

what extent this is a cause and to what extent an effect of the other causes, would be hard to decide. But I believe the present state of things will continue until earnest and devoted workers in this department succeed in gaining general recognition of its importance, and either more pediatricists turn their attention to surgery or more surgeons turn pediatricists.

My hope is that the attention of my hearers individually, and of the Section as an organization, may be aroused on this subject, and that you may be led to make further advancement in this beneficent and to me most delightful department of professional labor.

THE STUDY OF LARYNGOLOGY IN THE UNIVERSITY AND IN THE HIGHER MEDICAL EDUCATION.

CHAIRMAN'S ADDRESS, DELIVERED BEFORE THE SECTION ON LARYNGOLOGY AND OTOTOLOGY, AT THE FIFTY-SECOND ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, AT ST. PAUL, MINN., JUNE 4-7, 1901.

JOHN N. MACKENZIE, M.D.

Clinical Professor of Laryngology and Rhinology in the Johns Hopkins University, and Laryngologist to the Johns Hopkins Hospital.
BALTIMORE, MD.

Instead of making the usual report on the year's progress in the specialty, I will depart from the prescribed routine and call attention to a subject which is of vital importance both to the laryngologist and to the profession at large. At the outset I wish it to be distinctly understood that I shall speak only of undergraduate instruction in schools of the very first rank, and not of the more elaborate training of the post-graduate for special work.

The study of laryngology has been grossly neglected in the medical schools of this country and Europe. It is either omitted entirely from the schedule of studies or, in many colleges at least, it is taught in a superficial, perfunctory sort of way that neither inspires faith in the instructor nor interest in the student.

Although the catalogue often tells in glowing terms of a course on laryngology, such a course will be found in practice to be like the "Co." in "A. Tetterby & Co.," "a mere poetical abstraction, altogether baseless and impersonal." In very few schools is it taken at all seriously, while in only one is it an obligatory study and a requisite for the degree. It seems to me, therefore, that the time is ripe for the discussion of its place in the university and in the higher medical education.

IMPORTANCE OF A STUDY OF LARYNGOLOGY AND ITS PROPER PLACE IN THE CURRICULUM.

I use the term laryngology in its broadest sense, to denote the anatomy, physiology and diseases of the upper respiratory apparatus, together with its connections and appendages, or accessory cavities. In this latter category may be placed the pharynx and the middle ear. The position assigned to laryngology in the university has been heretofore not at all commensurate with its importance, and yet of all the pure specialties, that is to say, those branches requiring special technique and special instruments and methods of precision, it is the most generally useful to the diagnostician and general practitioner. The time has gone by when it should be necessary to press the claims of laryngology to recognition of the highest rank. We no longer apologize—we demand. There was a time when laryngology meant little more than the art of laryngoscopy, and it was often prostituted to inferior use. It is no longer a simple method of examination and demonstration, but an

enduring, vital force in medical progress, which lives and breathes and has its being within the very heart of inner medicine itself. It is no longer the Canaan of the quack, but a fair land of promise for the highest order of research. It should, therefore, hold high place in the curriculum of the college and university. It should have a separate, well-equipped department and a full professorship. While I do not wish to over-estimate the relative value of laryngology in a scheme of medical education, and while I am fully conscious of the present congested condition of the schedule, and the future necessity of a large number of elective studies, I am of the opinion that, in view of its very great importance, it should remain, as it is in the curriculum of the Johns Hopkins University, an obligatory study. If laryngology and ophthalmology should ever disappear from the list of compulsory studies, they should be the last to go. Their exile from a curriculum in which they have been once established would be, not an act of progress, but of retrogression.

THE FUTURE OF THE LARYNGOSCOPE.

A knowledge of the use of the laryngoscope will in the future be as necessary to the equipment of the advanced physician as is now a knowledge of the physical examination of the chest. It is absolutely invaluable to the diagnostician, for it is especially useful in the early detection of disease, often pointing, long in advance of classic signs and symptoms, the way to grave disorder. Time was, not very long ago, when physical diagnosis of the chest was not required of the medical student, and when the special knowledge of the art was supposed to be, and practically was, confined to the few. Now every practitioner of medicine knows, or thinks he knows, it all. The laryngoscope will go the way of the stethoscope and become the common property of the general practitioner of medicine. It will be an absolute necessity in that specialty which, next to surgery, is the highest of them all—the great special study of the future—internal medicine. The time will come when the art of laryngoscopy will be linked to general medicine as the art of physical diagnosis has become its inseparable associate.

INCREASING GENERAL KNOWLEDGE OF LARYNGOLOGY.

When, twenty-three years ago, the conception of creating the American Laryngological Association, the oldest special society of the kind in the world, arose in the brain of its too-early-lost founder, it was hardly possible to gather together more than a corporal's guard of men of national reputation in this department of medicine. Now the complexion of things has entirely changed. While at that time the specialist was found only in the larger cities, now there is scarcely a hamlet in the land that does not contain a laryngologist—indeed, in recent years the laryngologist has, in some quarters at least, proliferated to an alarming extent.

There will come a time in the future—in the near future, perhaps—when the boundaries of the specialty will be almost indefinitely extended. The great advances which laryngology has made in recent years, the rapidly growing necessity of a knowledge of its special province in the elucidation of obscure conditions in adjacent and remote organs of the body, the popularity of its study and the accordingly rapidly increasing number and far-reaching geographic distribution of its votaries, will, in the course of time and in the nature of things, lead to such a congested state of the specialty that many will either be driven into the ranks of general medicine, or compelled to take up some other line of special work in

connection with their original specialty. This already has been done in the smaller towns and in the great centers of population in the progressive west, where ophthalmology is the inseparable associate of laryngology and otology. The rational practice of the latter is impossible without a thorough knowledge of rhinology and diseases of the throat, and nothing is more illogical and grotesque than its solitary association with ophthalmology, except, perhaps, the combination alleged to have been practiced by a distinguished foreign ovariotomist, who took no cases except abdominal tumors and diseases of the ear.

While a more general knowledge of laryngology may have its drawbacks, if we look at the subject from a purely commercial point of view, it may have, among other things, a salutary effect in relegating to the rear that unfortunately numerically large element in our midst whose only claim to special knowledge resides in the possession of the necessary apparatus which goes to make up the armamentarium of a worker in this field.

DEVELOPMENT OF THE STUDY OF LARYNGOLOGY.

Let us now turn to the development of the study of laryngology by undergraduates in our medical schools, if, indeed, we may speak thus of a study which has practically just begun, and, in doing so, perhaps I can best illustrate the different phases of its development by giving a chapter from my own experience.

Twenty years ago, when I was on the working staff of the, then, largest throat and nose clinic in London—the Hospital in Golden Square—there was no place in that vast metropolis where the student could get systematic instruction in special work. None of the colleges or hospitals gave lectures on laryngology—nowhere was it requisite for the degree. All strangers in London, interested in the specialty, came to Golden Square, attracted there by the personality of Morell Mackenzie, then at the zenith of his popularity and power. With all the vast material at our command, there was practically no instruction given, except in the way of hasty demonstration of cases; and if the student or visitor learned anything, it was through close personal observation on his part and not through any gigantic effort to impart knowledge on the part of the medical staff. With one or two exceptions, the latter directed their attention almost solely to the larynx and thyroid gland, and the nasal passages were only examined when in quest of a polypus or when the attention was irresistibly attracted to these organs by the horrible stench of an ozena. The nasal cavities were practically neglected and the only apparatus in the hospital for the treatment of these diseases consisted of a pair of forceps for the removal of nasal polypi, and a hand-ball atomizer with a detergent solution for the treatment of ozena or any other miscellaneous disease of the nose that might irresistibly obtrude itself upon the recognition of the medical staff. When later I studied on the Continent, I found a like condition of affairs. In no school was laryngology taught to undergraduates, and the only means of acquiring special knowledge of the subject were the imperfect courses on diseases of the larynx given by the professors and their assistants. There was no special course in rhinology, which subject, as in England, was left entirely alone. I returned to my own country to find the same neglect of the study of laryngology that I had found in England and on the Continent.

In 1887 I was called to the chair of laryngology and rhinology in one of the oldest medical schools in

America. The annual catalogue and circular told in flamboyant terms of a course on laryngology which at once set the mind to wondering how it would be possible for a student to escape from the institution without absorbing all that was coming and all that had gone before in that imperial domain. On my induction into office, I cast about me for the paraphernalia which should accompany my lofty position. I found in a dark closet or hole which led under the seats in the amphitheater where the lectures and clinics were given, a dilapidated lamp whose structure and general appearance of antiquity suggested the possibility that it might have been originally trimmed by some spirit in the age of fable, a broken laryngeal mirror, from whose back the quick-silver had long since departed and a cardboard diagram, colored blood red, like an eczema, which was supposed to represent the laryngeal image but looked more like a vulva on fire. These crude implements of the laryngoscopic art I found—and a tradition. According to this tradition my predecessor in office was accustomed to meet the class at the opening of each session, and, after a few introductory remarks, disappeared with a patient into the closet under the seats and closed its door. There was a period of breathless silence and intense expectation on the part of the students, during which time all manner of strange noises were heard in the darkness beneath them. These finally ceased, and the professor reappeared, his face radiant with satisfaction, and advancing toward the class, with the laryngeal mirror held aloft, triumphantly exclaimed, "Gentlemen, I have seen the vocal cords." According to the same tradition, that was all the laryngology the class got during the session.

The quarters assigned to me in the dispensary, where the patients were examined, consisted of a little compartment or "box" from which all sunlight and fresh air were carefully excluded, and in whose foul atmosphere two of my assistants subsequently probably contracted tuberculosis. It was thus thoroughly equipped and under such cheerful conditions that, without either moral or financial support on the part of the executive branch of the institution, I began the task of teaching practical laryngology to undergraduate students. Fortunately, I had excellent assistants, with whose aid I soon built up an excellent clinic, so that we were enabled to give the men during the session demonstrations of most of the diseases of the upper air-tract and all the common operations on the nose and throat. I gave the lectures and clinics and my assistants superintended the instruction of the students in the dispensary. Although attendance in the department of laryngology was not compulsory, and although no examination was ever held in this branch, the course was largely attended and many became so much interested in the subject that they subsequently took it up as a specialty.

In 1889 the Johns Hopkins Hospital threw open its doors, and several years later (1893) the medical school in connection with it and the University, was formally opened. The Johns Hopkins University deserves the credit of being the first institution of learning, either in this country or beyond the seas, to give to laryngology the prominence which its place in medical education demands. It was the first to make it an obligatory study in the curriculum, and to make an examination in this branch a requirement for the degree of Doctor of Medicine. This was one step, and in consideration of the former neglect of the subject, a prodigious one, to place laryngology where it properly belongs and to give to it the position and prestige to which it is justly en-

titled. It, therefore, marks an important era in the evolution of the undergraduate study of laryngology. If for no other reason, then, as a matter of historical interest, I will ask attention to the method of teaching the specialty which has been adopted in this institution. I shall content myself with simply giving a mere outline of the work, and shall not enter into matters of detail.

STUDY OF LARYNGOLOGY IN THE JOHNS HOPKINS MEDICAL SCHOOL.

The time required for the degree of Doctor of Medicine is four years, of nine months each. The requirements for entrance to the medical school are rigid, only those being admitted who give evidence of having had a liberal education as indicated by a collegiate degree in arts or science, including an acquaintance with Latin, a reading knowledge of French and German, and adequate training in physics, chemistry and biology. The first two years are devoted mainly to practical work of all kinds in the laboratories of anatomy, physiology, physiologic chemistry, pharmacology and toxicology, pathology and bacteriology. During the last two years much of the students' time is spent in practical work in the wards, laboratories and dispensary. It is not until the fourth year that the class enters the special departments. It is my intention to give a course on laryngology in the third year, so that when the student enters his graduating or fourth year course, he may be at least familiar with the use of the mirror. I mention these facts simply to show that, when the student reaches me, he is quite thoroughly trained, not only in the use of his brain, but also in the use of his hands. By constant practical work for three years, he has acquired an amount of manual dexterity which enables him to master the art of laryngoscopy with relative ease.

The graduating class is divided into four sections—each section (of the fourth-year class) attends for one and one-half hours daily during two months, the laryngological and rhinological department, where they receive practical instruction from my assistants and myself. After preliminary drilling in the use of the laryngoscope and other technical procedures, and in diagnosis, the student assumes the work of clinical assistant. He is given pathologic material for examination and diagnosis, and is encouraged to report cases and read papers before the Hospital Medical Society, to look up the literature of interesting subjects connected with laryngology, to observe for himself and, if he has time, to do original work. He is taught to investigate and to enquire, and I may say just here that it often requires a very high order of human ingenuity to construct an evasive answer to some of the conundrums with which I am frequently assailed. He takes his first lesson on the human subject—gets his first impression from Nature. I formerly used models; but some one stole them and I am glad they are gone.

By the above method, the teacher comes into direct personal contact with each member of the class, and is enabled to measure the mental status of the individual. In no other way can laryngology be properly taught. It is hard work, but it pays in the results which are accomplished. Laryngology can not be taught by text-book or lecture. It must be taught over the shoulder of the instructor, and on the part of the student, must be acquired by direct contact with, and personal observation on, the living subject.

While the didactic lecture is fast becoming an anachronism, I do not believe that the day of its usefulness is

completely gone. I give a systematic course of weekly lectures to the entire class, which are supplemented by pathologic and clinical demonstrations, on the anatomy, physiology and commoner diseases of the upper air-passages and their relations to morbid processes in other parts of the body. In this course especial attention is paid to diagnosis. The object of these lectures is two-fold: 1, to give in a concentrated form and in the shortest possible time information which could not be acquired except by great additional labor on the part of the student, and 2, to avoid endless repetition in the section room.

In the matter of text-books and literature, the class is shown the principal works and current periodicals in English, French and German. No special text-book is recommended or required; but, in connection with the lectures, the students are referred to special articles and monographs containing the classic literature of each special subject.

The question of the value of examinations is a very important one and one which is destined soon to be pressed to final settlement. While I can not go as far as my gifted friend and colleague, Professor Mall,¹ who is of the opinion that it would be well to separate them from the course of instruction entirely, I must confess that I am very much in sympathy with him in the main points of his contention. But until a more rational and exact method of accomplishing the same results be devised, I am afraid the examination must remain as a necessary evil. It is often a farce. One of the best examination papers I ever received was from a student who, on account of a serious illness, was compelled to absent himself from the very lectures on which the class was being examined. He had used the notes of a fellow-student and came back at me almost with my own words. In the university in which I received my first medical degree, instruction, except in the department of anatomy, which was practically and ably taught, was entirely by didactic lectures. We sat all day in the lecture-room taking notes, and spent the entire evening "cramming" them for the next recitation. We never saw a medical case. Once during the session, the professor of surgery brought in the colored janitor, stripped him and bandaged his legs and arms. This was our only course in practical surgery. Those were the good old days when, as Mall says, the students "heard much, saw little and did nothing." When the day of examination arrived I knew my text and note books from cover to cover, and could locate with unerring accuracy any required item of information to the page and to the line. My memory was so saturated with medical lore that it took me some years after I left college to forget it. I was invincible in the examination room, but helpless at the bedside.

The best examination is the observation of the student in his daily work and the resulting estimate of his personal equation. During the first two years I gave an oral examination at the end of the term, carrying each student over the entire field covered by the lectures, but, as the size of the class increased, this had to be abandoned, and I now give a single written examination, of which the following, which was my first, is an example.

1. Give the physiology of the nasal and accessory cavities.
2. General symptoms and diagnostic signs of suppuration in the nasal accessory cavities—diagnosis of pus in the antrum maxillare.
3. Early laryngoscopic diagnosis of tuberculosis and cancer: characteristics of syphilitic, cancerous and tubercular ulceration in the upper air-passages.

¹ Liberty in Medical Education; Phila. Med. Jour., April 1, 1899.

4. Chief causes, symptoms and laryngoscopic signs of double, complete abductor paralysis.

5. Nature and diagnosis of so-called nasal reflex neuroses.

Out of a class of thirty-four there were only two who failed to pass.

This, in brief, is a simple outline of the way in which laryngology is taught in the Johns Hopkins Medical School. I am fully aware of the imperfections of the method; but everything must have a beginning, and time and further experience will doubtless make it more perfect. In the classes under my care it has so far been very successful. The net result is that when the student graduates he has made a very fair groundwork on which to base, in the future, if he will, a more elaborate study of the specialty.

LARYNGOLOGY THE INSEPARABLE ASSOCIATE OF GENERAL MEDICINE.

In teaching laryngology the instructor should forever bear in mind, and the student should never be allowed to lose sight of, the fact that it is an inseparable part of general medicine—that the pathology of nasal and laryngeal diseases is not an isolated pathology; that the appearance of disease in the upper air-tract is governed by the laws that condition the development and course of disease in general, and that the rational interpretation of these affections presupposes, therefore, the application of general pathologic principles to the peculiar conditions which the anatomic and physiologic functions of the structures involve. Above all, he should remember that peculiarity of structure is not anatomic isolation; he should remember the correlation of organ and organ, the sympathy of tissue and tissue which makes up the perfect physiologic life of man. In looking upon the subject from the high vantage ground of general pathology and laws of health, the student is in a better position to apprehend the rôle which external and internal influences play in the evolution of disease of the respiratory apparatus, than if he viewed the subject from the level of a narrow specialism or from the standpoint of the mere empiric.

FRATERNITY AND CO-OPERATION AMONG THE DIFFERENT DEPARTMENTS OF MEDICINE.

Laryngology should not be studied apart, but kept in constant and closest contact with all the other departments of the university. Let there be more fraternity among the different specialties—more co-operation. If special workers in the different departments of medicine would, instead of holding aloof from each other, combine the special knowledge they possess in a common endeavor to elucidate the difficult problems which daily confront them, the hostile cry of ignorant criticism, which is so often directed against them, would be forever silenced by their discoveries for the commonweal.

HIGH IDEALS IN THE STUDY OF LARYNGOLOGY.

The study of laryngology will never reach the full fruition of its hopes and aspirations until it becomes the inspiration of a higher effort and a loftier ideal.

Let it teach the student not to contract, but to broaden the horizon of his intellectual activities. Let it make him understand that the laryngoscope is not merely a device for exposing hidden recesses of the body and for the demonstration of that which is already known; but an agent of positive power in future research—a means of scientific expansion and exploration of the unknown. Let laryngology walk with becoming humility beside the great pioneer forces of human endeavor, aiding them, it may be, in an humble and unostentatious way, but still contributing to their

progress through the trackless wilds of the land that is untrodden and unknown. Undaunted, undismayed, let them together press forward until the wilderness shall blossom as the rose and Nature's wild forest ring with the shout of their exultant discovery. When this ideal shall have been attained and this conception of our art is realized, then will the study of laryngology blaze the way for the triumphant march of scientific medical achievement, and the laryngoscope will become an instrument of progress and power.

Original Articles.

SIMPLE GINGIVITIS, ITS ETIOLOGY AND TREATMENT.*

GEO. T. CARPENTER, M.D.

CHICAGO, ILL.

Disease of the human gums, in these days of advanced civilization, is very common and almost universal. In fact, it is a rare thing to find gums that are in all their margins perfectly free from irritation, inflammation, hypertrophy, atrophy, or absorption, and many will show evidence of gingival ulceration. At three previous meetings of this Section I have presented papers closely connected with the present subject. The conditions then studied were the result of advanced inflammatory or suppurative processes; but by the term "simple gingivitis" I include only that condition of the gum margin about the necks of the teeth, known as the gingiva, that shows the slightest departure from health, but is fully established and persistent in its nature. It is the purpose of this paper to take gingival irritation in its simplest form and point out its etiology and treatment, and in this way prevent the subsequent and more serious diseases, which by their certain progress result in pain, discomfort, loss of tissue, and eventually the loss of the teeth themselves. Gingival irritation is liable to present itself at any point where there is a gingival margin. We may find the gingiva of one tooth inflamed and the rest of the gums in a healthy condition. We may find the anterior teeth in a clean condition but affected by gingivitis, while in the posterior teeth, which receive less care, the gums may be in good, healthy condition. We may find gingivitis in some, or all, the gums in well-kept mouths, and we may find exactly the same condition of gums in mouths that do not receive the slightest care or attention. We will find this form of inflammation in the mouths of the young, those in middle life and old age. We will also find it in the anemic and emaciated, also in the well-nourished and rugged. This condition, which is found in the human mouth, is rarely found in the mouths of lower animals in their natural state, and from some experiments on the gingiva of rabbits I find that it is almost impossible to establish a gingival irritation without using some powerful infections or poisonous substance. We also find that in the human mouth where bands, clamps, wedges, or ligatures have caused some irritation and even laceration, that a gingivitis does not as a rule result, so that the etiology of this apparent slight trouble is varied and very obscure. The etiology or local causes: Irregularities and malocclusion are factors; also imperfect or loss of contour; improper use of the teeth or, more correctly, insufficient use of the teeth, causing lack of tone to the gum; inor-

* Read in the Section on Stomatology, at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.