the nostrils, which is a part of the gastro-pulmonary mucous membrane. Much of it also often passes into the larynx and stomach, and produces in the former, chronic inflammation and thickening of the mucous coat. Hence it is often the unsuspected cause of hoarseness and cough. When it gets into the stomach it deranges this organ, and the general health through it, often laying the foundation for the accession of the more severe forms of dysphonia clericorum, by inducing that state of the system which is now to be considered.

Amongst the causes of dysphonia clericorum which have been enumerated, a depraved state of the general health was one. This may be either hereditary or acquired. In either case that general plan of hygiene above described, consisting of diet, exercise, the use of cold water, &c., combined with a careful observance of all the laws of health, will go far towards removing that morbid state of the

system, and if it cannot alter the original constitution of the patient, will at least put the body in such a state as will take away the proclivity to those diseases to which, under ordinary circumstances, it would be subject.

It is important that clergymen suffering from a cachectic state of the system, whether constitutional or resulting from disease, should decline *town* and *city* parishes, and seek a charge in the country, and, if possible, on the southern or western coasts of the island, where the air is mild and free from fog. The lighter duties which devolve on the country clergyman do not ordinarily present serious impediments to health, but are rather conducive to it, as is shown by the statistics of life amongst clergymen. The opportunities for exercise are much greater, the air much purer, and although, as has been previously remarked, common opinion and their own feelings prevent clergymen from availing themselves of the sanitary advantages of the ruder field sports, there are some which a country life affords which are still open to them; for instance, that recreation which the pens of Izaak Walton and Sir Humphrey Davy have rendered all but classical, and which even a clergyman may moderately indulge in without outraging the proprieties of his profession. The author of 'Salmonia' has described his favorite sport in language so fascinating, that we cannot forbear quoting it.

"As to its philosophical tendency, it is a pursuit of moral discipline, requiring patience, forbearance, and command of temper. As connected with natural science, it may be vaunted as demanding a knowledge of the habits of a considerable tribe of created beings, fishes, and the animals that they prey upon, and an acquaintance with the signs and tokens of the weather and its changes, the nature of waters, and of the atmosphere. As to its poetical relations, it carries us into the most wild and beautiful scenery of nature; amongst the mountain lakes and the clear and

lovely streams that gush from the higher ranges of elevated hills, or that make their way through the cavities of calcareous strata. How delightful, in the early spring, after the dull and tedious time of winter, when the frosts disappear and the sunshine warms the earth and waters, to wander forth by some clear stream, to see the leaf bursting from the purple bud, to scent the odours of the larch, perfumed by the violet, and enamelled, as it were, with the primrose and the daisy; to wander upon the fresh turf below the shade of trees, whose bright blossoms are filled with the music of the bee; and on the surface of the waters to view the gaudy flies, sparkling like animated gems in the sunbeams, whilst the bright and beautiful trout is watching them from below; to hear the twittering of the water-birds, who, alarmed at your approach, rapidly hide themselves beneath the flowers and leaves of the water-lily, and as the season advances to find all these objects changed for others of the same kind, but better and brighter, till the swallow and the trout contend, as it were, for the gaudy May-fly, and till, in pursuing your amusement in the calm and balmy evening, you are serenaded by the songs of the cheerful thrush and melodious nightingale performing the offices of paternal love, in thickets ornamented with the rose and woodbine."*

Sir Charles Bell beautifully says, "If there be any *best bits* in the 'Essay on the Hand,' they were written after a day of complete retirement and relaxation at Panshanger and Chenies. I have tasked myself pleasantly, while throwing a line, how I should express my thoughts on returning to the little inn. It is then that one has the justest and fairest views of Nature, which I believe would never rise into the mind of him who has the pressure of business on him."

* Salmonia, p. 10.

Where opportunities of trout-fishing are not afforded, or where the taste does not lead that way, the country supplies many varieties of exhilarating exercise; gardening, for instance, the raising of fruit trees, &c. But there must be *personal* labour, not mere contemplation of the operations of others.

The opinion of Arnold on the subject of exercise is valuable.

"Remember," he says, "that exercise must not be wearisome, and especially not wearisome to the mind, if it is to be really beneficial. I never have regarded a regular walk along a road, talking the while on subjects of interest, as exercise in the true sense of the term. A skirmish over the country is a very different thing, and so is all that partakes of the character of play or sport."

He says of himself, "I want absolute play like a boy, and neither riding nor walking will make up for my leaping-pole and gallows, and bathing, when the boys used to go with me, and I felt completely for the time a boy as they were."

The clergyman who is a father, with growing boys of his own, or a tutor, with boys of others, may, in a country parish, well imitate the great and good head master of Rugby.

The preventive measures hitherto noticed have had respect to the general health—to the fortifying the *outworks* as it were; but much remains to be said as to the strengthening the *citadel*—the vocal organs themselves. And here I must premise, that the natural quality of the voice ought to have a much greater influence than it appears to have on the choice of the clerical profession, either by parents for their sons, or by young men for themselves. A person should not rashly place himself in a position in which he may pass his life in painful and fruitless efforts to overcome

incurable natural defects. Of this kind are of course any organic malformation in the organs of speech, also those peculiarly harsh, croaking, or squeaking tones which some voices possess. Quintilian says, "Sed ne vox quidem nisi liberalis, actionem habere optimam potest. Bona enim firmaque ut volumus uti licet mala vel imbecilla et inhibet multa, ut insurgere, exclamare; et aliqua cogit ut summittere deflectere et raucas fauces ac latus fatigatum deformi cantico reficere."

The cultivation and improvement of the voice ought to be a part of the physical education of the young, and were this more attended to at a time when the organs are yet flexible, the difficulties which beset the practice of public speaking would be incalculably lessened. It is great inconsistency to lavish all our care on storing the mind, neglecting altogether one chief medium by which those stores may be made available to the benefit of others. It is true that no cultivation will make a bad voice a good one, but the words of Quintilian—Augentur autem sicat omnia ita vocis quoque bona cura et negligentia minuuntur—are as true now as they were on the day they were written. Care should be taken very early with children to make them articulate distinctly, and they should be habituated to form those regular movements of the lips, tongue, and palate, on which the correct formation of the different letters depend. As they grow up they should be practised, according to their age and ability, in reading aloud, reciting, or declaiming, great care being taken not to allow them to pitch their voices in too high or too low a key, to use a false or unnatúral emphasis, or to get into that wretched sing-song manner common with children. Many of the defects which young persons fall into in reading or repeating, arise, I am persuaded, from the too common mistake of setting them, for the benefit of their elders, to read what they do not understand, or what does not interest them.

The mind not being engaged, the reading becomes mechanical, and they acquire a habit of raising and sinking their voices without any reference to the sense. What they read should generally be in short sentences and in perspicuous language. The narrative and dramatic forms are peculiarly adapted to cultivate the inflexions of the voice. It is a good practice occasionally in reading dialogue for the teacher to take one part, and the pupil another, by which means interest is kept up, and the young reader, entering into the spirit of the character, learns, without difficulty, to give the natural emphasis to every sentence. Let any one compare the animated manner in which an intelligent boy will relate something which interests him, with the lifeless tones and vicious emphasis which he will employ in reading through some dry, and to him unintelligible, task, and he will soon be convinced that there can be no eloquence where the mind is uninterested; and if the habit of mere mechanical intonation be carried, as it sometimes is, from the schoolroom to the pulpit and desk, the effect is at once fatiguing to the hearers and the speaker.

Young persons ought never to be suffered to read too long, so as to become fatigued, by which means serious injury may result to the vocal organs. Nor should they be urged to read too loud, or in any way to strain their voices. It is not by forced and painful efforts, but by regular and gradual exercise, that the voice can be strengthened. They should avoid too frequent or too slow breathing, which may give rise to a kind of hiccough, at once disagreeable and irritating to the mucous membrane; and as respiration is less free when the stomach is distended with food, reading aloud should never be imposed just after taking a hearty meal.

By a careful education of the voice in childhood and youth, a great advantage is conferred on young men des-

tined for the clerical profession; but even *without* this advantage something may be done by their own efforts, and *with* the best natural or acquired help, care must be taken to preserve the vocal organs from injury.

Such as have not had the assistance of early training will do well to study the 11th Book of Quintilian on this subject; the admirable rules he has laid down for the management of the voice have never been superseded, nor does it indeed appear that modern study has advanced upon the art of Greece and Rome. There is, of course, a material difference between the themes of the Christian minister and the Roman orator, which renders some modification of his precepts necessary, but the general principles are applicable to every kind of public speaking.

As to the *preservation* of the voice, in addition to those hints which have already been interspersed through the present chapter, a few remarks must be made.

As by far the most directly exciting cause of dysphonia clericorum is strained, immoderate, and irregular exercise of the voice, the main precaution must be to moderate and equalize as much as possible those efforts; and here there are three rocks to be avoided, on which clergymen, especially young clergymen, are very apt to split, viz. *rapid utterance, a feigned unnatural key, and long sermons.* Rapid utterance is a habit which is at once exhausting and injurious to the speaker, the vocal organs being kept on an incessant strain, and also very unprofitable to the hearers, especially to those of the unlettered class, as their minds can seldom take in ideas very rapidly, and whilst they are yet striving to catch the meaning of one sentence the speaker is gone off to another, leaving their comprehension far behind. Any one who will talk to the poor on this subject will often hear the complaint, "Mr. So and So is a very fine preacher, but he speaks so

fast, I can hardly follow him." A deliberate and distinct utterance is a great help to persons of this class, and would certainly much tend to prevent over-fatigue in the speaker.

The evil of speaking in a feigned or unnatural voice has already been touched on in the former part of this treatise, and the opinion of Mr. Macready on the point given. It is, unfortunately, rather difficult to convince persons that this is the case with themselves, whilst those who know them and their natural tone in conversation can easily detect the difference. This feigned tone is sometimes adopted under an idea of giving increased solemnity or impressiveness to the reading; but as nothing that is unnatural is really impressive, it is a great mistake. If the feeling exist, the tone will follow; if it do not, the remedy is to strive after *it* rather than its expression.

But *length* of effort is, after all, the greatest mischief. It is much to be regretted that the services of our church, originally meant to be three distinct ones, should be so mingled as to extend to an inconvenient and fatiguing length. The remedy for this does not lie within the power of individual clergymen, and all they can do is to take care that that part of the service, the sermon, which is left to their discretion, shall not be protracted till preacher and hearer are both, though in different degrees, exhausted. Between the "fifteen minutes" satirized by Cowper, and the hour or more to which many admirable addresses extend, there is a medium; and it is worth while for our zealous ministers to consider, whether the undoubted wear and tear to their own physical powers in such long discourses, is at all compensated by increased benefit and profit to their hearers; whether, when one weighty idea, one profitable train of thought be well laid into the mind, much is gained by introducing still another and another, till

memory is overloaded and former impressions weakened. This is especially the case with the young, the illiterate, the aged, and the invalid; and these four classes deserve much consideration in every congregation. "Beau secret," says La Bruyère, "que celui de renfermer beaucoup de sens en peu de paroles." There is, therefore, a *moral* reason for forbearance in addition to the *physical* reason, with which our business more especially lies, and this physical reason is very strong. I have myself examined the throats of clergymen after pulpit efforts of considerable length, accompanied with rapid impassioned utterance, and I have seen, even where no disease has resulted, the mucous membrane in a state so highly congested as to need but little additional excitement to produce disease.

Examples are not wanting of those who, even with natural defects of voice, have, by judicious management, become good speakers, and been enabled to practise public speaking without detriment to themselves. The instance of Demosthenes is too trite to need quotation. Cicero also says of himself—"My body at this time was exceedingly weak and emaciated, my neck long and small, which is a habit thought liable to great risk of life if engaged in any fatigue and labour of the lungs; and it gave the greater alarm to those who had a regard for me, that I used to speak without any remission or variation, with the utmost stretch of my voice and great agitation of my body; when my friends, therefore, and physicians advised me no more to meddle with causes, I resolved to run any hazard rather than quit the hopes of glory which I proposed to myself from pleading; *but when I considered that by managing my voice and changing my way of speaking I might both avoid all danger and speak with more ease, I took a resolution of travelling into Asia, merely for an opportunity of correcting my manner of speaking, &c.*"*

* Middleton's Life of Cicero.

These observations cannot better be closed than by the following brief rules, given by a late eminent minister of our church, who, in his day, filled an important station at the University of Cambridge.

"Form your voice, not in your chest, nor in your throat, nor in the roof of your mouth, but simply with your lips and teeth.

"Deliver your sermons not pompously, but as a professor, *ex cathedra*, and as a father in his family.

"Let there be the same kind of pause and of emphasis, as a man has in conversation when he is speaking on some important subject."

The exercise of the voice, under proper regulations, is so far from being injurious, that it is positively beneficial to health, expanding the chest and strengthening its muscles, and thus aiding the important function of respiration.

In conclusion, I may say with Columbat d'Isère—too happy shall I be if the counsels I have rapidly sketched should prove useful to some—in giving them I have been influenced by the conviction, that he who seeks to preserve the health of his fellow-creatures is not less useful than he who cures the sick; and in the words of Seneca, "Plures est labantem sustinere quam lapsum erigere."

THE END.

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