

Dawson (W. W.)

State Medical Society of Ohio.

ANNUAL ADDRESS

OF THE

RETIRING PRESIDENT,

W. W. DAWSON, M. D., CINCINNATI.

1872.

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I propose to occupy this hour of your time with a few reflections upon the American Profession to-day in comparison to what it was twenty years ago; especially do I wish to contrast the teaching of the present with that of the past. Annual addresses, both state and national, are very much the same; so alike are they that the antiquarian in looking over them will imagine them written by the same hand—dictated by the same brain. They all eulogize the honor, the dignity, the divinity-kinship of the Profession, but deplore at the same time the want of a high *esprit de corps* among its members, the fearful ignorance of medical students, and the great defects of medical education. To hear these railers you would think we are in a most deplorable condition.

As this has been so general, I think I will be excused from departing from a custom so long and so faithfully, if not profitably, observed. It may profit us to look at physi-

cians as they are; at medical students as we see them scattered over the land teaching country schools; as we find them grouped in medical colleges; and at the manner and success of medical teaching.

Physicians form a large body of men, everywhere needed everywhere present, in village, town and city. In character, standing and influence they are in advance of any other class. Here and there an unworthy one is found, but the great mass of them are men of temperance, integrity and high moral worth. They lead in works of benevolence; they respond to the call of humanity; they leap to the front when their country is in danger; they are identified with all efforts for the development of man's physical, moral and mental nature. Among themselves an *esprit de corps* characterizes their intercourse, to which all other avocations and professions are strangers; an *esprit de corps* which, in its high tone, in its utility for protection and defense, in its ability to generate and maintain the kindest relations between its members, is a marvel and a wonder to the non-professional.

Who are the medical students found yearly in our medical colleges? They are young men gathered, in large proportion, from country school houses. Many of them have graduated at literary colleges; most of them have fair educations, and in a very large number of cases the education is the result of individual effort. It is from this class of self-developed young men that have come the physicians of to-day, and from these physicians have arisen the men who give distinction to all departments of medicine. I say dis-

tion, for in many respects the physicians of America are the peers of their fellows in any land.

It will not be inferred that I underrate in the student the advantages of a thorough classical education. What I mean to say is that the profession is in better condition than could be inferred from our annual orations on the defects of medical education, and what I hope to prove is that the real defects are gradually being remedied, and that in time, and in a very short time too, medicine here will be as well taught, and students will be of as high character as in any place on this globe. The marvel is that as much has been accomplished as has, when we look at the history of the country and the early surroundings of most medical men. Surmounting all difficulties, overcoming all obstacles, by hard study making up for the deficiencies of thorough early training, the American physician to-day stands abreast with the most distinguished; he brings his achievements, his successes, his improvements, and his discoveries and places them by the side of those gathered by the sons of more favored lands; these achievements, these discoveries, though probably not so numerous, are equally positive, equally meritorious, are, in fact, great contributions to medical science.

The reforms insisted upon by those who dwell upon the defects of our system of medical education, consist of three recommendations: first, a higher standard for the Doctorate. Second, longer sessions. Third, graded studies. These are important suggestions, and fortunately for all parties, the faculties of medical colleges have generally been alive to them, and, as I have already said, I hope to show that the radical defects of medical education are gradually but stead-

ily being remedied, that sessions are gradually being lengthened, that lectures with this increase of session necessarily become graded, and that the Doctorate yearly advances in worth, honor and dignity. This advance is as steady and faithful as it is desirable.

In proof of what I have said, let us look at our colleges, the time and manner of teaching, the qualifications of the young men who come to be taught, and who, in the end, receive the degree. In most of our colleges, in all I may say, the length of the session amounts to six months—formerly it was but four, then it was increased to five—now, however, with a preliminary course in September, which a large portion of the class attends, the session is in reality six months long. In less than half a decade, the introductory in all colleges to the regular course will be delivered on the first Monday of September, and the valedictory on the corresponding day in March. The times demand the advances—the colleges will undoubtedly make them. Already graduation in studies has been adopted by one leading college, and its example will be followed by others. The graded teaching as established at Harvard can be markedly improved upon. In many respects it is better than the old system of repetition, in some it is not so good, still it is a step in the advance, and as far forward as the circumstances would justify.

If you compare the manner of teaching now with what it was forty years ago, or even twenty, the improvements will be as marked as they are hopefully inspiring.

Take Anatomy, the basis of the whole structure; twenty years ago the Bones and Muscles occupied almost the whole

course; these, with a few, and a very few, lectures on the Viscera, Arteries and Nerves, were all that were vouchsafed to the student. Now most schools have two professorships devoted to Anatomy—one to Anatomy proper, the other to Surgical Anatomy. Wilson inaugurated a new era in the teaching of this important branch; he brought form out of chaos; he showed how to teach anatomy by teaching the relations of various parts to each other, and faithfully and profitably have the anatomists of the whole world followed his example. Now, when a student leaves his college, he knows more than the origin and insertion of a muscle; more than that an artery is a branch of the aorta; more than that the stomach is in the abdomen. He is taught the situation and topography of the organs; the relationship of the various parts. He knows where to cut to divide a muscle; he knows where to seek for an artery. I do not overstate the fact when I say that the present intelligent and efficient manner of teaching anatomy, in comparison to the past, is as light to darkness.

Think for a moment how Chemistry was taught twenty years ago, and how it is taught to-day. Then the whole ante-holiday part of the session was devoted to the fearful Imponderables. In the last half of the term, somewhat of Oxygen, Carbon, Nitrogen, Hydrogen, Alkalies, Acids and Salts was discussed. Medical Chemistry was not reached; the analysis of the secretions and excretions did not enter into the list of what was regarded as essential in a medical man's education. Now, however, the graduate, if he has been diligent, is master of these subjects; at least he has been so instructed that he has all the elements of success.

He is drilled in urinalysis; he knows how to examine sputum; he can detect poisons and furnish the antidote for them; in fact, he is, or has had the opportunity to be, thoroughly competent to do all those things in Medical Chemistry required in the intelligent practice of his profession.

In *Materia Medica*, one of my Professors read from dingy, smoky manuscript that had seen service for twenty years. Once in a while—and a long while—a fresh scrap of white new paper could be seen interleaved with the yellow veterans. Now and then a specimen of plant or of earth or of mineral was presented. The dryness, the dullness, the want of interest in that course is not easily forgotten. In *Therapy*, the student was regaled with learned disquisitions on the fluids and solids, and the action of medicine upon them. If a man twenty years old in his profession will enter the room of the Professor of *Materia Medica* and *Therapeutics* of to-day, he will be struck with the change. By throwing out the hundreds of useless agents and confining himself to the essentially valuable, by an intelligent discussion of their qualities, uses and indications, by a philosophical estimate of their actions, by an accurate knowledge of the parts of the body upon which they exert their influence, the Professor makes this department one of the most interesting and captivating to the student.

Pharmacy is the legitimate offspring of an advancing, demanding spirit in the profession. Compare the elegant preparations of our pharmacist with the villainous compounds which were prescribed a few years ago; our patients, if not ourselves, have great cause for felicitation.

Perhaps in no department has twenty years made such

striking changes as in the teaching of Physiology. At that time, in most of our schools Physiology was appended to the chair of Anatomy, and positively received no attention at all. In some schools a seventh chair was added, called the Institutes of Medicine; this embraced, or should have embraced Physiology and Pathology. One of the schools which I attended had a Professor of the Institutes; he was called a "Giant in Physiology." This Giant spent a large portion of his time in teaching us Phrenology and Mesmerism; occasionally he relieved the tedium of these twin sciences by a lecture on Vital Forces. Another Professor in this department lectured from manuscript, from which he seldom raised his eyes. These Giants had both been educated abroad, and taught Physiology as they had learned it. Now the student is taken into the laboratory and taught the functions of the body by experiment—by vivisection. The gastric fistula by which digestion can be watched and estimated, is now not an uncommon spectacle in our medical colleges. The functions of the nervous, lymphatic and glandular systems, the part which the great organs take in the animal economy are demonstrated with remarkable exactness.

When we reflect on the manner and success of teaching the elementary branches, Anatomy, Chemistry, Physiology and Materia Medica of the present in comparison to what it was a quarter of a century ago, we can not but be struck with the hopeful contrast, and we must admit that with all the defects of our system of teaching that it is, all things considered, equal to any other department of science or letters in our new and developing country.

This brings us to a review of the present manner of teaching the practical branches, the application of the elements. And first, I may say that almost everywhere in our country, Didactic and Clinical instruction go hand in hand. The importance, the absolute necessity of the union, seems to be recognized by all. To Cincinnati belongs the honor of first uniting in this country a College and Hospital. Dr. Drake was the author of this system, and from this initiative have grown results of the most lasting benefit. Colleges and hospitals are now most intimately associated, not usually made one and the same institution, as was projected by Dr. Drake, but so associated as to make the Clinics of the Hospital complementary to the Didactics of the College. But few schools are to be found without a College Dispensary at which students are trained in diagnosis and treatment.

The chair of Gynæcology has been added in most of our Colleges, thus rendering the instructions upon the diseases of women much more thorough and practical than was possible under the old régime. The diseases of the uterus, its degenerations, malignant and non-malignant, its changes of position and shape, its intimate relations with and modifications of its neighborhood, furnish subjects for a full course of lectures, the vital importance of which need not here be discussed.

In the Practice of Medicine, the student is no longer sent away with theories and prescriptions; educated in the pathology of disease, daily drilled in its diagnosis, he goes easily to the best remedies for its treatment. Physical Diagnosis is not old, but the last ten years has added very greatly to its exactness, to its reliability. The use and value of the

Stethoscope is rendered familiar to the student, because at the bedside he is taught the interpretation of the sounds transmitted through it. He knows when he leaves his Alma Mater what this means at the base, and what that means at the apex. Thermometry, now so important an adjuvant in revealing the vital condition, is taught in the same practical manner. The Sphygmograph, a refinement in diagnosis, is presented if not estimated. I think it would be difficult to find a medical student of two years of age who could not tell you when and how to use the Induced Current, and in what cases the Continuous Current is applicable. In the application, if not in the literature of this great remedy, we are certainly not behind the most advanced.

Added to the curriculum of study almost within the last ten years, we have the two departments of Ophthalmology and Otology. Of very great practical value in themselves, the thorough study of them often throws much light upon questions of general pathology. It would be difficult indeed to overestimate the advantages which the student now possesses in investigating the diseases of the Eye and Ear.

When we come to review the present with the past of Surgery, we may say that in America, Surgery has always been well taught, and the world knows how successfully it has been practiced. The achievements of American surgeons furnish among the highest adornments of our history. With what pride we constantly refer to the triumphs of such men as McDowell, Dudley, Mott, Physic, Mussey and Blackman. Europe as well as America is filled with the renown of many of our leading living Surgeons. The Europeans read their books, discuss their papers, use the

instruments of their invention, admire and adopt many of their original operations. The Foreign Surgeon when criticizing American surgery is generally just—sometimes unjust—occasionally ungenerous. The following paragraph from the recent valuable work on the “Science and Practice of Surgery,” by Frederick James Gant, belongs to the latter class. In discussing the history of Ovariectomy, he says: “Extirpation of ovarian tumors, cystic or solid, is an operation of comparatively recent date suggested by Dr. Wm. Hunter, advocated by John Bell, and first practiced by Dr. McDowell in 1809, the latter an American pupil of John Bell. Ovariectomy is, therefore, unquestionably an operation of British origin, and it is to the labors of British surgeons that its subsequent progress is chiefly due.” Mr. Gant is somewhat more accurate than his neighbor, Mr. Butcher, of Dublin, who in a late article attributes to Mr. Lizars, of Scotland, the credit of having first performed the operation. Mr. Lizars cut into an obese woman in 1823, but found no ovarian disease, while Ephraim McDowell, of Danville, Ky., performed Ovariectomy successfully in 1809. His patient lived for years after. How absurd and unjust in Mr. Gant to claim the honor of this great operation for British surgery when we remember that Great Britain never had a completed case until 1840, nor a successful one until 1842, and especially as up to that time, the operation had been performed in America more than forty times.

This pioneer operation of Ephraim McDowell may justly be regarded as the most daring feat in the history of surgery. Imagine his surroundings, in the “backwoods” of Kentucky—in 1809 it was indeed a backwoods, full yet of In-

dians and wild animals—there, in that almost unbroken wilderness, with no counsel, no support, he not only conceived, but successfully performed that wonderful operation. Realize if you can the intrepid heart and force of brain of that early American surgeon as he made the first incision in that case, as he progressed in that operation—an operation hardly thought of, occasionally suggested, but never really advised. Picture if it be possible the surroundings of that man, and then you may have some idea of his great knowledge, his wonderful nerve and his unequalled self-reliance.

Benjamin Dudley was as successful in Lithotomy as is Sir Henry Thompson to-day with his selected cases of Lithotrity.

American surgeons have taught the world that Vesico-Vaginal Fistula is almost always remediable. They did not originate the operation, but they have shown how it can be successfully performed, and that, too, under the most unpromising complications. You will realize the truth of what I say when I tell you that a colleague of mine, during a recent visit to Europe, witnessed the treatment of a case of Vesico-Vaginal Fistula in an Irish Hospital by the daily application of Nitrate of Silver. The tide of surgical students might with profit be reversed. Such Hospital Surgeons could learn something, could indeed learn much, by visiting this country. The relief of one case of Vesico-Vaginal Fistula is worth a whole lifetime of labor, it is a diadem in the crown of a surgeon, and I am proud to say that most American Surgeons have a number of these jewels.

Pulleys and Adjusters have given way to manipulation in the reduction of dislocations; the key to this was furnished a few years ago by a New York surgeon. What a revolu-

tion in the treatment of fractures we have made by elastic extension and sand bags. The surgeons of all countries read Dr. Hamilton's book on "Fractures and Dislocations." They read it because it is the best book in any language. For the general practitioner what work can be compared to Gross' System of Surgery.

A new era has dawned in the treatment of joint diseases, especially disease of the hip, and it is doubtless true that the most valuable contributions are due to the learning and skill of New York surgeons. Where except in this country do you find *Morbus Coxarius* so treated as to secure complete use of the limb and joint?

I might extend this list of American contributions to surgery very greatly, and with instances equally striking as those already presented, for it can not be denied that in surgery we have given as much as we have received. And here I may make the pertinent inquiry, if our system of medical education be so defective, why this great excellence in the men who have been educated by it? It is unusual to see such fruit from a tree that is all unsound.

The annual examination for the degree of Doctor of Medicine in most of our colleges is now made by written questions and written answers; thus a better knowledge of the student's ability is obtained than by a thesis written in his own room, with books and his room-mate or some medical friend to draught upon. The plan is essentially the same as that adopted in Great Britain in the examination for Degrees, License, for Hospital Interne, and entrance into the Army, Navy or India service. And now let us look for a moment at the questions presented in this country and in

Europe. For comparison, I take those given by the Staff of the Cincinnati Hospital at the last examination for Internes, and those adopted by the Faculty of one of our Colleges at a recent examination for the Degree. I use the questions of these two institutions because I happen to be in possession of them—I have no doubt, however, but that they are fair types of those used in most of our colleges and hospitals.

Questions submitted to the Candidates for the position of Interne in Cincinnati Hospital, 1872.

OBSTETRICS.—1. Name the positive signs of pregnancy. 2. What presentations are unnatural, requiring interference? 3. Where the face presents, what relation must its long diameter sustain to the inferior strait for safe delivery? 4. How is assistance to be rendered when the presentation is distending the perineum? 5. Where and how soon should the funis be tied after the expulsion of the fœtus? 6. What are the signs of placenta previa? 7. Name the displacements of the uterus. 8. Name the symptoms of prolapsus uteri. 9. How would you treat dysmenorrhœa? 10. How would you treat amenorrhœa?

OPHTHALMOLOGY.—1. How would you treat foreign bodies lodged in the cornea? 2. Give a differential diagnosis of simple conjunctivitis and iritis. 3. What is accommodation, and how is it effected? 4. What is the difference between presbyopia and hypermetropia. 5. What nerves supply the muscles of the eyelids and eyeball? 6. Give the diagnosis, course and treatment of ulceration of the cornea. 7. Give the diagnosis and symptoms of cataract. 8. Describe the treatment of diphtheritic conjunctivitis in its three stages. 9. Give the diagnosis and treatment of acute granulations. 10. Describe the different methods of operating for entropion of the lids.

SURGERY.—1. In strangulated hernia what difference in the direction of the division of the strictures is necessary to avoid the internal epigastric artery in cases where that stricture is at the internal ring, and in others where the stricture is at the external ring? 2. What is the condition of the skin in eczema, the pathological products of that disease, and its chief symptoms? 3. Name the common forms of gangrene? 4. What effects may be obtained from poultices, and mention

some of the conditions indicating their use? 5. What lesion of the alimentary canal is apt to occur in cases of burn? 6. At what point is the clavicle most frequently fractured? state the symptoms indicating such injury, and what are the chief indications in the treatment? 7. At what portion of the urethra is stricture most frequent? 8. State the chief characteristics of the initial lesion or sore of syphilis, and those of the soft sore or chancroid respectively. 9. What is Hunter's method of ligation of arteries for aneurism, and the principle on which it is based. 10. Mention different means for the arrest of hemorrhage.

PRACTICE OF MEDICINE.—1. What is your method of taking the clinical history of a patient? 2. How do you distinguish between pleuritic effusion and consolidation of the lung from pneumonia? 3. Give the diagnosis and treatment of pericarditis. 4. What pathological conditions may produce dropsy? 5. How would you proceed to investigate a specimen of urine? 6. On what different pathological conditions may Bright's disease depend? 7. What conditions may produce hemiplegia? 8. What is the difference between dysentery and diarrhœa? 9. What causes may produce obstinate constipation? 10. Give the symptoms and treatment of delirium tremens.

PATHOLOGY.—1. Origin of pus corpuseles. 2. Pathology of thrombosis. 3. Pathology of embolism. 4. Minute anatomy of healing by granulations. 5. Pathology of miliary tubercle. 6. Pathological characters of a malignant as distinguished from a benignant tumor. 7. Morbid anatomy and pathology of cerebral hemorrhage. 8. Pathology of cardiac hypertrophy. 9. Pathology of aneurism. 10. Morbid products in pleurisy and the manner in which they are disposed of.

The following questions, ten in each department, were submitted to the graduating class of 1872 in the Medical College of Ohio.

ANATOMY.—1. Give a general description of the skeleton. 2. Describe the os femoris. 3. What are the essential components of an entirely movable joint? 4. Describe the elbow joint. 5. Describe the heart. 6. Give its position. 6. Describe the larynx. 8. Describe the trachea, bronchi and bronchia. 9. What are the enveloping membranes of the cerebro-spinal axis? 10. What are the great divisions of the encephalic mass, and their relation?

SURGICAL ANATOMY.—1. What is the best place for ligating the common carotid artery, and what are its relations at that part? 2. Popliteal artery, where found and relations? 3. What are the anatomical objections to ligating the first and second portions of the sub-

clavian artery? 4. Scarpa's triangle, boundaries and important parts contained. 5. By what muscles is the inner border of the foot elevated? 6. Fractures in upper third of radius, in what position best treated and why? 7. What are the parts divided in the lateral operation of lithotomy? 8. Surgical anatomy of the shoulder joint. 9. Surgical anatomy of the elbow joint. 10. Surgical anatomy of the hip joint.

PHYSIOLOGY.—1. The digestive juice with the widest range of action, and its chief ingredients? 2. Trace fat through the system. 3. The cause or causes of circulation in the veins? 4. Capillary circulation, continuous or intermittent, in either case why? 5. Chief use of the red blood corpuscles? 6. Uses of sweat? 7. The immediate and subsequent effect of wounding the cerebellum? 8. The diurnal range of temperature and the variations compatible with health? 9. The necessary quantity of air in cubic feet for twenty-four hours? 10. Describe a spermatozoid.

CHEMISTRY.—1. Enumerate the general properties of acids and bases. 2. Give the composition, formula, and mode of preparation of hydrochloric acid. 3. Describe the tests for arsenic. 4. What is the antidote to arsenic and how prepared. 5. Describe normal urine. 6. How is urea obtained from urine? 7. How are chlorine, sulphuric acid, potassium and sodium detected in urine? 8. Describe the tests for sugar in urine. 9. How would you determine whether a deposit consists of urates, phosphates, oxalate of lime or uric acid? 10. How would you discover blood in urine?

SURGERY.—1. What are the various processes by which fractured bones unite? 2. What are the means you would use for strangulated hernia before resorting to an operation, and, failing in these, what are the operations recommended, and the advantages of each? 3. In what injuries of the ankle joint is deformity inevitable? 4. What are the stages of hip-joint disease, and the treatment of each stage? 5. How would you treat wounds of the stomach? 6. What are the indications for amputation? 7. Describe the various methods of acupuncture. 8. Differentiate between intra and extra-capsular fracture of the neck of the femur. 9. Differentiate between abscess, encephaloid, aneurism, hernia and adenoma. 10. Name the principal disease which affects bones.

PRACTICE.—State the prominent facts in the clinical history of malarial fevers. 2. What is the cause, course and termination of hepatic abscess? 3. What are the symptoms and dangers of desquamative nephritis? 4. Diagnosis between real and feigned epilepsy. 5.

How treat habitual constipation? 6. What are the physical signs of pericarditis? 7. Diagnosis between peritonitis and enteritis. 8. How distinguish fixed neuralgia from inflammatory pain? 9. Give the dry and moist rales; what do they indicate? 10. How would you treat cardiac hypertrophy?

GYNÆCOLOGY.—1. Describe the uterus; location, size, weight, division, structures. 2. In what particular does the neck of the womb differ from the body of the womb? 3. Describe ovulation and menstruation. 4. What circumstance would enable you (if possible) to determine the difference between specific and non-specific vaginitis? 5. Mention the most common diseases of the uterus in the order of their frequency. 6. Name the various substances that may be expelled from the female pelvic organs. 7. Give the probable and positive evidences of the existence of uterine cancer. 8. Mention the forms of dysmenorrhœa and differential diagnosis. 9. What are the conditions capable of producing amenorrhœa? 10. What are the diseases which may produce pelvic abscess?

OBSTETRICS.—1. Give positive signs and duration of pregnancy. 2. Give diameter of pelvis at brim and outlet. 3. Give diameters of foetal head. 4. Describe the anterior and posterior lateral inclined planes, and their relations to the mechanism of labor. 5. Give the four cranial presentations, with the diagnosis of the first. 6. Management of natural labor. 7. Under what circumstances would you turn, and how? 8. Cause, symptoms and treatment of unavoidable hemorrhage. 9. Cause and treatment of post-partum hemorrhage. 10. Symptoms and treatment of puerperal convulsions.

OPHTHALMOLOGY.—1. Name the bones that form the orbit. 2. Name the muscles found in the orbit, giving the nerves that innervate them. 3. Giving a case of internal squint, how could you tell whether it was paralytic or not? 4. Give the condition of the lids in ptosis and facial paralysis, with the muscles and nerves involved. 5. Give the structure of the eye from before backwards. 6. Give the points of differential diagnosis in the various conjunctival inflammations. 7. Differential diagnosis of iridal and corneal inflammation, with the general plan of treatment in the latter and the particular of the former? 8. Of what does the lachrymal apparatus consist, and what may interfere with the carrying off of the tears? 9. What is a cataract, and what is its treatment? 10. What are the two methods of examining the eye with artificial light?

MATERIA MEDICA.—1. Why is cod liver oil the best form in which to administer a fat? 2. Describe the effects of arsenic on the primary

assimilation. 3. Name the preparations of arsenic, and the dose of each. 4. Give the composition of opium. 5. What is the treatment of opium narcosis? 6. What practical test for the purity of chloroform may be made at the bedside? 7. In danger from chloroform narcosis what methods of resuscitation are proper? 8. What is the distinction between Galvanism and Faradism? 9. To what class of cases are these two forms of electricity especially applicable? 10. Write a prescription for a purgative pill.

Questions at the examination of Candidates for the English Indian Medical Service.

ANATOMY AND PHYSIOLOGY.—1. Give a general description of the spinal column, and of the course of its ossification. 2. Describe the mode of development of a vertebra in general, indicating the exceptional cases, (exclusive of the sacrum and coccyx.) 3. Enumerate the various muscles and describe their respective functions, by which the deformity witnessed in the following fractures is probably caused: 1st, Fracture of the neck of the femur; 2d, Fracture of the lower end of the femur immediately above the condyles; 3d, Fracture of the lower end of the radius, (Collis's fracture.) 4. Describe the arch of the aorta, the relations of its various positions, and the dissection necessary to examine it; mention also the principal variations in the positions of its branches. 5. Describe the parts contained in the space bounded in front by the posterior border of the sterno mastoid, behind by the anterior border of the trapezius, and below by the clavicle. 6. Give a general account of the lymphatic and lacteal system, including the minute structure of the lymphatic vessels and glands. 7. Describe the physiological effects of the division of the vagi nerves. 8. Mention the parts in other vertebrate animals which are homologous with the human hand or parts of it.

SURGERY.—1. Describe the states named respectively "shock" and "reaction" as seen in such a case as that of a crushed limb. 2. Enumerate the chief varieties of inflammation of the testicle, and state the distinctive characters of each. 3. Give an account of secondary hemorrhages such as may occur after amputations, and of the best modes of treating them. 4. What ill consequences may follow dissecting wounds, and what are the best means of treatment, preventive and curative? 5. What are the chief means by which in the treatment of hernia the taxis may be assisted, and in what conditions is each of them most useful? 6. Describe the process of repair of a tendon after subcutaneous section. 7. Describe the several diseases

of the eye that are connected with syphilis and gonorrhœa. 8. A man fifty-three years old, while under treatment for slight stricture of the urethra, was exposed to cold, damp weather; the next day had a severe rigor, followed by heat and sweating, and completely lost the power of passing urine. On each of the next two days he had similar rigors, and on the third day he was not only still unable to pass urine, but had constant straining and extreme pain in his endeavors to do so. During three days more these symptoms continued, with rigors, and there were gradually added to them pain in the perineum and about the arna, tenderness on deep pressure in front of the anus, and heavy forcing pain referred to the lower part of the rectum. The bladder was regularly emptied with a catheter and was not painful on pressure; the urine was generally healthy. Diagnose this case and give treatment.

Questions submitted to Candidates at the primary examination for the Diploma of Membership of the Royal College of Surgeons, London.

ANATOMY AND PHYSIOLOGY.—1. Describe the boundaries of the posterior mediastinum and its contents in their relative position. 2. Describe the structure of veins, and the forces by which the venous circulation is carried on. 3. Describe the ligaments of the hip joint, and mention the muscles in contact with its capsule. 4. Give an account of any experiments with which you are acquainted illustrating the influence of the pneumogastric nerve upon the action of the heart. 5. Describe the ligaments connecting with the clavicle, and mention the parts that pass beneath it in their relative positions. 6. Describe the ciliaris muscle and its action.

SURGERY AND PRACTICE OF MEDICINE.—1. How would you distinguish, surgically, chronic induration of the breast from scirrhus? What are the microscopic appearances by which each is characterized? 2. Describe the operation of excision of the elbow joint, and state under what circumstances it may be required. 3. What treatment would be required in a case of incised wound of the cornea, with protrusion of the iris? Mention the consequences which may ensue, and the proper mode of dealing with them. 4. What are the causes which may impede the union of a fracture of a long bone? Describe the mode of treatment which might be resorted to in order to promote the union of an united fracture. 5. Describe the deligation of the right carotid artery in the first part of its course, giving the exact relations of the parts concerned in the operation. 6. Mention the different forms of nævus and appropriate modes of treatment. 7. De-

scribe a case of paralysis of the facial nerve, and mention the causes upon which it may depend, and the treatment you would adopt for its relief. 8. What are the circumstances which would induce you to have a recourse to thoracentesis in a case of effusion in the pleural sac, state how you would perform the operation, and the changes that would follow it. 9. Write prescriptions in Latin in full, and directions in English for a diuretic mixture and a purgative powder, and give composition and doses of the following preparations: *Pulvis Jalapæ Composita*; *Mixtura Ferri Composita*; *Tinctura Camphora Composita*; *Liquor Morphia Hydrochlor.*

In the exhibition of these questions I trust I have not been tedious. I have ventured upon them for herein lies the argument, we see by them that our schools and hospitals take as wide a range and ask as difficult questions as is done by examining bodies elsewhere. These questions show the extent of teaching, and it will not be contended that a young man who answers seventy per cent. of them is not well educated. The lesson of this whole matter is, that the Profession in this country is not in as bad condition as would be inferred from these periodical complainers.

In Medical Literature America certainly stands well; our books are read in all countries. In Surgery, Medicine, Therapeutics, Physiology, Chemistry, Obstetrics, Gynæcology, our authors have won well-merited fame. Our Medical journals are yearly by their merits challenging recognition. It is said that they contain much trash; this is true, but it is equally true of foreign periodicals. It is not all wheat within the lids of any medical work, unadulterated wisdom is not found in medical journals; I do say, however, that brains predominate in our medical literature.

Thus by the steady advance in the manner and efficacy of teaching, by the yearly improvement in the preliminary edu

cation of students, by the increase in the length of the lecture term, and what is still better than all, by an enthusiastic love of the profession, our Medical Colleges will annually send out a class of young men from whom may be expected the best of things; many of them will take high rank, and distinguish themselves in fields where distinction is the result of true worth.

