

The study and practice of aural-surgery : being the introductory address to a course of lectures on aural-surgery, and of practical instruction in the diagnosis and treatment of the diseases of the ear, given during the summer session of 1878 in the Glasgow Royal Infirmary, and its medical school / by Jas. Patterson Cassells.

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THE STUDY AND PRACTICE

OF

AURAL-SURGERY:

Being the Introductory Address to a Course of Lectures on Aural-Surgery, and of Practical Instruction in the Diagnosis and Treatment of the Diseases of the Ear, given during the Summer Session of 1878 in the Glasgow Royal Infirmary, and in its Medical School.

BY

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ON THE STUDY AND PRACTICE OF AURAL-SURGERY

GENTLEMEN,—Six months ago, the Board of Managers of this old-established and well-known and important hospital, appointed to its staff an aural-surgeon, who is also the lecturer on aural-surgery in this School of Medicine.

As the incumbent of these important offices, it gives me much pleasure to tell you that I return to the place as a teacher, in which, as a student, I received some of my own medical education, and where, also, more than twenty-five years ago, I witnessed the performance of a major surgical operation for the first time, and which was performed by a gentleman, at that time one of the surgical staff of this Infirmary, who happily is still among us fresh and vigorous in thought as of yore, and whose eye still sparkles with the "Promethean fire" of former days—I refer here to our venerable and esteemed friend, *Dr Andrew Buchanan, emeritus* Professor of Physiology in our University.

Need I tell you that these circumstances have awakened within me the happy memories of bygone days, when faith and hope, as well as expectation, were young and fair, and perhaps, also, unreasonable. Need I tell you, also, that this place and these benches recall to my mind's eye the faces and the forms of men who were my companions and my competitors here, and who have, in most instances, since then, found "a local habitation and a name" widely separate from each other, and remote from the scenes and the place in which we spent together some of our student days.

But these circumstances that I have just mentioned, together with the fact of our presence here to-day for the purpose of inaugurating a course of lectures and of practical instruction in the theory and practice of aural-surgery, have served another and a more practical purpose than that of merely awakening sentimental and, perhaps, uninteresting personal reminiscences; they suffice to bring prominently before me the fact, that the advantages that are offered to the medical student of to-day, in respect to his acquisition of professional knowledge, are much superior to those that were within the reach of the student of medicine a quarter of a century ago.

To those who are familiar with the history of the progress which has been made during the last twenty-five or thirty years in general medical science, and who recall to memory the great and permanent acquisitions that have been gained in these years in our knowledge of the diseases of the human body generally, not only in regard to their surer diagnosis, but in regard also to their better and more successful treatment, it cannot be a matter of surprise for such persons to hear, that the special department of aural-surgery has participated also in the benefits of this very remarkable progress; a brief reference to which may serve to show you what I mean by saying, that the student of to-day has "superior" advantages over his fellow of former years.

Not to go farther back than the time of my own student days, it may occasion some astonishment to most of you to be told, that in this country in those times, there were no facilities offered to the student to acquire a knowledge of the diseases of the ear, and that even the speciality of aural-surgery itself, as a *scientific* pursuit, hardly existed. Then it was, also, that the diseases of the ear were known simply as "deafness," the treatment of which savoured so strongly of quackery as to be shunned by all medical men who had the smallest regard for their own good name or fame.

It was in those days that the "ear-picker" held sway as an instrument to be used both for the prevention and the cure of "deafness;" when irritating fluids of all kinds were freely poured into the external auditory canal; and when this same canal was wont to be washed out on every occurrence of dull hearing by the "free use" of syringefuls of water, which was hot or cold according to the whim of the operator.

This was the time, also, in which the wool from between the ears of a black sheep, because of its supposed curative powers in cases of "deafness," was esteemed by those who were deaf as of great value, and even more precious to them than an Indian pearl; and when, not only among the laity, but also among the profession generally, the opinion was held, and *consistently* acted upon, that an ear-discharge was salutary, and that it was dangerous to "dry" it up.

Nor is there a single statement of this brief narrative exaggerated, as I can readily show you in a few words.

Toynbee, the celebrated Aural-surgeon of those days, who was afterwards to become the founder of Aural-pathology, had just made his first public communication in regard to the structure and function of the membrana tympani, when I was a first-year's student. True, Yearsley had, in 1848, published a work on the *Causes and Treatment of the Diseases of the Ear*; but this and similar previous works were without purpose, so far as the conveyance of real practical information was concerned, to students desirous of such knowledge.

Toynbee, to whose labours I have referred, and which, lasting

over a period of well-nigh twenty years, were finally recorded in his celebrated work published in 1860, did not begin to lecture, or even to teach the subject of which he was so complete a master, to students till 1855; nor had Mr (afterwards to be Sir) William Wilde given his admirable work to the profession till I was advanced in my studies two or three years.

Then, and even till 1856, the surgeon who, in his endeavour to discover the cause of a patient's "deafness," desired to examine into the state of the deeper-lying parts of the organ, had per force to use an instrument devised by the veteran Kramer, and which hardly enabled the surgeon to see further into the external auditory canal than he could without its aid—an instrument, by the way, that has done not a little to retard the spread of a knowledge of the diseases of the ear among the general practitioners of this and other countries, because of its faulty construction and the manner of using it.

It was in such times, and under the like circumstances, that the condition of the *membrana tympani* was ascertained by an *inspection* of its surface by means of a probe!

Mais tout cela est changé, thanks to the pathological labours of Toynbee, and to the accurate clinical observations of the late Sir William Wilde; to the reflecting mirror introduced by Von Tröltzsch to the notice of the profession in 1856 at the congress of aural-surgeons which was held in Paris in that year, and to the world-wide known and universally-used air-douche of Politzer, discovered by him in 1861, which has added two new words to our vocabulary of professional terms, viz., to *politzerise*—*politzerising*, while—and this is of more importance—it has blessed and benefited mankind generally to an extent hardly, if at all, conceivable, except by those who know thoroughly its therapeutic value in regard to the treatment of ear diseases.

In this reference to the labours of those men who have helped to advance the knowledge of the diseases of the ear, I must not overlook those of the late James Hinton, who dignified and adorned the practice of this speciality by his life and works, which, as Sir William Gull has lately and truly said, "are stepping-stones for others to rise upon."

So much, then, for these personal and other reminiscences which our presence here to-day has called forth.

Although we are met here to-day to inaugurate a course of lectures, and of practical clinical instruction in aural-surgery, and although I appear before many of you myself for the first time as a teacher of this special branch of medical science, it is not, as some of those present well know, the first time on which instruction of a similar kind has been given in this city, nor is it the beginning of my career as a teacher of this special department of surgery.

On the contrary, and as is well known, Dr M'Call Anderson,

who has earned for himself a name as a dermatologist, that bids fair to be, if it has not already become, known world-wide, taught with great success in this special department of surgical science for several years prior to 1872, in which year and at his request I took up the thread of his labours as a teacher of this speciality, and which labours I have since then year after year till now carried on with more or less of success in my own clinique, the "Glasgow Dispensary for the Diseases of the Ear," where in the summer session of 1873 I delivered what I am assured was the first course of systematic lectures on aural-surgery ever given in the provinces.

This, and the fact that during the five years of the existence of my public clinique, I have seen and treated by my own hands, and almost unaided in any way, over 3000 different individuals suffering from ear-disease—is a subject upon which I may be pardoned if I dwell, for it is one in which I have a conscious, and I hope a justifiable, pride.

Gentlemen,—What remains for me to say in this address shall have a pointed reference to the subject that we are about to study together, and for this reason that at the outset, and before entering upon the study of any of the special departments of medical science, I think that the student ought to know in a general way something concerning that one which he proposes to learn, viz., what it is he is about to study and how it is to be studied, in order that he may determine for himself how far he is prepared by previous studies to profit by the special teaching that he is about to undergo.

With the object of giving to the student this so desirable and, indeed, necessary knowledge, I now propose to tell him what aural-surgery is and how it is to be studied; then, finally, I shall hope to be able to show him, that this special instruction whereby he acquires a knowledge of the diseases of the ear and of their treatment, is of especial value to him when, as a practitioner, he becomes engaged in the duties of his profession—indeed, to show him that its possession on his part is *essential* ere he can fill the rôle of a *general* practitioner of medicine and surgery.

To the inquiry, What is aural-surgery? many seemingly diverse replies could be given and have been given, to the bewilderment of those who have made inquiry.

On that account I prefer to give you my own definition of the subject of our study as follows:—

Aural-Surgery is the name, given to that section of the science of Otology, that concerns itself alone with all that relates to the diseases of the ear.

Its *study*, therefore, embraces a consideration of the causes, pathology, diagnosis, prognosis, prophylaxis, and treatment of these diseases.

But its *practice* also requires to be defined, and were I disposed to deal in epigram, I would quote from the writings of my beloved

and, alas! now deceased friend and master, and say that it is "simply surgical common sense."

This definition and favourite expression of the late James Hinton, who was undoubtedly the most talented aural-surgeon of recent times, is a true and a self-explanatory one to those who are familiar with the subject that it defines; but it incompletely defines the practice of aural-surgery to any one who is ignorant alike of the diseases of the ear and of their treatment. Besides, were I to adopt it on this occasion as our definition of the practice of this speciality, it might prove misleading not only to those of you who know nothing of it, but even to those of my professional brethren whose surgical skill and talents are almost, if not quite unlimited.

Therefore, I define the practice of aural-surgery to be the application of the principles of general therapeutics to the treatment of the diseases of the ear, guided by a special knowledge of these diseases.

In the end, however, and with more experience, the student himself will come to the conclusion that, after all, the practice of this speciality is pretty clearly defined by the epigrammatic expression that I have just quoted, for it is really nothing more than "surgical common sense," plus special knowledge, to guide its application rightly to a special end.

And now I come to speak of the principle that underlies all the practice of aural-surgery—that principle is conservation. By-and-by, I shall in my clinical teaching be able to demonstrate the truth of this statement to you; meantime let me say here, that the practice of this speciality is eminently conservative in its aim, and that it does not exist at all as a scientific pursuit when it lacks it; indeed, its claim to be regarded as a special study as well as a special branch of practice rests upon the fact that its true aim is to prevent and to conserve.

In making this claim of conservation on behalf of the practice of aural-surgery, I am prepared to find some opposition made to it, but only from those who have not studied the natural history of the diseases of the ear, for such a study, coupled with a slight knowledge of aural therapeutics, must suffice to convince them that the claim that I here make is justly made.

I do not mean, however, that the practice of aural-surgery is pre-eminently conservative in principle over the practice of general surgery, or that of the special surgical treatment of the other organs of the body—such as the eye, for instance—but I do say that in none of them is the principle of conservation more beautifully illustrated than in the treatment of the diseases of the ear, especially in the early treatment of some of the diseases of the tympanic cavity and of the Eustachian tubes; it is in such circumstances that the real strength of the practice of aural-surgery manifests itself as a conservative proceeding.

This characteristic of the practice of aural surgery first suggested itself to my mind on reading the celebrated work of Saunders, who was, in truth, the father of English aural-surgery. The perusal of that book, therefore, must ever remain as a memorable event to me, for its outcome was the discovery of this principle of conservation in regard to the practice of aural-surgery. Nor need I tell you that the practical realization of its truth was to me as a new revelation. Henceforth, all that was formerly incomprehensible in regard to the diagnosis and prognosis, as well as the treatment of ear-diseases, became clear to the mental vision. Wavering and doubts that had hitherto existed, and sorely puzzled me, passed away under the enlightening influence of the truth of this principle.

And here let me remark that, if I may judge of your mental state now by the standard of my own past experience, I have to say, that until you in your study of the diseases of the ear realize, that in their very nature there is an inarticulate demand on their part to be treated on conservative principles, you must ever remain outside of that deeper and more satisfying, because more certain knowledge, of the diseases of the apparatus of hearing.

From what has been said as to the practice of aural-surgery, it may be seen that its study has for its object to acquire a special knowledge of the phenomena of ear-diseases, and a practical familiarity with the special modes in which the principles of general therapeutics are applied to their treatment. Indeed, it is this need of a special knowledge of the facts of aural pathology and therapeutics that has created, but only within these very few years, and in a very few schools of medicine, this special department of aural-surgery as an independent branch of study for the student.

But while its study is in this way separated from that of general surgery, its practice is in no way severed from it; on the contrary, and as I must have shown you, a general surgical experience is the most fitting preparation for the successful surgical treatment of the diseases of the ear.

So much then, in a brief and general way, regarding the practice of aural-surgery, and how it is to be studied.

And it is an interesting study for the student, even if he, for the moment, regards the organ of hearing, not alone from an anatomical stand-point, as a marvellously formed part of our bodies, which exhibits and makes manifest to us the wisdom and power of a great creative Mind, but, from a purely physical point of view, as a delicately-constructed pneumatic machine, whose perfect action is conditioned by the almost invisible movements of a tiny piston, as I may style the stapes bone, whose motions to and fro have a range of not more than the $\frac{1}{16}$ th part of a millimetre! A machine which is prone to disturbances in its air tension, but which is provided with an accommodation apparatus of the greatest sensitiveness, whose function in ordinary circumstances is that of

averting the evil consequences of such air-disturbances. Provided also with an admirable arrangement whereby all the sonorous impulses of air that strike upon it are recorded with a never-failing accuracy.

In evidence of this delicacy of construction, it is only necessary to remind you of the fact that the cultivated human ear, which I have here likened to a pneumatic machine, is formed not only to receive, but to record all the sound-waves that reach it within a range of eleven octaves, viz., from 16 to 40,000 or more vibrations in a second of time,—perceiving their differences with equal facility whether these tones reach it in succession or simultaneously.

Such, then, is the organ with which, as students of aural-surgery, you have mainly to do, whose diseases you are to observe and to study.

And although, at first sight, judging from the apparently inaccessible position of the whole of the apparatus of hearing, this study and observation of its diseases may seem to be surrounded by almost insuperable barriers, it is not really so in actual practice; on the contrary, the diseases of the ear are not difficult to diagnose, nor are they very difficult to treat or to remove, when experience and dexterity guide the eye and the hand of the surgeon.

Such success, however, as is here spoken of comes not but by the patient study of the diseases of the organ in all their ever-varying phases; but then it is worthy of such a devotion of time and of energy by the student, for not seldom in a case of ear-disease, even in a general practitioner's career, the greatest inconvenience, and even the most momentous issues, may hang upon the success or the failure of his efforts.

If, from some remarks that I have just made as to the recent recognition in our medical schools of the need of a special study by the student of the diseases of the ear, you have inferred that the subject of our study itself is of recent creation, and, so to speak, without a history, let me here undeceive you.

The study in which you are about to engage is one rich in historical associations, and daily becoming richer as it gains in importance in relation to the body-politic; of the truth of which statement I could, did time permit, give you abundant evidence. This, however, I may say, that a subject like ours, which has engaged such intellects as those of that glorious trio of anatomists who lived in the sixteenth century—Vesalius, Eustachius, and Fallopius—as well as that of the famous Valsalva, who, in the following century, spent sixteen years of his life in dissecting more than a thousand heads in furtherance of his study of the organ of hearing; a subject also which, in our own country and almost in our own day, has engaged intellects equally as grand as those of the great men of past times, which interested the elder Munro, and gave zest to the labours of Saunders, Toynebee, Wilde, Hinton,

and others, is one surely well fitted to employ all the intellect and all the energy that we have at our disposal.

Merely remarking—indeed it is a trite remark—that a special course of study, such as ours, begets in the student, or develops where it already exists, a habit of close and accurate observation, I now proceed to show the practical value of a knowledge of the diseases of the ear, and of their treatment, to the general medical practitioner.

When I state, as the result of my own experience, that nearly all the cases of ear-disease in the acute stage are curable, and that these, for the most part, first occur within the domain of general family practice, while, on the other hand, most of the chronic cases that come under the aural-surgeon's special care, between the periods of youth and middle life, are incurable, or nearly so,—I use the term "incurable" here to mean, that in these cases the impaired or lost function cannot be restored to its original state of perfection,—and that these chronic and mostly incurable cases have had their origin in the earlier and curable periods of infancy and childhood, I have said enough, I think, to prove that a knowledge of these diseases, such as we desiderate for the general practitioner of the future, cannot fail to be to him of the highest practical value.

On these grounds alone it seems to me desirable that, in the future, all general practitioners of medicine should possess a fair knowledge of the diseases of the ear.

But there are special reasons altogether apart from these more general ones why they ought to be in possession of this knowledge. These special reasons are as follows:—

Primary disease in the ear frequently causes the most serious changes, both mental and physical, in the general organism, and that in the course of many of the general diseases to which the body is liable the ear becomes implicated.

In regard to these conclusions, which, indeed, are based upon the facts of the experience of all aural-surgeons, I have to remind you of the position and construction, as well as of the vital relations of the ear. Surrounded by the most important structures, and only separated from them by osseous walls of varying thickness and degrees of development, it need not be a matter for surprise that serious and even fatal consequences can follow a simple inflammation of the tympanic cavity; indeed, the closeness of the union that exists between the soft tissues lining this cavity and the bones that form its walls, renders it an utter impossibility that the former can become diseased, however slightly, without the latter becoming also involved in the morbid process. Thus it is, that every congestion of the lining membrane of this cavity is a periostitis, and every ulceration of its soft tissues is a caries of its osseous walls, that may, and often, indeed, does end, in the most serious and even fatal consequences.

Then, again, think of the very close sympathy that subsists

between the ear and other remote organs in the body, even in a state of health, structurally, and that this sympathy is rendered more acute and sensitive when these organs are diseased; think, also, that the perfect health and the perfect function of the ear—and therefore the sense of hearing—depends upon so seemingly a simple matter as that of the mode or habit of breathing, and that it is only necessary to stop breathing through the nostrils to set up changes in the tissues of the apparatus of hearing that may end disastrously, even fatally, to the person who so breathes.

When you ponder over these general facts as to the anatomical relations of the organ, and the usual results of the pathological processes that go on in its tissues, and these other ones relative to its sympathy with, and dependence upon, other and remote organs of the body, you can appreciate much better the worth and the weight of the special reasons that I have adduced in support of my position as to the practical value, and the absolute need, of a knowledge of the diseases of the ear to the future general practitioner of medicine and surgery.

Were I to enumerate the somewhat formidable list of the diseases in which the ear plays, whether actively or passively, no unimportant part, and which I am only hindered from doing by the knowledge that my time to-day is too limited to do justice to it, you would see for yourselves that the study, as well as the practice of aural-surgery, is no "narrow speciality," as some men, speaking out of the fulness of their ignorance, have ventured to call it. Indeed, it is quite otherwise than "narrow," and it must be so, for the field in which the aural-surgeon works is not limited by the dimensions of the organ, whose diseases he specially treats, but is co-extensive, I venture to say, with the whole organism. Nor need I, in proof of this statement, remind you of that which, I am sure, you already well know, viz., that in disease as in health our body is an indivisible whole, and "man is all symmetry."

"Each part may call the farthest brother,
For head with foot hath private amity,
And both with moons and tides."

In bringing these introductory remarks to a close, I wish to tell you something of the programme of our study during this session. As you know, the time at my disposal for lecturing is very limited, and it is therefore impossible to overtake the whole subject of aural-surgery in the course of one short summer session. Therefore I shall limit my course of lectures this session to a consideration of the pathology of the diseases of the ear, illustrated by practical remarks in regard to the causation, diagnosis, and treatment of these diseases. On Thursdays, therefore, at 4 P.M., I shall lecture here on aural-pathology, until I have exhausted this very important as well as interesting subject.

But I hope, also, after having finished it, to lecture to you on the diseases of the ear in infancy and childhood before the session terminates—a subject whose importance to you in your future careers as general practitioners you may be able to estimate, after the remarks that I have made to-day in an earlier part of my address. In the Dispensary, on the Tuesdays and Fridays, at 4 P.M., for one hour each day, I shall illustrate my systemic teaching by practical and clinical instruction and observations on the cases that come before us for treatment there, where ample opportunity will be given you of studying and of observing the processes of nature as they manifest themselves in the diseases of the ear.

There I hope, as your teacher and the interpreter to you of these phenomena of disease, to help you to an understanding of the affections of the apparatus of hearing. Not, however, aiming to make you specialists, these make themselves by a process of “natural” or other selection, and are only thus or never made—perhaps even, like the poets, never made at all—but born as such. What my aim shall be is this:—To instruct, so that you shall, in your future careers, be able to diagnose and to treat an ordinary case of ear-disease with credit to yourselves and good results to your patients. To teach you, also, how far in the conduct of a case you may go with safety to your patient, and with credit to your own reputation; and when, owing to its gravity or other causes, you ought to resign such a case into the hands of the more experienced special practitioner; in other words, to teach you so that you may see clearly the point in the treatment of any case of ear-disease at which your knowledge of it ends, and your ignorance begins; and if I succeed to this extent in my labours, and if you act thus, then without the smallest affectation I may say—“*Bene erit opera posita.*”

Finally, gentlemen, let me remind you that, as the object and the end of our life in this world is to live for others, and not unto ourselves, our power for good in respect to others must be limited, as well as conditioned, by the spirit in which we come to the acquisition of this knowledge and of all other knowledges. If you, therefore, acquire this knowledge in a spirit of self-seeking and regardless of your own interests, then must all your future actions be determined and affected by this self-regard, and your whole life will be a lie. If you live in such a spirit then are you just as good as dead. And although you possessed all knowledges, and knew all mysteries, yet are you enveloped by the deepest darkness, and filled with the grossest ignorance; therefore escape from so great damnation.

In getting your knowledge, make your own welfare and your own well-being no part of your regard—you get to give. If you get in this spirit, then will your giving be divine-like in its nature and influence, for it must shed abroad upon the world a fragrance and a blessing which will make it a living world to you. Therefore

have no concern as to the results of your giving in regard to yourself, for all must be well with you when you give, regardless alike of self and self-interest.

And is this not a glorious privilege, to minister to the needs of others regardless of ourselves, and without a thought of our going right, or a hope of coming at last to something as the result of our giving—giving, hoping for nothing in return. To give thus is to escape from the dead-life that envelops most of us in this world.

And I have to remark, that this privilege is a glorious and a sacred heritage to our profession. To the humblest as well as to the most exalted member of our art—the art of healing—this ministry of good, is a personal possession and a luxury without the limits and beyond the fetters of ethical or other laws. To minister to the sick in body, and to bring comfort to the broken in spirit; to give hearing to the deaf, and speech to the dumb; to give sight to the blind, even to give ourselves that we may help others, as our Great Archetype did, who did all these things, is our sacred right and trust.

Let us then thank God that the end of all thought, of all effort, and of all labour in this world is this self-regardless ministry to “other’s needs”—for it is a glorious and a satisfying life—a life of love, boundless as it is bondless, “voyaging over an ever-deepening channel into an infinite sea.”

