PROVINCIAL MEDICAL JOURNAL

And Retrospect of the Medical Sciences.

No. 106.]

LONDON, SATURDAY, OCTOBER 8, 1842.

PRICE SIXPENCE.
[Stamped Edition Sevenpence.]

INTRODUCTORY LECTURE,

DELIVERED AT

KING'S COLLEGE, OCTOBER 1, 1842.

By W. A. GUY, M.B.,

Professor of Forensic Medicine, and Physician to King's College Hospital.

GENTLEMEN.—Since the first establishment of this college, it has been customary to preface the business of the medical session by a general introductory lecture—a plan attended with such obvious advantages, that it is now adopted by most of the large schools of London. Of these advantages not the least is, that it enables the professors through him on whom it devolves to act as their representative, to lay before you such considerations as are most likely to be useful to the members of our class; for of these the present audience chiefly consists, and for these we are bound in duty, as we are led by inclination, to entertain the liveliest interest.

But, though the majority of my audience consists of the junior members of the profession, I am aware that I am honoured by the attendance of some of its older members, and by that of a few of other professions; and I feel that I am bound so to shape my discourse, as that whilst it is useful to the one class, it may not be altogether uninteresting to the other.

Influenced by this consideration I have chosen, as the subject of to-day's lecture, the difficulties which beset the study and practice of medicine—a subject fraught with instruction for the pupil, suggestive of useful reflections to the practitioner, and, as I would fain hope, possessing some attraction for the members of other professions.

The profession of medicine, Gentlemen, is not only one of the most important, one of the most honorable, and one of the most responsible, but the most difficult which offers itself to your choice. If this observation, which I put thus boldly and prominently forward, shall have the effect of intimidating any one, and of leading him to believe that he may have acted unwisely in making choice of such a profession, I trust that the remarks which I am about to make in the course of this lecture will remove any such fear, will re-establish confidence, and will have this good effect—of inducing him to apply himself to his studies with that zeal which they are so well calculated to inspire, and with that perseverance which never fails of being crowned with success.

The difficulties of which I speak beset the medical man at every part of his career. He encounters them, as a pupil, in the school and in the hospital, and he meets with them in after life, whether he devotes himself to the practice of medicine as an art, or to the study of medicine as a science, or combining both of these, converts his opportunities of experience into the means of establishing those general principles, and those accurate standards of comparison, which may become, for his own and for after ages, the guides and the landmarks of experience.

I propose to examine each of these difficulties in turn, beginning with those which beset the path of the pupil. The studies to which he devotes himself are twofold—those of the school or college, and those of the hospital. In the school or college, the pupil will have to attend certain courses of lectures on subjects more or less closely and directly connected with the practice of the healing art; as well as to acquire

a practical familiarity with some of the more important sciences treated of in the lecture-room.

That those who are about to enter upon their medical studies may form some idea of the amount of labour which they will have to undergo, I will merely state that, according to the existing regulations of the medical corporations, no pupil can present himself for examination, without having attended at least sixteen courses of lectures upon nine distinct branches of science; that some of these courses comprise no less than one hundred and forty lectures; and that two of them (anatomy and physiology) are considered of so much importance, that an attendance upon three several courses is enjoined; and that in one winter session the student must of necessity attend no less than five different courses of lectures, and as many as four of them on the same day.

But this statement, formidable as it may appear, exhibits but a part of the labours of the medical pupil. In addition to the attendance upon all these courses of lectures, and the private study necessary to fix them in the memory, the student must spend a considerable part of every day, during, at least, two winter-sessions, in the dissecting-room, in order to obtain a practical knowledge of anatomy; he is strongly recommended, and by some of the examining bodies required, to gain the same practical familiarity with the manipulations of chemistry; and, if he have not passed through an apprenticeship, he must exercise himself in pharmacy. There are certain operations and manipulations also, described in the lectures on surgery, midwifery, and forensic medicine, which are so important, that the student will be naturally anxious to practise them with his own hands.

But this is not all. During a great part of the time that he is engaged in attending lectures, and in acquiring a practical knowledge of the subjects which I have mentioned, the student must be in attendance, during some hours of every day, in the wards of the hospital, where he is to acquire such a knowledge of disease as shall enable him to enter upon the practice of his profession with honor to himself, and with safety to the public.

Now all this attendance upon lectures, with the private study which must necessarily go along with it, all these practical studies of the school or college, and all the lessons of experience to be learned in the wards of the hospital, are to be compressed into the narrow compass of three, or, at the most, of four, years; for by far the majority of medical pupils complete their studies in three winter and two summer sessions, and comparatively few devote four years to the study of their profession.

After what I have now stated, it will be easy to point out the source of the difficulties which the medical student encounters in the school or college. It is to be found, on the one hand, in the great number, extent, and variety of the studies which engage his attention; and, on the other, in the short period allotted for the completion of those studies. When it is considered that, in addition to all this scientific knowledge, the student must possess the same acquaintance with classical literature which is regarded as an indispensable preparation for the studies of other professions, I shall, as respects the student, have fully justified the assertion with which I set out, that the profession of medicine is by far the most difficult profession in existence.

In this view of the nature of the difficulties which the student has to encounter, there is, however, nothing to dispirit him. The knowledge which he is expected to possess, though of vast extent, requires the exercise of no peculiar talent. The greater part of it is obtained by the simple exercise of the senses on objects presented to him, and carefully described by the teacher, and retained by an ordinary exercise of the memory; and should he encounter the slightest difficulty, there are always those at hand whose duty and whose pleasure it is to remove it.

There are some pursuits which cannot be followed with success without a degree of talent which does not fall to the lot of all. Thus, there are many men, not otherwise deficient, who can make no progress in the mathematics; others who fail not less remarkably in classical study; whilst, in the various pursuits which call the inventive faculty into play, comparatively few men attain even to mediocrity. The early studies of the medical pupil, on the contrary, call no faculty into exercise which is not possessed in a sufficient degree by men of average understanding and intelligence. Hence there is no room for distrust or despondency, provided the student determines to pursue his studies with diligence and regularity.

That the difficulties attending the studies of the college, though great, are not insurmountable, will appear, from the success which every year crowns the efforts of our industrious students, not merely in gaining a competent knowledge of the several subjects treated of in the lectures, but in attaining such a degree of proficiency as entitles them to receive flattering marks of distinction at the hands of the venerable prelate who, for so many years past, by his presence here, has condescended to enhance their value. But the very persons, whose distinguished success proves the possibility of conquering these difficulties, would themselves be the first to acknowledge that their honors are too often gained at the serious expense of neglecting the practical studies of the hospital, or that, if these are not neglected, it is because they are so fortunate as to be able to devote a longer time to their studies than is usually given to them.

Let it not be supposed that the fact of by far the greater number of medical students obtaining from the various examining bodies authority to practise their profession, furnishes any proof that the difficulties of which I have spoken have been by them surmounted. Those who have watched the practical working of our present system, know full well how often these difficulties are skillfully avoided, how rarely they are fairly met and resolutely overcome; and that no examination but one which presents to the pupil the objects of his study (whether those of the college or hospital), and makes his familiarity with them the test of his proficiency, can serve to distinguish between the superficial knowledge, scraped together only to be forgotten, and that which, having been consigned by the senses and reason to the safe keeping of the memory, is there laid up for the future service of its possessor.

One important corollary may be drawn from all that has been said on the extent and difficulty of the studies of the college—viz., the paramount importance to the medical student of habits of industry. No talent, however brilliant, can compensate for the want of these habits. Many excellent works of imagination have, doubtless, owed their existence to short-lived bursts of enthusiasm; but knowledge is only to be acquired by patient study. Let the pupil, then, aim at the formation of habits of steady application, attending his lectures with scrupulous punctuality, adopting a strict method in his private studies, giving to all his practical pursuits a zealous and sustained attention, and setting his face steadily against all temptations, whether from within or from without, which would allure him from the straight path into which his duty, no less than his interest, have led him.

Before I quit this part of my subject, I would ad-

dress one other word of advice to the pupil. Though he may have made up his mind to pursue his studies with the requisite perseverance, and though he perform his resolution to the full, he may yet fail of his object, if, forgetting the many claims on his attention, he devotes himself too exclusively to one or more favorite objects of pursuit. He should recollect that there is not time enough to become a minute anatomist, or a profound physiologist, or an accomplished chemist; and that in aiming at a high degree of proficiency in any of these sciences, he must, of necessity, neglect other subjects, which, to one who intends to become a practitioner of the healing art, are of much higher importance. By this unwise preference of one subject over another, where all are requisite, and all in their turn important, the industrious and deserving pupil has sometimes shared the fate and suffered the mortification of the idle and dissolute. This advice applies, without any exception, to the student, for whatever department of the profession he is ultimately destined.

I now proceed to say a few words on the studies of the hospital. The studies of the school or college, even those which seem most remote from practical application, are intended to prepare the pupil to profit by the opportunities of experience afforded him in the wards of the hospital. The lectures on therapeutics, on the practice of medicine and surgery, and those on the diseases of women and children, which form part of the course on midwifery, are the more immediate preparation for hospital attendance; and I would impress on the pupil the great importance of attending diligently to the instructions of the professors in these departments. By so doing, the difficulties which he must of necessity encounter will be materially diminished, and the advantages to be derived from his attendance at the hospital will be greatly enhanced.

The studies of the hospital, like those of the college, embrace a vast amount of details, and demand a proportionate amount of application. It is by no means easy to convey to the younger pupil an accurate idea of the extent of the knowledge to be acquired, or of the time necessary for the attainment of it. Our more advanced pupils, however, who have already completed the studies of the college, possess, in their experience of those studies themselves, a measure of the amount of labor which awaits them in the wards of the hospital. They have only to call to mind the great variety of topics embraced in the courses of lectures which I have already pointed out, as forming the more immediate preparation for the studies of the hospital, and to reflect that, of all these topics, they are expected to acquire such a practical knowledge as shall form a secure foundation for their own safe and successful treatment of disease, in order to perceive the full extent and difficulty of the task which they have undertaken to perform.

They can scarcely pass a day in the wards of the hospital without perceiving the vast difference which exists between the best descriptions of disease which they have read in books, or heard in the lecture-room, and disease itself. These descriptions may be as faithful as pen or tongue can make them, but they still want the vivid reality and minute coloring of nature. At the best, they are merely an assemblage of those phenomena which occur in the most marked forms, or, in the majority of cases, of disease, and they must often bear but a faint resemblance to any individual case. Now, it is with individual cases that the practitioner has to do, and it is only by repeated observation of the same disease, as it is varied by sex, age, peculiarity of constitution, previous habits of life, and many other modifying causes, that he obtains experience. It is these original and acquired differences between man and man, added to the varying intensity of the causes of disease, and the different, and even opposite, modes of treatment adopted, that render disease so intricate a study, and medicine in so especial a manner a science of obser-

vation. From what I have now stated, it will appear that a long attendance at the bed-side is necessary to prepare the student for the practical duties of his profession, and that without this, the most accurate knowledge of all the sciences taught in the school, aided by the most diligent study of the best practical authors, will avail him little or nothing.

The difficulties which the pupil encounters in the wards of the hospital are similar to those which he has already met with in the studies of the college. The studies of the college, as I have stated, turn chiefly on objects submitted to the senses in the form of preparations, models, experiments, or diagrams, which objects of sense are carefully described by the teacher. The studies of the hospital give still more constant employment to the senses, and, at the same time, call into play the reasoning faculties, which have, in the studies of the college, a more limited, though still an extensive, application. In every case of disease the symptoms present are but an index to the internal changes which constitute the essence of the disease, and these faculties must be constantly exercised in tracing the symptoms back to their source, and in fixing upon them their right interpretation.

In the necessity for a constant and active exercise of these higher faculties of the mind, we recognise the source of greater difficulties than those which the pupil encounters in the studies of the college, and surpassing those of many other professions. But there is one consideration which prevents me from classing this among the principal difficulties which the pupil encounters in the hospital; and that consideration is, that he constantly receives the most valuable assistance from the observations of the physicians and surgeons of the hospital at the bed-side of the patient, as well as from the more formal clinical lectures delivered at short and stated intervals. These familiar instructions forming, as they do, a connected commentary on disease at every stage of its progress, give such important assistance to the pupil, and tend to form by degrees so secure a habit of observing and reasoning, that difficulties lessen almost imperceptibly, and soon entirely disappear.

It would not be difficult to discover, in the studies of the hospital, other sources of difficulty; some of these, indeed, will be considered when I come to speak of the study of medicine as a science, and its practice as an art; but the one great source of difficulty to which I would invite the attention, not of the pupil only, but of the profession generally, is the disproportion existing between the amount of knowledge to be acquired, and the limited time allowed for its acquisition. To this source I have already traced the only difficulties attending the studies of the college, which the complete arrangements for teaching and the zeal of the professors cannot remove; and to the same source I refer the only real difficulties which, in spite of the improved arrangements for clinical teaching now adopted in most of our hospitals, still lie in the way of the student.

The chief difficulties which the pupil encounters in the college and in the hospital being thus traced to one and the same source, the practical inference already insisted upon gains additional force—viz., that steady, persevering, unwearied industry, is the bounden duty, as it is the undoubted interest, of the medical student. Without industry in the college, he will be ill prepared for the studies of the hospital; without industry in the wards of the hospital, I know not how he can dare to take upon himself the awful responsibilities attending the practice of his profession.

Still, with all the pupil's industry and application, the time usually devoted to study is insufficient to enable him to accomplish all he ought to aim at. Let him reflect that he requires not only knowledge, but the appearance of knowledge—not sound principles merely, but the power of readily applying these principles to individual cases. During the early part of his career as a practitioner more especially, and before

he has had time enough to gain with the public the reputation of experience, it is of the first importance to his own success in life that he should approach disease with the air of one who is practically conversant with it, that he should put his questions as if he were in the habit of asking them, and use his hands as if he were in the habit of employing them. By this means he will sooner gain credit for experience, and enjoy the confidence of the public, which follows fast upon such a reputation. This result, so important to his success, is only to be obtained by a long and patient attendance at the bed-side.

But I would urge the student to industry by a higher motive than that of self-interest—the motive of duty. It is his duty to be prepared for every emergency which may arise in the branch of the profession which he has chosen, and even in those which he does not profess to practise. The general practitioner, more especially (and for this department of the profession the majority of medical students are destined), must be ready to act in every emergency the part of the physician, the surgeon, and the accoucheur. Let me advise the pupil, therefore, to pay regular and zealous attention to the studies of the hospital; not the listless attention of the mere spectator and walker of the wards, but the fixed, and thoughtful, and earnest attention of the man who feels that he is preparing himself for the performance of weighty, and difficult, and responsible duties.

I would also strongly recommend the student to avail himself of the opportunity of studying disease more closely and methodically, and of gaining the habit of skilfully employing his hands, which is afforded him in the clerkships and dresserships to the in and out-patients of the hospital—employments which are open to competition, and conferred, after due examination, upon the most deserving pupils, without entailing any additional expense. I have some pleasure in speaking of this system of free competition, as I believe it to be a very important advantage secured to the industrious pupils of the college.

In this place a similar caution suggests itself to that which I have already endeavoured to impress upon the mind of the pupil, when speaking of the studies of the college; and that is, to beware how he gives an undue preference to one practical study over another. The error into which he is most apt to fall, and against which he most requires to be cautioned is, that of giving too exclusive attention to the study of surgery. Even if the student intends to practise only that branch of the profession, it admits of grave doubt whether it deserves more attention at his hands, during the period of pupillage, than the practice of medicine; but if he is destined for the general practice of the profession, he need scarcely be told that diseases of a strictly medical nature will form a preponderating majority of the cases which he will be called upon to treat. I need scarcely add, that nothing which I have now said is intended, in the slightest degree, to disparage the profession of the surgeon; I am merely anxious to do justice to the merits, and to insist on the more frequent application, of my own branch of the profession.

I have hitherto spoken of the studies of the college and of the hospital separately; I would now view them in connection, and I would appeal to all who have had any experience of medical education, whether the time which the majority of pupils devote to their studies is sufficient. To this question there is—there can be—but one answer, and that in the negative. There is much more to be done than can be well done in the time. The pupil may possess the greatest facility in acquiring and retaining knowledge, and may display the most persevering industry, but he must still leave much undone. Some of the studies of the college or of the hospital must be neglected, and there is, I fear, little difficulty in saying to which the preference will be given. As the more immediate object with the student is that of passing the examina-

tions which are to qualify him for practice, he gives almost all his attention to the studies of the college, leaving the great work of obtaining experience to the time when he can no longer avail himself of the valuable assistance so liberally provided for him in the wards of the hospital.

In seeking a remedy for this state of things, so injurious to the character of the profession, and so hostile to the best interests of the public, we find ourselves in this dilemma. Either the studies of the college must be abridged (for it is obvious that those of the hospital admit of no curtailment) or the period of college study and hospital attendance must be lengthened.

Though one or two influential names are to be found among those who advocate an abridgment of the number and length of the courses of lectures delivered in the school or college, I have little hesitation in preferring the other alternative as less objectionable.

The members of the medical profession have ever been regarded as men of extensive knowledge and liberal education. In former times, when physicians drew all their knowledge of disease from the works of the medical writers of Greece and Rome, they were reckoned among the most learned men of the age in which they lived. When the several sciences, which are now regarded as essential parts of a medical education, began to be cultivated, a knowledge of these sciences was necessarily added to that of the classical authors; but that knowledge played a very subordinate part and held a low place in their estimation. Now, however, that those sciences have attained a more complete development, and that their value is fully recognised, they have justly taken the first place; whilst the learning of the ancients has fallen into comparative insignificance, so much only being retained as enables the physician to understand the terms derived from those languages, and to refer without difficulty to the few works which have come down to us from those remote times. With this important revolution in the studies of the physician the character which he bears in society has changed, and instead of being valued for his learning, he is now esteemed for the great extent of his scientific attainments and the amount of his general information. Of this reputation no one who has the interest of his profession at heart would wish to see the medical man deprived. The only valid excuse which offers itself for narrowing the sphere of his scientific acquirements seems to be the interference of these studies with more important practical pursuits. Add another year to his residence in London, and there will be no necessity for curtailing any one of his scientific studies; shorten the period of apprenticeship by one year, and the whole difficulty vanishes.

But there is one consideration which is of more weight even than this—viz., that the medical pupil cannot be fairly regarded as in training merely for the practice of his profession. This, it is true, is his first object; but there is another object at which a wise system of medical education must always aim—that of enabling him to use his experience in the service of his profession. That he may be in a position to do this a complete education is necessary, and such an education must have the effect of adding to the number of those (and there are too few of them in all professions) of whom it can be said that by their own labors they have left the world wiser than they found it. All who are engaged in teaching must be furnished with the extensive knowledge of which I speak, and of those who are not, there are few who may not find themselves in a position to make use of information which they could not have derived from the merely practical studies of their profession. This observation applies especially to those who are engaged in the foreign service of their country.

But the best defence of an extended system of education is to be found in its effects. No one who has read the history of medicine with attention can fail to

have perceived that the greatest ornaments of the profession have been men who were skilled in all the learning and science of their time, and of whom it might be well said, as it was of one of the most eminent of their number, that "all Apollo was his own."

The length to which these observations have extended reminds me that I must hasten to the second part of the subject which I have chosen. But I cannot leave the consideration of the studies which pertain to the period of pupillage without saying a few words appropriate to the re-assembling of our old pupils, and the first attendance of our new ones; for to these the foregoing remarks have been addressed in the earnest hope that they may prove useful to them. To our older pupils, we (for I venture to speak to them in the name of my colleagues) would address a word of encouragement to persevere in the course of steady industry on which they have so happily entered, and to continue to display in their intercourse with each other that gentlemanly bearing, and in their behaviour towards the authorities of the college that courteous and respectful feeling, which makes the task of the teacher so easy, and the condition of pupillage so honorable—to continue, in fact, to distinguish themselves by that correctness of deportment which has gone far towards redeeming the character of the medical student from the stigma which has been so long, and, I fear, not altogether unjustly attached to it. And if, among our older pupils, there are any who in times past have been either unmindful or negligent of the great advantages which the liberality of the council and the zeal of the professors have placed within their reach, we would conjure them, ere it is too late, to reflect that, as a knowledge of medicine is not to be acquired without great and constant application, so the practice of medicine is not to be safely or honestly undertaken without extensive and accurate knowledge.

After the deserved panegyric which I have bestowed on the older pupils of our class, I cannot give any better advice to those who are about to commence their studies than that they should follow the example set them by those of their seniors who are most remarkable for diligence, and for a strict attention to their moral and religious duties. I am happy to be able to say that there will be no difficulty in finding many such models for imitation.

Once more let me impress upon the minds of all our pupils the necessity for regular and sustained application. I know that habits of steady industry are not easily formed at any age, least of all in the season of early youth; and that much strength of purpose and decision of character are necessary to enable a man to keep in the straight path of duty.

Our ancestors were deeply sensible of this, and in their wise anxiety for the welfare of the young, they invoked the aid of discipline, not for their own convenience' sake, but for the good of those on whose early education so much depended. Accordingly, in our ancient universities the students were trained to habits of regularity by the daily attendance in the college chapel, by the daily presence in the college hall, and by the early closing of the college gates. The authorities of the universities placed themselves *in loco parentis*, invested themselves with the authority of the parent, and became accountable to him for the well-being of his children. The observances which they enjoined were those which would find place in a well-regulated family, the advice they tendered and the reproofs which they found occasion to administer were such as an anxious parent would have addressed to his child; and they felt that in all they did they were merely enabling the student to put in practice his own better resolutions, and to follow more steadily the dictates of his own reason and conscience.

This wise and wholesome discipline was enforced on all alike, from the scion of the noble and wealthy house down to the poorest and meanest scholar supported at the expense of his college; and all derived

from it the same advantage, for all felt that, by submitting themselves to authority, they were in reality obeying the dictates of their own better natures, and receiving invaluable aid in putting in practice their own best resolves.

This discipline was accepted voluntarily at the hands of the authorities, as the very condition of being admitted to the benefits of education; and by this deliberate act the student bound himself not so much to obey others as to control himself; and to regard all the observances of the college as if they had been self-imposed.

This relation in which the undergraduate stood to the college was the parent of feelings widely different from those which spring from compulsion. The submission was a "proud submission," the obedience a "dignified obedience," the subordination "that subordination of the heart which could keep alive even in servitude itself the spirit of an exalted freedom"—the same feeling which, carried into all the relations of man with man, became the "unbought grace of life," in the relation of the subject to the state "the cheap defence of nations," and in each man's own breast "the nurse of manly sentiment and of heroic enterprise."

Such, and so ennobling, are the effects of that self-discipline implied in the very notion of a voluntary and cheerful submission to authority; such they have been in our ancient seats of learning; and such, in our comparatively short experience, we have found them here; and on no class of the pupils of this college have its effect in raising the character and improving the habits been more conspicuous than in those destined for the profession of medicine.

It is a subject of no ordinary gratification to the professors and to the authorities of this college, that here a system of discipline was first adopted for the medical student, and that within these walls that sentiment which has found an echo in almost every large school in London was first proclaimed—that a collegiate system of education—of intellectual and moral training—with all its wise and wholesome restraints, was the only system which could do justice to the student, satisfy the anxious requirements of the parent, and form a fitting preparation for the duties of so difficult and so responsible a profession.

I now proceed to the second part of the subject which I have chosen,—the difficulties attending the study of medicine as a science, and its practice as an art. I use the term medicine as synonymous, or nearly so, with disease. By the science of medicine I mean an orderly and well-arranged collection of all the accurate and precise knowledge which we possess of disease, and by the study of medicine as a science I understand the active cultivation of that knowledge with a view to increase its amount. I shall, perhaps, be better understood, if I substitute for the phrase *study of medicine as a science*, the explanation which I have now given of the phrase itself. I propose, then, to say a few words on the difficulty of obtaining an accurate and precise knowledge of disease.

It is impossible to understand disease, without a previous knowledge of health. Anatomy and physiology teach this knowledge,—the one treating of healthy structure, the other of healthy function. As the structure of the several parts of the body is an object of sense, there is no difficulty in obtaining a sufficient knowledge of it, provided frequent opportunities of dissection are placed within our reach. It is not so easy, however, to obtain an accurate knowledge of the functions of the several parts of the frame.

This is the province of the physiologist, who aims at acquiring this knowledge by an examination of the ultimate structure of parts beneath the microscope, by observations and experiments on animals, and by observations on the human body both in health and disease. There are considerable difficulties attending each of these modes of inquiry.

The fallacies of the microscope in the hands of the inexperienced or too imaginative observer are so notorious, that I shall content myself with merely reminding you of the different and even opposite views of minute structure and function, which are taken by two different observers, each of whom finds adherents among those who are more or less accustomed to the use of the instrument. Observations and experiments on animals have conferred important benefits on the science of physiology, but it is obvious that the conclusions deduced from them must in many instances admit of imperfect application to the functions of a frame differing in so many respects from that of all other living beings.

Observations on the human body itself are attended with equal if not greater difficulties. Direct experiment is here out of the question, and disease (except in the case of the nervous system, or, to speak more correctly, of the nerves themselves) is but an occasional, indirect, and imperfect instructor. Healthy function, then, must be studied mainly in healthy persons. Now many serious difficulties stand in the way of obtaining accurate knowledge from this source. The extent of the study is one grand difficulty, for to obtain accurate information we must make numerous observations on persons of both sexes, of every age, and of every variety of constitution; and there are few men who possess the patience and perseverance requisite for such inquiries; nor is it easy to find fit opportunities for prosecuting them. The more simple observations, as they require only to be repeated on a sufficient number and variety of persons, are within the reach of industry and perseverance: they demand method and accuracy, but they present no insurmountable difficulties. There are certain functions of the body, however, (I would instance that of respiration) which present serious difficulties, as they can scarcely be examined without the use of instruments, and it is almost impossible to make our observations on a sufficient number of persons to obtain the accurate knowledge of which we are in search. The application of chemistry to the analysis of the various secretions of the body is attended with similar difficulties.

There is still one other source of fallacy, and consequently of difficulty, in this observation of healthy functions, and that is, that persons laboring under those slight derangements of health which escape superficial observation are apt to be classed among the healthy. This source of fallacy can scarcely be effectually guarded against.

Furnished with this imperfect knowledge of health—imperfect for the reasons now assigned—the physician enters upon the study of disease. The functions of which he knows so little are now disordered, not separately, but in groups, and new phenomena, which are not healthy functions simply increased or diminished in intensity, but changed in character, arise, and are variously blended so as to present a most difficult and intricate subject of study. His first care is to give a name to this assemblage of phenomena, in order that he may be able to refer to the descriptions of authors, and profit by their recorded experience. Here we encounter another difficulty, in degree, if not in kind, peculiar to the study of medicine—a difficulty in writing accurate histories of disease.

The difficulty of description is always proportioned to the number of objects which the description embraces; and in this respect disease may vie with any subject of study, however intricate. A correct history of disease must include the past, the present, and the future. The previous habits of life of the patient, the diseases under which he has labored, and the various influences to which he has been exposed, make up the past; his existing symptoms, of which some are gleaned from the imperfect description of the patient, others from the observation of the physician, with all the minute distinctions which constitute the diagnosis, form the history of the present; and the detail of daily progress, blending, as it does, the natural changes of

the disease itself with the effects of remedies, and in fatal cases the final examination of the body, make up what may be termed the future.

I need scarcely dilate on the difficulty of attaining to anything like accuracy in the description of a compound fact consisting of so many particulars, so curiously and intricately involved, and to be unravelled only by the most careful use of the senses, and the most subtle exercise of analysis.

If it be difficult to write accurate histories of disease, it is still more difficult to make use of them when written. The very minuteness of detail which makes the history complete renders the work of analysis so laborious that few men have the courage to apply themselves to it; so that the materials which have been accumulated with such infinite pains are laid by as unmanageable, the subject matter of journals which lie idle on our shelves, or of bulky volumes of manuscript which repose neglected in the cupboards of our hospitals.

The habit of case-taking has doubtless trained many a young pupil to a careful observation of disease, but the cases themselves have done little towards establishing those general principles for the formation of which they were the acknowledged materials. This is but another proof of the difficulty of a profession whose facts are so cumbrous that it requires no ordinary degree of courage to make use of them.

It is from these histories of disease that a description of diseases must be written; that is to say, such a description as shall embrace all the leading features of each disease, with the more remarkable deviations from its usual course. I need not enlarge, after what I have just said, on the necessary imperfection of such descriptions, and the great difficulty of composing them.

These descriptions, collected and arranged, make up our treatises on the practice of medicine, and the arrangement of diseases according to their natural affinities, our nosology. This classification of diseases partakes of the difficulty attaching to the history and description of them, as is proved by the many abortive attempts made in rapid succession, by men possessed of extensive experience and signal acuteness, and most certainly equal to any ordinary work of arrangement. The fact, that after so many unsuccessful attempts at a reasonable and useful classification of diseases, we are by common consent throwing aside all nosological systems, and adopting an artificial arrangement which involves no theory, and presupposes no general and pervading principle, is an evidence not only of the obstacles which lie in the way of all attempts at arrangement, but of the difficulty inherent in the study of disease.

Before I quit the consideration of the difficulties attending the observation of disease, I must stop to pay a passing tribute to those to whom we owe our present precise knowledge of the principles of diagnosis. The labors which have rendered the name of Laennec immortal, followed up with such marked success by his own countrymen, and many worthy rivals on this side the water, have conferred on that part of the science of medicine which has to do with the identification of diseases benefits of the most substantial kind, and have proved that, difficult and uncertain as the science of medicine is, there are still some parts of it which admit of a degree of precision not to be surpassed by the most favored sciences. The more certain discrimination of diseases which has resulted from the possession of these physical signs, has also had a most important reaction on the practice of the healing art; and as skill in the use of the instruments of diagnosis is obviously not to be acquired without the most frequent practice and the most extensive experience, the public is furnished with an obvious and tangible reason for preferring the well-educated medical man to the ignorant pretender.

Having glanced thus briefly at what relates to the observation of disease, I proceed to say a few words

on the difficulties which the physician encounters in obtaining accurate information with regard to the operation of remedies. The first source of difficulty can scarcely escape the attention of any one who reflects for a moment on the subject—I mean our necessary ignorance of the power of the *vis medicatrix naturæ*. The human body is so constituted, that it possesses within itself the means of repairing the effects of violence, of resisting to a certain extent the influence of deleterious external agents, and of regaining its health when affected by disease. The healing of extensive wounds, the provision made for directing towards the surface of the body the fluids effused in consequence of internal inflammation, the prompt recovery from severe diseases by means of critical discharges,—these and other familiar examples which might be cited, show how much the body is capable of effecting for itself by its own unassisted efforts. Now the real amount of this healing power, and the degree in which it might be safe to trust to it, has never yet been, nor can it ever be, ascertained. The medical man does not dare to withhold from the sick such remedies as his own experience has appeared to sanction, or which have the general reputation of being useful, lest he should be thought to sacrifice to scientific curiosity the well-being, or even the lives of his patients.

Notwithstanding, however, the impossibility of making direct observations on the amount of the *vis medicatrix naturæ*, accident, or the neglect of patients or their friends in seeking medical advice, or the administration by the ignorant of harmless remedies, and, above all, the *médicine expectante* of the ancient authors, and of the modern French school, have taught us something of the vast influence which this power exerts in the cure of disease. At any rate, we know enough both to distrust our own judgment, and to explain the success of each of the unnumbered remedies which credulity receives at the hands of ignorance and imposture.

Our necessary ignorance, then, of the extent to which the body is capable of repairing the injuries which it receives, and of curing its own diseases, is the first and great obstacle opposed to the attainment of accurate information with regard to the effect of remedies. Another obstacle, in some degree allied to the foregoing, is the difficulty of making comparative experiments. Let us suppose that two remedies are, by high authority, recommended for the cure of the same disease, the medical man has almost as much difficulty in bringing his mind to that state of indifference with regard to both of them, as would justify his alternate employment of either, as he would have in leaving the patient to the unassisted efforts of nature; and, even supposing that he has made up his mind to the trial, it is extremely improbable that his own experience will supply him with a sufficient number of cases admitting of strict comparison with each other, in all respects, to enable him to solve the question.

It might be possible to arrive at this desirable knowledge by contrasting the experience of two practitioners, but in order to do this their cases must admit of strict comparison, must be reported with scrupulous accuracy, and submitted to careful scrutiny. It requires, moreover, a rare absence of all selfishness, and a disregard of reputation, little to be expected of any class of men, to submit to a comparison which must result in showing that the treatment which one of the two has adopted has been comparatively unsuccessful. Then there is the utter impossibility, in the case of the greater number of remedies, of being sure that what we prescribe is really administered, or that, if given, it was possessed of the virtues usually attributed to it. The collection and preparation of remedies, and the adulteration which so many of the more expensive and valuable medicines undergo, place fresh difficulties in the way of an accurate knowledge of the effects of treatment.

These brief and necessarily imperfect observations will serve to show the nature and amount of the difficulties attending the study of medicine as a science, or, in

other words, of the obstacles opposed to the attainment of an accurate knowledge of disease.

It is not sufficient for my purpose, however, to prove that medicine, in this respect, is a most difficult profession; I am concerned to show that it is the *most* difficult profession. This assertion is borne out by a few simple and obvious considerations.

regard the human body as a mere mass of lifeless matter. It belongs to that form of matter which is least understood and most difficult of study—the organised; and to that class of organised beings which is the most complicated—the animal; and it stands at the head of that long ascending series which reaches from the scarce discernible separation between the lowest form of vegetable and animal life up to the highest perfection of animal organisation.

Place this frame in the hands of the anatomist, and he will tell you that all the powerful and subtle machinery by which man has gained his still unfinished mastery over nature is as nothing compared to this; he shall write you a volume on the hand, and own, when it is done, his subject unexhausted; he will point to the circulating system, and tell you that he knows not which most to admire, the admirable simplicity of its pipes and conduits, the surprising ingenuity of its centre, or the intricate arrangement of its remote extremities; he shall trace the nervous system from its centres, so strongly and skillfully defended from external injury, to the minute and intricate network which it weaves about every texture of the frame; and he shall own that, though he discovers in the one a centre and source of power, and in the other a provision for its universal distribution through the frame, he can form no conjecture as to the nature of that power, nor recognise in that mysterious arrangement of matter any analogy, however remote, with the ingenious contrivances by which man extracts from matter the means of its own subjection to his will, and transmits the mandates of that will almost with the velocity of thought itself. Let him give to observation a wider scope, and take in the whole range of the animal creation, and he will tell you that at every point of the long series which reaches from the polype up to man, he has found with increasing perfection increasing complication, until, in the human frame itself, he reaches the crowning point of both.

This, and much more, he learns by the use of his unassisted senses; the microscope opens a new world of wonders to his sight; every drop of fluid, and every particle of matter, reveals a complex composition or a most intricate arrangement: for each secretion a peculiar structure, for each structure a peculiar distribution of vessels, and a distinct arrangement of nerves.

The history which anatomy has begun, chemistry finishes. With what confidence does the chemist approach the examination of the human frame! His knowledge of unorganised matter how profound and extensive! his power coextensive with his knowledge! at his bidding the very elements burst the strong bond which binds them together, or hasten to resume their original form; invisible agents attend to do his bidding; he makes the subtle element of heat his minister, and the flashing lightning his willing messenger; but when he approaches the human frame, furnished with this knowledge, and armed with this power, his knowledge owns a limit, and his power receives a check. He will tell you that the greater part of the fluids and solids of the body may be resolved into four simple elements, and that these, combined in various proportions, and blended in the several parts with substances derived from the inorganic world, compose the entire fabric of the body. But he is profoundly ignorant of the means by which these elements are combined and held together, nor do all the manifold resources of his art enable him to compound one drop of its fluids or build up one atom of its texture. In dealing with inorganic matter, he finds that that which he

has analysed he can in many cases recompose; but with the exception of a few simple products of secretion, he can imitate no single process of all the subtle chemistry of life.

Let us suppose the frame, thus wonderfully and fearfully made, to be endowed with life, and all this marvellous machinery set in motion: the heart beating; the chest heaving with the alternate movements of respiration; the blood circulating in an uninterrupted stream through unnumbered vessels; the glands pouring out their various secretions, some destined for separation from the body, as being useless or noxious, others applied to further purposes in the economy; the old and worn out particles of matter continually replaced by new ones; and the nervous system everywhere present, presiding over every function with so wonderful a precision, that to give it the character of an intelligent and voluntary agent is scarcely a stretch of imagination. What a wonderful history, too, is that which, beginning with conception, traces the frame to the full maturity of the embryo, and from birth through the several periods of childhood, youth, manhood, and decrepitude, till it once more mingles with the dust from which it was made, and with the earth from which it drew all its materials of support!

But the human body, thus intricate in structure and function, is the tenement, and the nervous centres are the material instrument, of a mind which perceives, and thinks, and feels, and wills; which strongly affects the body by all its more violent emotions, and is, in its turn, disturbed by every severe disorder of the frame.

This complicated union of mind and body, this sentient, thinking, intelligent being, is exposed to a thousand varying influences from within and from without; and though it is so constructed as to bear extremes of heat and cold, and to derive supplies of nourishment from almost all things which have been previously endowed with life, yet heat and cold, abundance and scarcity, pure and impure air, labor and indolence, temperance and excess, activity and inactivity of mind, joy and grief, prosperous and adverse circumstances—indeed, every influence, whether favorable or unfavorable, to which man is subjected, produces some effect upon his frame; and these several influences combining in various ways and proportions, lead to that infinite variety in the external appearance of mankind, which experience proves to coexist with internal differences not less remarkable.

It is not difficult to understand how a frame, which presents such infinite varieties in health, should, when affected with disease, become a study of surpassing difficulty; and I think that no further arguments can be necessary to establish the position that medicine, considered as a science, is, beyond all comparison, the most difficult and the most complicated in existence.

If medicine had not been so difficult a science, it is scarcely possible that it could have been cultivated by so many men for so many ages, without attaining a higher degree of perfection. Among so many thousands constantly engaged in the study and practice of their profession, there must have been some master minds, capable of grappling with ordinary difficulties and of overcoming them. Surely a science which numbers amongst its zealous cultivators an Hippocrates, a Boerhaave, a Sydenham, a Harvey, a Haller, a Hunter, a Bell; which boasts of such men as Jenner and Laennec; with a long roll of names deserving of record as men of consummate learning, extensive scientific attainments, unwearied industry, and practised acuteness, must continue imperfect, not from the fault of its members, but from its own inherent difficulty.

The real nature of the difficulties which attach to the study of medicine as a science will at once appear if we compare it with other sciences which have attained a great degree of accuracy. The physician, unlike the mathematician, is not the creator of his own science; unlike the astronomer, he has no simple

relations of matter to deal with; nor can he, like the chemist, make any two things which he examines counterparts of each other. The instruments which he uses are few as compared to the objects which he is called upon to examine; there is little place for experiment, comparatively few opportunities for accurate observation, and great obstacles to the use of numbers; and, above all, he possesses no numerical theory.

Having said thus much on the difficulties attending the study of medicine as a science, I may be expected to say something of the means by which these difficulties may be removed.

We all know that there is no royal road to knowledge, and that industry is the necessary condition of all scientific attainment. In no science is that quality more required than in the science of medicine, which is in all its parts one of observation. *Ars medica tota in observationibus*. Industrious observation, then, is the first requisite; but it must be observation, in the true, and not in the vulgar, sense of that word—not in the sense of a mere passive exercise of the senses, but as the union of thought and perception; of thought electing an object, maturing a plan, guarding against every source of error, inventing instruments, improving methods, arranging and classifying the facts collected, and lastly, submitting them to a searching analysis. The simple employment of the senses is not observation, nor is the frequent exercise of them experience; it is in the true sense of these terms that the one is the parent of the science, and the other of the art, of medicine.

We must employ a language, too, free from all ambiguity—the language of numbers—not as if it were a language peculiarly adapted to this or that science, and to no other, but as being the universal language of all knowledge which deserves the name of science; we must cease to argue about the numerical method (or, as it is incorrectly styled, medical statistics), as if there could be any doubt of its use in medicine, as in every other department of knowledge: above all, we must make the more perfect sciences models to our own; we must examine into the real cause of their superiority, and submit ourselves to the teaching of their example. We must cease to separate ourselves, as we have done too long, from the fellowship of other sciences, but must strive to renew and strengthen the tie which should bind all the sciences together, so that medicine may again become, as it is here, a part of philosophy.

It is not the least advantage of this college, as a place of scientific and practical teaching, that under one roof, and under the sacred sanction of one common principle, it has brought together every department of learning and science; and that whilst it can boast of having successfully prepared many a youthful mind for the spirit-stirring competition of our ancient universities, it can offer to them in return facilities for practical teaching, which can exist only amidst the busy haunts of men, and nowhere in such perfection as in the metropolis of a mighty empire.

We, the professors of the medical department of this college, feel it to be no common privilege to be associated in the great work of practical teaching with men who, by the skilful employment of the very methods which we know to be essential to the advancement of our science—the invention of accurate instruments, the institution of ingenious experiments, the patient exercise of observation, and the skilful use of numbers—have done so much to enlarge the boundaries of science, and to extend and confirm man's dominion over nature. Nor are we indifferent to the still greater privilege of being perpetually reminded, by the assertion of the great principle on which this college is founded, that man's mastery over nature is of infinitely inferior importance to his victory over himself, that without this all his learning may tend to no better purpose than to "blow up self-conceit and nourish pride," and his philosophy, with

all its enlightenment, still leave "a veil of midnight on his heart."

But it is not enough that we should, by seeking a closer union with other sciences, strive to profit by their example, and to obtain increased facility in using their methods; but we must ourselves aim at the formation of a more just estimate of the value of scientific researches, we must strive to reform the crude notions of the practical which would place it in a minute observation and tedious description of single cases, instead of in general truths, and general principles, and accurate standards of comparison. We must discourage that impatience which longs to turn to purposes of immediate utility the scientific researches, which, though stimulated by a love of truth and a laudable curiosity, were undertaken in the certain confidence that all truth is in its nature practical, and that if it have no immediate application to purposes of obvious utility, it tends to render other truths more fruitful, by removing out of their way the fallacies which would impede their growth. All improvements in the general and professional education of the medical man tend not only to the formation of this juster estimate of the value of scientific research, but to increase the number of those who, by rendering the science of medicine more certain, make the practice of the healing art more easy.

The length to which this lecture has already extended, and the space which I have devoted to an examination of the difficulties attending the study of medicine as a science, warn me to be very brief in my observations on the difficulties which beset the practice of medicine as an art. I the less regret this necessity, inasmuch as it is now universally admitted that medicine is a scientific and not an empiric art. It follows, therefore, that if the science be imperfect, the art must be difficult; and the nature of that difficulty will be readily seen if we retrace the process by which our scientific knowledge was obtained.

By observations made under circumstances of peculiar difficulty, on beings of whom each was different from his fellow, and on functions, and symptoms, and diseases varying within wide limits of intensity, with infinite labor and pains the unstable fabric of our knowledge has been built up. In applying this knowledge to individual cases we must, of necessity, encounter, over again, all the varieties from which our original results were obtained; and state these results as accurately as we will, using figures as our language, we shall have general rules and standards of comparison admitting only of the most general application to individual cases; so that much must ever be left to that individual experience and practical tact, which dies with its possessor, and which finds a place in the arts in exact proportion to the imperfection of the sciences on which they are founded.

If time had permitted, I should have alluded to the necessity imposed on the medical man of acting in most cases on the spot, without any possibility of referring to authorities to assist him in forming an opinion, or choosing a line of practice; and I should perhaps have expressed the natural regret which all medical men must feel, that the public should add to the necessary difficulties which lie in the way of the medical man, but especially of those who are young in the profession, by giving to the bold and reckless and ignorant empiric that confidence which they deny to the man of education and real experience. But I quit this tempting theme, and with it the subject of the difficulties attending the study and practice of medicine, in the hope that the few and imperfect observations which I have been led to make, may encourage every member of the profession to that industry by which alone the difficulties of so vast a science can be overcome.

A lecture devoted to a discussion of the difficulties attending the study and practice of medicine, though it may nerve the energetic and enterprising to the efforts by which such difficulties are overcome, may

perhaps leave in the minds of the less confident a feeling of doubt and anxiety, and throw a gloom over the commencement of their students. I have endeavoured to guard against this result by showing that, though the richest endowments of nature, and the best gifts of education and study are honored by being employed in the service of our science, yet average talent, backed by patient industry, will suffice to furnish the medical man with the knowledge and confidence necessary for the practice of his profession. But should any misgivings still linger in the mind of the student, I would lead him away from the contemplation of the difficulties to the more cheering view of the excellent nature of the profession on the studies of which he is about to enter. Is he fond of learning, he will find ample scope for the exercise of his memory; is he attached to scientific pursuits, there is scarcely a branch of science which does not figure in the programme of his early studies; is he doubtful of the real nature of his talents, and of the studies best adapted to his character, he will meet with so great a variety in his preparatory studies, and in the after practice of his profession, that he will find no difficulty in making an appropriate choice; or has he the high ambition of being useful to mankind, by adding to the existing stores of knowledge, he will nowhere find so wide and interesting a field for his exertions. Such is the provision made for the employment of the intellect. There is at least equal scope for the exercise of the social feelings. Does he wish to do good, what a wide field for the exercise of benevolence! Does he prize the gratitude, the good-will, and the friendship of his patients above the gold which pays him for his services, what an ample return of kindly feelings does he receive! Again, as regards his own self-improvement, how well adapted are all his studies and pursuits to that great purpose! The most perfect and wonderful of the works of nature, from which the natural theologian derives his most convincing proofs of the wisdom, power, and goodness of the Deity, forms his first and principal study. He examines its mechanical contrivances in death, he watches the play of its functions in life, he sees in how many instances it preserves and repairs itself, how admirably it is adapted to the external objects by which it is surrounded. But this is not all: he gleams from the daily exercise of his profession instruction denied to all others. He sees the punishment which follows sin, and falls on every form of intemperance; he sees virtuous habits rewarded, even in this life, by the blessing of health, and a considerable immunity from bodily suffering; he witnesses the agonies of conscience in the wicked, the calm yet humble self-approval of the good; life and death unite in teaching him lessons of religion, and his are the solemn and awful legacies of the grave. And yet, with all these moral and religious advantages, the members of the medical profession are thought to be peculiarly prone to infidelity.

It is difficult to say how or where this popular opinion took its rise; and it is certainly impossible to produce proof either for or against it. This at least we know, that mere intellectual culture, though carried to its highest point, offers no security against disbelief, and that in every department of science and literature striking examples of infidelity are to be found. The anatomist, as he explores the wonders of the human frame; the astronomer, as he traces the harmonious movements of the heavenly bodies; the historian, as he follows the course of time, and marks the rise and fall of nations—each in turn may be blind to the hand which formed and guides all material things, and to the will that determines the destinies of mankind: and, just as the astronomer can out-balance the name of Laplace with that of Newton, and the historian is at no loss to find great names among the believers in religion to place against those of a Hume or a Gibbon, so may the physician find, for every instance of disbelief, more than one bright example of humble and rational faith.

Leaving this question, as it must be left, undecided, I would merely state, that the general belief to which I have alluded is decidedly opposed to the spirit in which the best, the most learned, and the wisest men, whose names adorn our literature, have spoken of the members of our profession. One author, Pope, speaks of them as "the most amiable companions and the best friends, as well as the most learned men;" Dr. Johnson celebrates their "great liberality and dignity of sentiment, their prompt effusions of benevolence, their willingness to exert a lucrative art when there is no hope of lucre." Dr. Parr speaks of them as "the most enlightened professional persons in the whole circle of human arts and sciences;" and Cowper mentions by name the "virtuous and faithful Heberden," and

"A Cotton, whose humanity sheds rays,
Which make superior skill his second praise."

The character of the physician, thus rendered immortal in the undying literature of his country, is that which he bears at the present day. Foremost in every work of benevolence, forgetful of self, the undaunted and unwearied attendant at the bed of sickness, present at every scene of suffering, and absent from no labor of love, supporting our public charities by his purse and by his influence, and giving his time and the benefit of his experience to the poor with a distant and uncertain prospect of reward, he crowns all his claims to public gratitude by laboring with singular disinterestedness for the preservation of that health, the loss of which is the means of his own support and the very source of his professional income.

It is this latter attribute of the medical character on which every one who honors and loves his profession will dwell with most complacency, and it is this which emboldens me to close my lecture with a brief allusion to the most interesting and important topic of the day—the public health.

There is a right, Gentlemen, second only to that which no Englishman can think or speak of without a glow of exultation—a right which England has proclaimed as the law of her wide empire, purchased with her wealth, promoted at the cost of the lives of her bravest citizens, advocated by her diplomacy, and enforced wherever her own strong arm could reach—the right of every man, whatever may be his country or his color, to the enjoyment of personal freedom—I say there is a right second only to this, far above all political and conventional rights, but rarely recognised and never yet openly asserted—the right of every man to breathe the pure air, and to enjoy the fair light of heaven; to live as long, and enjoy, whilst he lives, as much health as is consistent with the frailty of his frame, and the curse, so rarely in the case of the poor man changed into a blessing, that by the sweat of his brow he should earn his bread. If health be a blessing, if without it all other blessings, even freedom itself, are valueless, surely it must be a right too, and it must be the first duty of a government to take care that its poorer subjects are not robbed of this blessed right by avarice, or negligence, or even by their own depraved choice.

It has now been proved almost to a demonstration, that the pestilential diseases which are raging through the length and breadth of the land, in the rural village no less than in the crowded city, which destroy annually more lives than this country has lost in her bloodiest wars, which make the fourth part of the labourer's life the prey of sickness, and shorten it by about the same fraction of its probable duration:—it has been proved that these pestilential diseases may be banished by the simplest means, and at an expense much less than the cost which they entail upon the public—the cost of fever and small-pox hospitals, and workhouse infirmaries, and pauper burials, and widows, and orphans, and cripples, the helpless victims of private avarice and public negligence. Such are the brighter tints of a picture of which no words can paint the shadows. The soul sickens, and the mind recoils with horror at

the moral degradation which springs, like a twin monster, from the fruitful source of all this physical suffering. Can such things be permitted in a country which has made such sacrifices for liberty? Surely it is slavery of the most abject kind to be shut up from the light of heaven, surrounded by filth and corruption, and to be placed in circumstances where sin is as hard to be avoided as disease itself.

These things cannot last; but if we remain deaf to the loud cry of suffering poverty, then shall poverty itself, by the very law of its nature, become its own avenger; for the offspring of those condemned to all this complicated misery shall become a spreading plague; the old and the middle-aged, those who have lived long enough to love peace, and to know the value of delusive promises, shall cease from among our laboring population, and those who give stability to society and strength to governments, shall be replaced by the young, the inexperienced, the turbulent, and the disaffected. These things, too, are matters, if not of demonstration, at least of the strongest inference. Let us hope, then, that the time is not far distant when these evils will be redressed; when the wide and open street, the well-drained city, the spacious and airy cottage, and, above all, a healthy and robust population, shall be the chosen trophies of our civilisation, and the proudest monuments of our humanity. Let England, proud of her warlike deeds, no less than of her peaceful triumphs, the liberator of Europe from the tyranny of a conqueror, and of the whole world from the intellectual bondage of ages, who boasts the first and foremost men in every science, and the most skilful in every art, when she rehearses her immortal names, remember that not the least among them is that of Jenner; and let the success which has attended the imperfect application of his immortal discovery encourage her to enter upon that great work of mercy which shall end in chasing pestilence from our shores. In this labor of love, in this great work of physical and moral regeneration, she will have the earnest and cordial support of that profession which is ever active where good is to be done, and makes it her proudest boast that all her works are works of mercy.

DIAGNOSIS OF INDIAN AND ENGLISH CHOLERA.

TO THE EDITORS OF THE PROVINCIAL MEDICAL JOURNAL.

GENTLEMEN,—It was with much surprise I learned from the "Provincial Medical Journal" of 27th August, that that most dire of human pestilences—Asiatic cholera—had made its appearance in Poole; and, to add to the alarm that such an announcement was calculated to occasion, a second case of that terrific disorder is reported in the Journal of the following week.

In common with most other places and neighbourhoods, instances of disease, the offspring of functional disturbance of the liver, and chylipoietic organs generally, have been of late frequent here. In my practice, diarrhoea of a more than ordinary severity constituted the majority of these cases; and I have had several patients whose complaints exhibited striking examples of that well-known disease, English cholera. An epidemic of this kind might reasonably have been expected, as the result of the long-continued high temperature, for which the late summer has been so remarkable; and to this its acknowledged efficient cause it is, no doubt, to be ascribed. I have no desire to impugn the correctness of your very respectable correspondent's observation; but as the diagnosis of these diseases is of immense importance to the

public, I take the liberty, by a few brief remarks, to direct the attention of your numerous readers to those distinctive differences which severally characterise the English cholera and the pestilential cholera of the East.

To whatever cause or causes cholera may owe its origin, the English variety is almost invariably found to occur towards the end of summer or the beginning of autumn, and in severity is commensurate with the previous heat of the weather, whilst the Asiatic cholera prevails at all seasons of the year, and in its late visit to this country proved remarkably fatal in the winter. In Gateshead alone, from the 25th of December to the 3rd of February, there were 142 deaths.

Purging, vomiting, tormina, and spasms of the limbs, are symptoms common to the two disorders; but a distinction has been drawn from the qualities of the matters discharged from the stomach and bowels.

Cullen describes the English disease as marked by a purging and vomiting of a bilious fluid, whilst the Asiatic cholera is said to be equally distinguished by evacuations resembling rice-water. It is, I think, clear in this, as in many other instances of similar nature, that a too rigid adherence to nosological arrangement may lead us into error; for, as Dr. James Johnson very sensibly observes, "When the bile has been washed out from the alimentary tube, the discharges will necessarily be colorless." Even Cullen says, the matter evacuated is not always bilious; therefore this sign must be allowed to be somewhat equivocal.

With respect to the spasms of the muscles of the extremities, those of the hands and feet are more affected in the Asiatic cholera than in that which is common to this country. I remember distinctly the case of an old man who died of the Asiatic cholera in the epidemic of 1831-2, whose tendon of the extensor longus pollicis pedis was by the spasm of its muscle kept tight, like the string of a bow, for a long period before his death. The blue color of the skin, which was so striking a feature of the pestilence which occurred during that period, not being mentioned by authors as a symptom of English cholera, might be looked upon as a sign of considerable importance; but those who have had much clinical experience will find little difficulty in calling to their mind a variety of cases, even apart from those of pulmonary congestion, where the vital powers have suffered great depression, in which a remarkable blueness of the surface has been noticed. In the cold fit of ague this condition of the skin is by no means uncommon. I have myself been particularly struck with it in some cases of fatal puerperal peritonitis; any causes, indeed, producing great general debility of the capillary vessels, with a feeble action of the central organ of the circulation, might give rise to these appearances by unduly retaining the carbonaceous matter in the blood. Therefore I should say that blueness of the skin, even arising concurrently with colorless dejections, is not necessarily pathognomonic of Asiatic cholera. But there are some local peculiarities of color on which more dependence may be placed; I refer here to the blueness about the mouth and the deep blue areola around the eyes. But the symptoms belonging to the early stage of Indian cholera most to be relied upon are—a remarkable shrinking or shrivelling up of the person,