than of a small one. This will be understood by a glance at the accompanying diagrams. In the first, where the sac is

small, the communication with the artery is relatively large, and the blood current will sweep through the aneurysm and effectually prevent the deposit of fibrin. In the other the blood contained in the aneurysm is withdrawn from that which is rushing along the aorta and is comparatively stagnant, which affords the desired opportunity for the formation of laminated clot. The treatment is rest in bed for six weeks, dry diet, and the administration of iodide of potassium in considerable doses.

AN INAUGURAL ADDRESS

ON

OUR POSITION AND OUTLOOK.

Delivered at Queen's College, Belfast, November 20th, 1899.

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UPON an occasion like the present, we must not forget the dead. We meet to-day under a sense of a loss which has cast its shadow not only over this College and Medical School, but also over this city and province, and indeed, over a much wider area. The late Dr. Cuming was a man of rare natural gifts, of still rarer attainments, esteemed for his sagacity and honoured for his integrity, trusted as a physician, and beloved as a man. My acquaintance with him extended over a period of 20 years, first as pupil, then as colleague in hospital work, and for the last eight or nine years as companion and friend. I learned to appreciate his singular force and vigour of mind, which delighted to range over the whole field of knowledge, and to which no department of culture was foreign or uncongenial. It was difficult to decide whether his aptitude for science or his love for literature was more pronounced, or whether his strength was more manifest in philosophical discussion or in dealing with the practical affairs of life. It might be said of him as it was said of Linacre, the first President of the Royal College of Physicians of London, and the founder of British Medicine: "It has been questioned whether he was a better Latinist or Grecian, a better grammarian or physician, a better scholar or man." Dr. Cuming carried on with singular success the traditional association of letters and medicine, and belonged to the same intellectual family as Harvey and Sydenham, Paget and Stokes. His mind was essentially Socratic and critical rather than positive or dogmatic. He delighted to let the searchlight of his powerful intellect play round the mysteries of Nature, life, and disease, sometimes with the effect of real illumination but sometimes also (as he would himself have been the first to confess) only to render darkness visible. Regarding many great questions, his last word was suspense of judgment. He always distinguished sharply between what was certain and what was only hypothetical or conjectural, and could never be induced to go a single step beyond the evidence. Like Goethe, when confronted by any positive statement, he would say, "But is it so? is it so to me?" He was remarkably free from bias, or prejudice, and eminently wise in counsel, and probably it is by this last characteristic that he will be longest remembered. There were other phases of his many-sided character which can only

be briefly touched upon here—his admirable serenity of temper, his complete freedom from the foibles and jealousies which professional life sometimes induces, his playfulness and *bonhomie*, his steadiness in friendship, his loyalty as a colleague. He is truly mourned both within the ranks of the medical profession and by the larger world outside, and he has left a name which I venture to think will not be soon forgotten.

Scientific addresses have of late been largely reminiscent in character. As the nineteenth century draws to its close it is natural that we should mark time, count our gains and our losses, seek to determine our present position, and cast a glance at the road already traversed and at the path which opens in front. Has medicine—one of the oldest of the art and one of the youngest of the sciences—made solid progress during the century, progress commensurate with the notable advances in physical science, in industrial development, and in imperial expansion which have rendered this epoch illustrious? Has our profession grown in scientific precision, in practical utility, in efficiency, and in repute? Has it developed new organs to discharge new functions and sloughed off the organs which were decayed or outworn? To all these questions an answer can be given—perhaps not wholly satisfactory, but still full of encouragement. To appreciate the progress of medical science during the century, we have only to place ourselves in the position of a practitioner a hundred years ago. We will conceive a professor of medicine addressing his class in the month of November of the year 1799. He would probably congratulate his hearers on the great progress of his art since the days of Harvey and Sydenham. He would refer sympathetically to the life and work of John Hunter, not many years deceased, and to the light thrown upon surgery and pathology by his powerful and penetrating intellect. He would recount the rise and progress of the great Edinburgh School of Medicine, then in its nascent glory, and tell of Cullen, of the Monros and the Gregorys. He would probably refer with becoming reserve and caution to the startling assertion of a country practitioner down in Gloucestershire, one Edward Jenner by name, that he had discovered a cure for the greatest scourge of the age—small-pox. But if we consider for a moment the many things which our professor could not know, our feeling will be one of commiseration for him, for his students, and for his patients. He knew nothing of chloroform or ether. He had never heard of antiseptic surgery. He was ignorant of the distinction between typhus and typhoid fever, or between scarlatina and diphtheria. He could not recognise the most ordinary diseases of the kidneys. He had no stethoscope, had never heard of auscultation, and his knowledge of diseases of the chest was less than that which the student now acquires in his first month at hospital. He had no ophthalmoscope or laryngoscope, or clinical thermometer. He knew of the virtues of opium and quinine, of iron and mercury, but he had never heard of digitalis, or of salicin, or of cocaine. He knew almost nothing of the physiology of the nervous system, and had never heard of reflex action or of cortical centres. He had never counted the corpuscles in his own blood, or seen a radiograph of his own vertebral column. He probably regarded ovariectomy as criminal. He had never seen a lithotrite. If we reflect upon the various points here enumerated—and the list might be easily expanded—we shall realise how largely modern medicine is a creation of the present century, and how our professor would have been either confounded with surprise or consumed with envy if he could have beheld our own enlarged resources and ampler day. That increased knowledge has led to increased power to cope with disease might easily be shown in detail by pointing to the practical extinction of small-pox and typhus fever, to our success in keeping cholera at bay, to the great reduction in the mortality following major operations, in puerperal conditions, and in phthisis; and finally to the fact that during the present reign alone the average duration of human life in the United Kingdom has increased by three and a half years. It has sometimes been said that these great advances are due not to the soldiers, but to the camp followers of the great army of medicine, less to the physicians and pathologists than to the man who repairs our cisterns or looks after our drains. Let us give all such indispensable workers their due, but let us assert once for all

that sanitation owes everything to scientific medicine, and that in order to prevent disease you must know the laws of disease, its modes of origin and methods of propagation, and that such knowledge can come only from those who make disease their life study.

We conclude, then, that during the now waning nineteenth century our art has shared to a notable degree in the intellectual activity and practical progress of the time. Let us now see if we can define its present position, its relation to the age, its predominant tendencies, and its prevailing doctrines. Has medicine any peculiar advantages to gain or difficulties to surmount in adapting itself to the needs of a democratic epoch? We may rely upon it that a democratic age will take care that the benefits of medical science—so far as they commend themselves to the intelligence of the democracy—shall be widely diffused, and embrace all classes. We may, therefore, look confidently for developments of the Poor-law system, for a higher level of municipal hygiene, for many developments in the field of preventive medicine. But there is another and less agreeable side to the picture. Medical science can be helped very little by legislation, but it can be hampered and hindered much by legislators, and legislators cannot be wholly deaf to the voice of the man in the street, who is perchance a voter, and the man in the street finds that medical science often speaks to him in an unknown tongue, and he misunderstands, and therefore dislikes her teaching and her methods. Goethe says: *Wir sind gewohnt dass die Menschen verhöhnen was sie nicht verstehen*. A good instance of the difficulties which beset medical science in a democratic age is afforded by the proceedings of the late Royal Commission on Vaccination. Both in its inception and in the legislation which arose from its report there was a thinly-disguised concession to popular clamour. The spectacle of a Royal Commission, comprising some of the most illustrious men of the day—with a due admixture of less admirable material—sitting for several years solemnly to retry Edward Jenner's discovery is one calculated to give us pause. If we could count confidently upon the years of the patriarchs, it might be interesting to have Royal Commissions to inquire whether the rotundity of the earth is in very truth a secure doctrine, or whether Newton's views on gravitation are really standing the test of time. But life is short. We cannot be for ever retesting first principles. Progress is possible only by entering into the enjoyment of the labours of those who have preceded us, and making the successful hypotheses of one generation the accepted axioms of the next. During the recent agitation much emphasis was laid upon the terrible consequences alleged sometimes to follow vaccination. Herein did history once again repeat itself. Those familiar with the early controversies about vaccination could find parallels for the most harrowing of these modern tales of horror. We read that in Edward Jenner's time some controversialists with lively imaginations detected resemblances to ox faces produced in children (such was the theory) by vaccination. "A lady complained that since her daughter was vaccinated she coughed like a cow, and had grown hairy all over her body; and in one country district it was stated that vaccination had been discontinued there because those who had been inoculated in that manner bellowed like bulls." The remedy for these difficulties of medical science in a democratic age is to spread the light, to trust to the slow but sure advance of wider knowledge and more enlightened views.

Science advances mainly by bringing isolated facts within the sweep of some wide generalisation—in other words, by enunciating principles and formulating laws. Medical science seeks to discover whether any common cause, or set of causes, can be assigned to the manifold phenomena of disease. It must be confessed that the premature generalisations, based upon insufficient knowledge, of unscientific ages in the past have not advanced, but rather retarded progress; witness the old humoral pathology derived from Galen and dominant for many centuries. It seems not unreasonable to hope, however, that a better fate may be in store for those leading ideas which are now permeating the theory and practice of our art. Of these ideas I may particularise two—(1) that disease is to a large extent due to some toxic substance present in the body, either derived from without or generated in the body itself; and (2) that this

toxic substance is in many cases the product of micro-organisms. Those who think that these doctrines do not rest upon any secure basis and will be merely one of the passing fashions of medicine have not sufficiently grasped the significance of the lifework of Pasteur. His researches upon fermentation in the early Sixties, followed by his work in connection with anthrax, septicæmia, and hydrophobia, constitute a memorable epoch in human history, and have literally transformed the face of medical science. I need not stay to remind you how the work of Pasteur has been supplemented by that of Koch and a host of other workers, or with what brilliant results the Pasteurian doctrines have been applied by Lister to the practical problems of hygiene and surgery. We may take it as demonstrated that micro-organisms are the cause, or at least an essential part of the cause, of anthrax, malaria, tubercle, Asiatic cholera, relapsing fever, glanders, septicæmia, erysipelas, and probably of diphtheria and pneumonia. We may further take it as certain that micro-organisms cause disease almost entirely by virtue of certain toxic substances which they produce. These substances are of complex composition. "Some," says Fraser, "are alkaloids, and others modified proteids, and others, again, have altogether unknown chemical composition. Many of them are of extreme and almost indefinitely great activity; one milligramme, for instance, of the dry poisonous constituents of tetanus toxin is sufficient to kill a horse, or six hundred million times its weight of living tissue." But a still greater discovery, and one opening up a new field for therapeutics, was soon to follow. It gradually became evident that micro-organisms generated not only a lethal but a protective substance, not only a toxin but an antitoxin, not only a poison but actually an antidote to that poison. It was shown that the poison produced by certain micro-organisms could, by process of attenuation or cultivation, be deprived of its lethal while preserving its protective properties, and to the successful application of this principle we owe the modern treatment of hydrophobia and diphtheria and the prospect of a rational therapy for cholera and plague. How far this principle will be found capable of general application in infective diseases, and whether pathologists will be successful in discovering the necessary modes of attenuation and cultivation, the future will show. The outlook is certainly most hopeful, medical science has secured a new organon, a new method, and one of apparently vast and far-reaching potentialities.

So much may be allowed, but the whole doctrine of the microbial origin of disease is still involved in great obscurity. We seem to have been admitted for a moment into the arcanæ of Nature, to have got a glimpse of her mysterious methods of destruction and repair, of morbid action and healthy reaction, only to realise how much still remains inscrutable. How is it that one individual falls a prey to the micro-organism of malaria or tubercle while another individual escapes? Why does the bacillus of diphtheria rest harmlessly upon the fauces of one person and produce a fatal disease in the case of another? Why is the same micro-organism in one case entirely inert, in another moderately active, in a third positively lethal? Is it a question of hereditary constitution, or acquired immunity, or of the nature of the media in which the organism grows? May not the soil be as important as the seed, individual proclivity as influential as the presence of the morbid germ? I by no means assert that these questions are insoluble—indeed, an answer to some of them seems already within sight—but such considerations serve to show the extreme complexity of the phenomena with which we are confronted. We may recall that Pasteur himself denied that micro-organisms were morbid entities, and held that their activity was dependent upon the media in which they live and multiply.

The germ theory of disease has not been a mere brilliant and barren hypothesis. On the contrary, it has been the most fruitful speculation ever cast into the field of medical science. It has already revolutionised surgery. It has given us a remedy for diphtheria and hydrophobia, and has opened up a prospect—distant, probably, but hardly doubtful—of the ultimate extinction of all forms of infective disease. It is desirable, however, that we should hold it in a broad and philosophical, not in a narrow and technical, sense; that we should realise how much still remains to be explained and

how important it is that all the elements in the problem should receive adequate recognition.

Another leading doctrine of present-day medicine which has proved to be capable of important practical applications is the doctrine of internal secretion. It has been shown that the thyroid gland, the suprarenal capsules, and the pancreas possess internal secretions, the suppression or morbid alteration of which is the cause of certain well-known and important diseases, such as myxœdema, Addison's disease, and possibly diabetes. It has also been shown that in certain cases the deficiency in the natural secretion can be artificially supplied with the happiest results to the sufferer. There are few more encouraging chapters in the history of medical science than that relating to the recognition of the clinical features and pathology of myxœdema, and the discovery of a rational and abundantly successful treatment. The disease was first described in outline, as a clinical picture, by Gull, who was, however, ignorant of the pathology. A little later Ord completed the description of the symptoms of the disease, on which he conferred the name "myxœdema," and suggested that it was due to disease of the thyroid gland, an organ which had hitherto been regarded as of no importance in the human economy, some authorities even suggesting that it was intended simply as a pad to protect the trachea and fill up the contour of the neck. Physiological experiment was then brought into operation, and it was proved that the artificial removal of the thyroid gland in animals produced a condition similar to the disease myxœdema in man. Finally, the therapeutic test was supplied. Portions of the thyroid gland of animals were introduced into the tissues or cavities of the human body, and it was found that some temporary benefit was the result. Then hypodermic injections of a glycerine extract of the thyroid gland of the sheep were tried with much better results. Later, the internal administration of the thyroid gland of the sheep, either in the natural state or in the form of various extracts and dry preparations, was tried with brilliant and enduring success. The whole history of the recognition and cure of myxœdema is one of the glories of medical science in the nineteenth century, but it is something more than a lucky guess or a happy intuition. It is an admirable example of true scientific method, happily devised and patiently pursued to a triumphant conclusion. Further, it supplies medical science with a new principle, and one which may be capable of the most far reaching applications. It seems reasonable to hope that a cure may be found for Addison's disease in the artificial administration of suprarenal capsules, and that if further investigation should confirm the suspicion that diabetes is connected with disease of the pancreas, we may be on the verge of discovering a remedy for a common and distressing disease. It is not to be supposed that internal secretions are the characteristic exclusively of the thyroid gland, the suprarenal capsules, and the pancreas. It is probable that they are much more widely distributed in the organism, and a field is here opened to physiological research and therapeutic endeavour which can hardly fail to be fruitful hereafter.

Another leading note in the medical science of this epoch has been the application of surgical procedure to diseases of the nervous system. The results have been in a few cases of almost startling brilliancy. Tumours have been successfully removed from the brain, and cases of apparently hopeless spinal disease have been cured by operation. It does not seem, however, that the sphere of surgery in connection with nervous diseases is likely to be an extensive one, and we may, I imagine, anticipate rather an occasional happy hit than any constant or trustworthy reinforcement of our resources in dealing with these peculiarly intractable maladies. Nor does surgery seem likely to have any considerable career in relation to diseases of the thorax. I recently read a book upon the surgery of the chest, and I laid it down with a reassured mind, feeling that in this department at least there is still a field for the physician. If I may use a form of speech which has become familiar, surgery during the last few decades has pegged out more claims than she is likely to be able successfully to work. We physicians, however, gladly recognise the brilliant position which modern surgery has won for herself, we rejoice in her achievements, her prospects, her imperishable services to humanity.

Such, then, are some of the advances, presented in brief

and imperfect outline, which have characterised medical science in the nineteenth century, and such are some of the dominant notes of our art towards the close of that epoch. Let us now cast a glance forwards and consider some of the problems which await solution and some of the lines which future progress is likely to follow. While recognising the great progress which has marked recent years and the hopefulness of the outlook, we must avoid a tone of over-confidence. Science has done much, and will yet do more, but Nature remains infinitely mysterious. "My chief care," said Sydenham, "in the midst of so much darkness and ignorance, is to wait a little and proceed very slowly, especially in the use of powerful remedies, in the meantime observing their nature and procedure, and by what means the patient was relieved or injured." Medical science has made large advances since the days of Sydenham, but this philosophic caution is by no means out of date. We shall receive a lesson in humility if we reflect how far at the present day practice lags behind knowledge, how imperfect a use we make of our present weapons while eagerly seeking to multiply their number. Typhoid fever still flourishes in our midst, although it is certain that if we could ensure to the masses of the people pure water, wholesome food, and healthy homes—and this task should not be one of supreme difficulty—the disease would disappear. Consumption still claims 60,000 or 70,000 victims annually in these islands, although we feel well assured that, if overcrowding could be prevented, the principles of sanitation strictly enforced, and the segregation of patients secured, the disease would soon become infrequent. We still lack the courage to apply resolutely and impartially the methods which scientific medicine indicates as necessary to prevent the fever-stricken patient from being a source of danger to his own household and to the community. Preventive medicine and the unrestricted liberty of the individual to spread disease are incompatible ideals. We have long followed the latter ideal, but there are indications that the former is growing in popular favour. The passing of the Compulsory Notification of Infectious Diseases Act and its adoption by all the great urban communities are satisfactory signs of a healthier public opinion, and constitute one of the greatest steps hitherto achieved by civilised communities in the direction of freeing themselves from the incubus of infectious disease. That Act has certainly not been applied hitherto in any severe or oppressive manner. If there has been any failure it has been rather in the direction of slackness and timidity. But at least a beginning has been made, and it is well to bear in mind that sanitary reform can never go far in advance of public opinion. "To know and counteract the causes of disease before they become effective," says Gull, "is evidently the triumph of our art"; but, he very truly adds, "It will be long before mankind will be wise enough to accept the aid we could give them in this direction."

We must all rejoice that the civilised world is at length making a somewhat belated, but still most welcome, effort to stay the ravages of tuberculosis. Much has been recently spoken and written on this subject which did not always proceed from fulness of knowledge or ripeness of wisdom, but we may well forgive something to the zealots of a new crusade, a crusade necessary and salutary, and one which has already borne important fruit. The recognition of tubercle as an infective disease due to a specific virus, and transmissible in ways which are becoming gradually understood, is one of the most substantial advances of the time. If the new pathology suggests lessons of precaution, it affords no justification for panic. Tubercle is infectious, but its infectiousness is of limited range and easily preventable. We may teach with confidence that, granting care and diligence in the disposal of the expectorated matter, the consumptive patient need not be a source of danger to those around him. We may also contemplate hopefully, if with some reserves, the prospects of the hygienic treatment of consumption which is becoming increasingly popular. While entirely approving of the general theory which underlies that treatment, I cannot acquiesce in the proposition recently propounded in the pages of one of our leading reviews, that abundance of fresh air and forced feeding constitute a sovereign remedy for tubercle in all its forms and at every stage. We may content ourselves with more modest antici-

pations, we may claim for the new treatment that it is a substantial advance upon older methods, and that its results, though not seldom disappointing, are sometimes brilliant beyond expectation. Those results will be far more solid and enduring when the disease is more often detected in its earlier stages, and when treatment is entered upon while the local damage is still slight and constitutional involvement absent or trivial. In this disease time is a factor of the first magnitude. The earlier manifestations of tubercle are comparatively amenable to treatment, the later are too often irremediable.

One of the most hopeful features of present day medical science is the ever-increasing closeness of association between clinical medicine and pathology. Never before did the hospital and the laboratory work so fully hand in hand, never before were observation and experiment so fruitfully combined. Clinical physicians are grateful for the large amount of assistance which pathology gives them in the *post-mortem* room in interpreting the problems of disease, nor are they insensible of the somewhat more limited assistance which pathology gives them at the bedside. The physician, without the aid of the pathologist, may practise—perhaps successfully practise—an art; he can never expound a science. The pathologist, without the aid of the physician, often finds the facts of the *post-mortem* room a meaningless tangle, or at best a riddle of which the solution can only be guessed. Pathology is an invaluable aid to clinical medicine, but its function is in the main critical, explanatory, and corrective, rather than dominant or regulative. "The art of medicine," said Sydenham, "is to be properly learnt only from its practice and its exercise." In our profession experience is the supreme test, the bedside is the most important training ground; the course of disease and how it can be modified by treatment are in many cases ultimate facts, which no theory can shake and no argumentation can alter.

To seek to anticipate the progress which awaits our art in the coming years, to endeavour to cast the medical horoscope of the twentieth century would be a tempting task, but I can only lightly touch it to-day. That the outlook is hopeful may be safely inferred from the fact that medical science is to-day in possession of new and fruitful ideas and of methods which are still unexhausted. The serum treatment of disease and the doctrine of internal secretion are still only in their infancy. The prevention of tuberculosis, which is really only a phase in the application to medicine of aseptic principles already dominant in surgery, is within sight, although the goal is still distant. The brilliant illumination which Golgi and his school have shed upon the structure and functions of the nervous system may point the way to some therapeutic progress in this most difficult and baffling field. We may well contemplate the future with confidence, feeling assured that whatever disappointments the twentieth century may have in store for us, it can hardly fail to witness the growth and development of our art, and a corresponding gain to the race in comfort, happiness, and longevity.

While I would urge you to spare no labour in the endeavour to master every branch of your art, I think I might invoke the authority of my predecessor in this chair in cautioning you against a narrow professionalism, and in recommending as wide an outlook as possible upon the ever-broadening field of knowledge. The late Dr. Cuming owed no small part of his unique influence to his general attainments and breadth of culture. I know that the medical student of to-day is a much-lectured and much-examined individual. It may seem a refinement of cruelty to suggest that he should extend his studies beyond the somewhat capacious limits of the medical curriculum. But onerous as without doubt are his tasks, I think he has still a small margin of leisure. Let me plead with you to give some portion of your limited leisure to the study of good literature. When football and cricket, the bicycle and the cue have had proper and adequate attention paid to them, reserve some margin of time for the poets, the essayists, the historians, and the biographers. If you can enjoy Homer and Horace, Molière and Heine, so much the happier are you, but if not, the field of English literature is wide, it abounds in every variety of literary product, and is practically inexhaustible. Make a daily companion of Shakespeare or Wordsworth, or Tennyson, or, if you prefer, of Scott or Emerson or Carlyle—it matters little which you

choose, so long as you choose among the best. While learning the attachments of the *latissimus dorsi* or the characteristics of electrotonus, do not forget the tale of Troy divine, or the immortal knight of La Mancha or the Prince of Denmark. The great masters of literature will help you to that knowledge of life which is hardly less important to you than a knowledge of your profession. "Most men," says Lowell, "make the voyage of life as if they carried sealed orders which they were not to open until they were fairly in mid ocean." Literature is the record of the accumulated experience of mankind rendered immortal by the salt of genius. Its study can hardly fail to make you more flexible in mind, more tolerant in opinion, more sympathetic in heart. It will also help you to a juster estimate of your profession and of your own place in human society. Your business will be first and chiefly to prevent disease, to cure disease, and to relieve suffering, but you may also each in your sphere do something to hold up the standard of liberal culture and to pass on the torch of knowledge to those who will come after us.

SOME REMARKS ON RINGWORM.

WITH ESPECIAL REFERENCE TO THE EARLY STAGE OF ATTACK OF THE HAIR AND THE PRODUCTION OF PUSTULAR INFLAMMATION.*

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THE following remarks fall under two heads. In the first place we desire to demonstrate some drawings which portray the various stages of the attack of the hair by the different fungi; and, secondly, we offer some new observations on the association of endotrix fungi with kerion.

Preparation of Specimens.—By way of preface we may add a word on the preparation of specimens. Stained specimens are striking as microscopical objects, and are invaluable for preservation, but their preparation often demands close attention and time. The fungus located in the interior of the hair sometimes stains with difficulty, and in removing the excess of stain such fungus is very apt to be decolorised. The examination of infected hairs in liquor potassæ (B.P.) is easy and convenient, especially, for instance, when it is desirable to study a great number of hairs from a given case. It is also extremely satisfactory as a temporary means of displaying the fungus and its location. The fungus resists the disintegrating action of the potash, and the epithelial structures may be completely dissolved away by prolonged soaking, leaving the fungus intact, and the latter may then be stained.

Exhibition of Drawings.—These drawings are more or less diagrammatic, but they have been carefully made from stained specimens. They show very clearly the fundamental similarity in the attack of the fungi in all cases, whilst illustrating the minor variations characteristic of each group.

MICROSPORON AUDOUINI.

If from a very early macule on the scalp the apparently healthy hairs are carefully epilated, a proportion of them will afford material for the study of the earliest stages of the attack. Similar features will be met with time after time. Fig. 1 is drawn from a very happy specimen, and shows a quantity of plain branching mycelium ramifying in the epithelium at the mouth of the follicle and encircling the hair throughout its intrafollicular portion. The hair itself is not yet attacked. Fig. 2 illustrates specimens which can be obtained in profusion. The early follicular mycelium has disappeared for the most part, just as it disappears from the surface epithelium, but the intrafollicular portion of the hair is being attacked. The precise site and method of attack have been the subjects of much dispute. We are not disposed to dogmatise beyond pointing out that in many hundreds of specimens we have only observed in *microsporon*

* Read at the meeting of the British Medical Association at Edinburgh. (Section of Dermatology), 1890.