

Introductory lectures and addresses, on medical subjects : delivered chiefly before the medical classes of the University of Pennsylvania / by George B. Wood.

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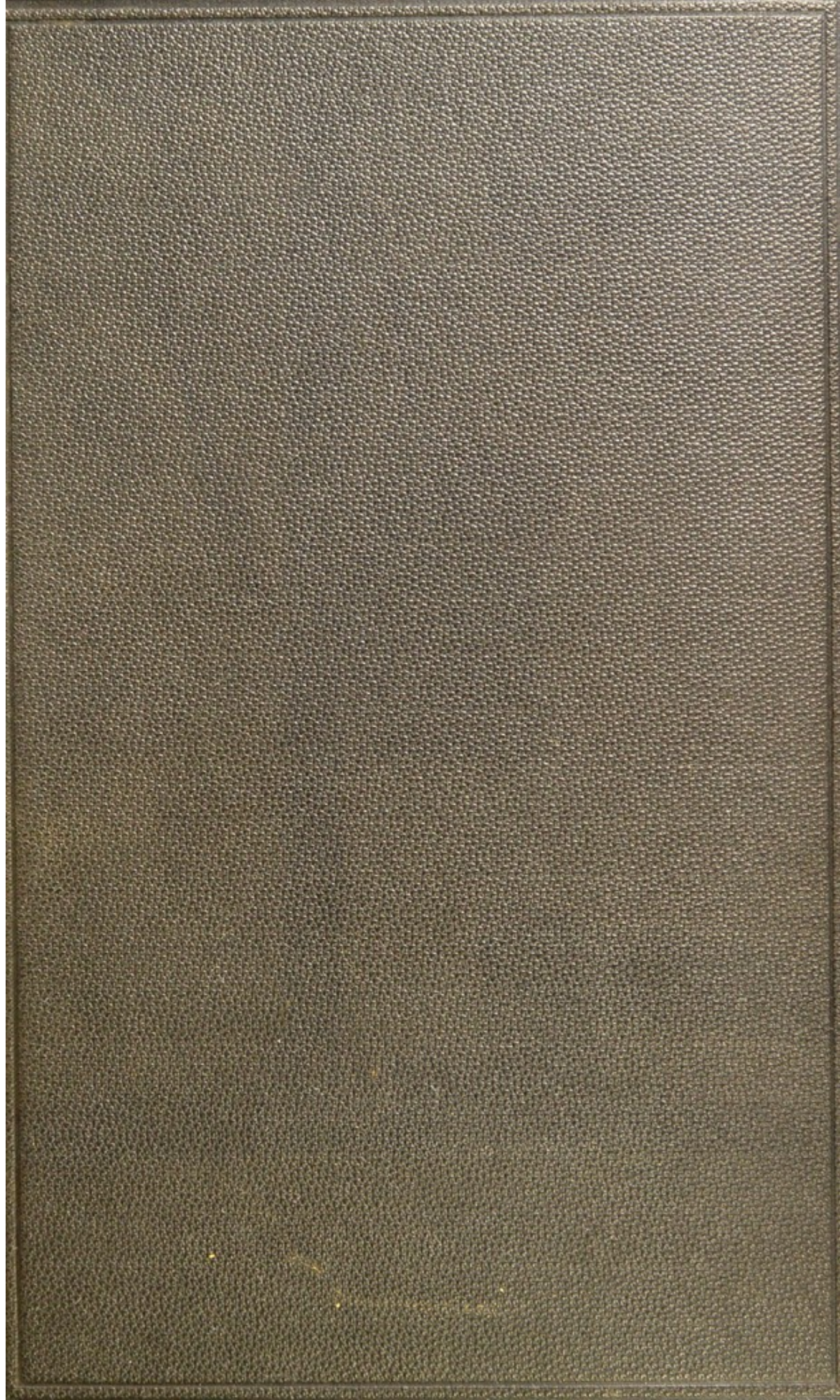
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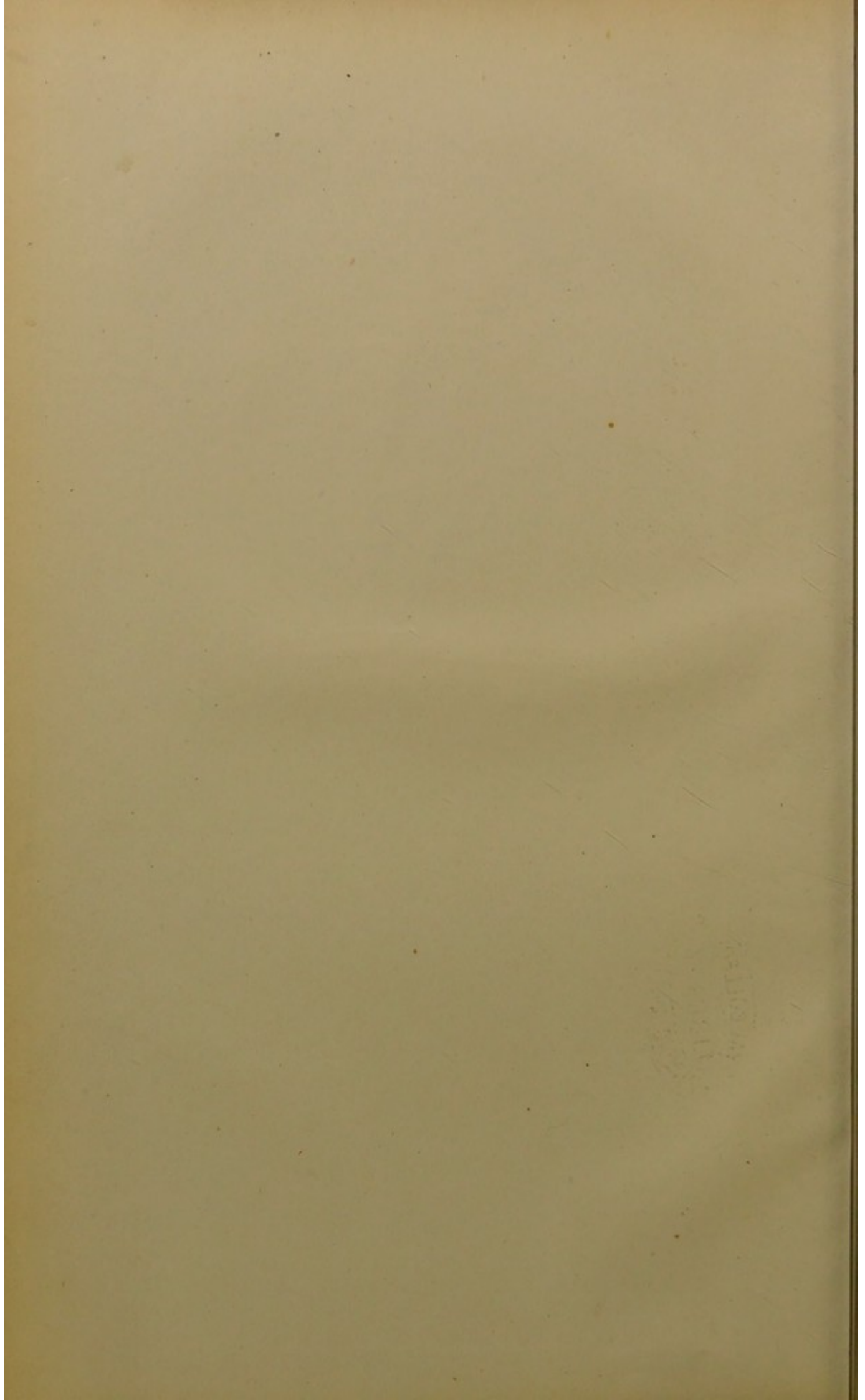


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INTRODUCTORY LECTURES
AND
ADDRESSES,
ON
MEDICAL SUBJECTS,
DELIVERED
CHIEFLY BEFORE THE MEDICAL CLASSES
OF THE
UNIVERSITY OF PENNSYLVANIA,

BY
GEORGE B. WOOD, M.D., LL.D.,

PRESIDENT OF THE AMERICAN PHILOSOPHICAL SOCIETY; PRESIDENT OF THE COLLEGE OF PHYSICIANS
OF PHILADELPHIA; EMERITUS PROFESSOR OF THE THEORY AND PRACTICE OF MEDICINE,
AND OF CLINICAL MEDICINE, IN THE UNIVERSITY OF PENNSYLVANIA, ETC.

SECOND EDITION.

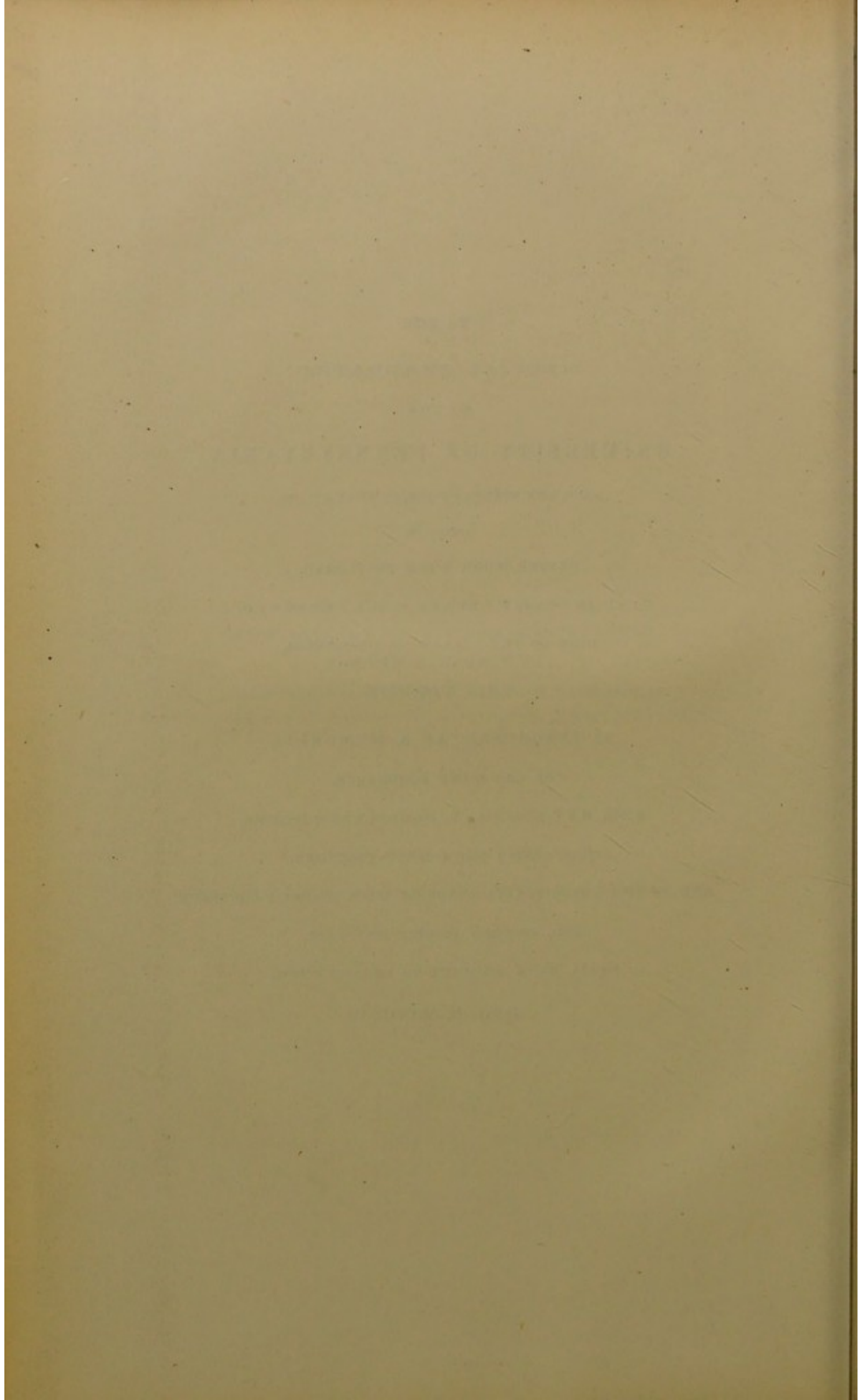
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1872.



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TO THE
MEDICAL GRADUATES
OF THE
UNIVERSITY OF PENNSYLVANIA,
FROM THE SPRING OF 1836 TO THAT OF 1860,
INCLUSIVE,
BEFORE WHOM WERE DELIVERED,
AND IN WHOSE BEHALF WERE PREPARED,
MOST OF THE FOLLOWING DISCOURSES,
THIS VOLUME
IS INSCRIBED, AS A MEMORIAL
OF THE MANY AGREEABLE,
AND, MAY I NOT SAY, PROFITABLE HOURS,
THEY AND I HAVE SPENT TOGETHER,
AND OF THE AFFECTIONATE INTEREST WITH WHICH I CONTINUE,
AND, SO LONG AS LIFE MAY LAST,
SHALL EVER CONTINUE TO REGARD THEM.

GEO. B. WOOD.



PREFACE.

BEING about to withdraw from scholastic medical teaching, the author conceives that this may be a proper occasion for publishing, in a connected form, the introductory lectures and addresses, relating to medicine, which he has at various times delivered. Most of them have been already printed separately by the several classes or societies before whom they were respectively read; but some of them now appear in print for the first time. Representing, as they do, the views and sentiments of one long devoted to the medical profession, and compelled, by the necessities of his position, to observe, investigate, and reflect upon the concerns of that profession in all its different relations, scientific, practical, ethical, and historical, they can scarcely fail to contain lessons, which may be more or less useful to the student and young practitioner. This consideration may, perhaps, be received as a sufficient excuse for their publication; but the author confesses that he has also other views. He wishes to bring himself again to the memory of the many physicians, some of them now no longer young, who have listened to his instructions during their years of pupilage, and to leave with them a memento, by which, when he shall be no more personally among them, they may now and then recall him to mind, with kindly recollections of former intercourse.

Though the subjects are in a greater or less degree discursive, yet the discourses are so related among themselves, that they may be divided into groups, each having a certain unity of character or pur-

pose; and the reader will notice that they have been thus arranged in the following collection. The author has occasionally added foot-notes, when the lapse of years since their delivery has been attended with changes, which render the statements in the text not applicable to the present time, and when misapprehensions might occur without such a precaution. He has only further to observe that all the discourses have a medical bearing, that most of them were delivered to audiences exclusively medical, and that, consequently, they are especially addressed to the sympathies and wants of his own profession. In this light he wishes them to be viewed; and, should others than those for whom they are intended happen to glance over them, he hopes they may bear in mind that objects look very differently according to the medium through which they are seen, and thus be disposed, if the tints be not always such as are most natural and agreeable to their eyes, to ascribe the result, in some measure at least, to this cause. Of the friendly dispositions of his professional brethren he has received too many proofs, to allow him to have any misgivings on this score; and he, therefore, trusts the book to the tribunal of their opinion, with every confidence that it will be kindly judged.

PHILADELPHIA, December 21st, 1859.

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PHARMACEUTICAL ADDRESSES.

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I.

ADDRESS TO THE MEMBERS OF THE COLLEGE OF PHARMACY.

DELIVERED NOVEMBER 16TH, 1824.

Prefatory Remarks.

THE following address was delivered in the interests of the Philadelphia College of Pharmacy, then a very young institution, and standing much in need of support. The College was founded in 1821, and immediately established a school, in which lectures were delivered on chemistry and materia medica during the winter. In the following year it was incorporated; and the Trustees did me the honour to elect me to the professorship of chemistry, on which subject I had previously been lecturing to a class of medical students. The institution languished at first; and it was in order to excite attention to its importance, and rouse the zeal of the druggists and pharmacutists of the city in its favour, that this address was prepared. It has been among the highest gratifications of my life, that I was able to contribute towards the expansion and permanent success of a school, which has been productive of much good, which is still in prosperous operation, and the establishment of which may be considered as the commencement of a new era in the pharmacy of the United States.

THE ADDRESS.

GENTLEMEN OF THE COLLEGE:—

It may appear singular that an individual, not immediately connected with your profession, should so far interest himself in its concerns, as to request your attention to a discourse, the chief object of which is the promotion of your welfare. To escape the charge of officiousness, which might, with apparent propriety, be brought against me, it becomes necessary to preface the observations I wish to offer, by a statement of my motives for offering them.

The professions of medicine and pharmacy, though, in practice, they should always, if possible, be entirely distinct, have nevertheless a mutual dependence so complete, that the excellence and usefulness of the one are materially affected by any deficiency in the other. Physicians, however versed in the nature of disease and skilful in its management, will inevitably meet with failures and disappointments, if supplied by the apothecary with inefficient medicines. As a medical practitioner, therefore, I cannot but feel a strong interest in the profession to which you are attached, and am bound to contribute, as much as lies within my power, to its improvement in resources, and advancement in respectability; for in proportion to the real standing of an apothecary in knowledge and character, will be the confidence with which we can rely on the efficacy of his preparations.

Still it may be said, that any interference in your affairs would have come with better grace, and much stronger probability of success, from some other physician, whose more advanced age,

and better established character, might give him a more indisputable claim to your attention. But, waving the consideration that no one, with such qualifications, has yet come forward so decidedly, I may perhaps be allowed to urge, as an excuse for the course I have adopted, the situation to which the partial suffrages of no inconsiderable number of your body have appointed me, in the institution within whose walls I now address you. As one of the teachers in the College of Pharmacy, anxious for its prosperity, because regarding it as the source of great advantages to both professions, and to the community in general, I feel confident that you will not attribute my present proceeding to improper motives; either to a meddling disposition, or a vain love of display.

Before entering on the main subject of the discourse, it may not be improper, in a few words, to indicate the standard, both of attainment and character, at which every apothecary should aim. That he should have received a good general education, is necessarily implied in his acknowledged title to the rank of a gentleman. An acquaintance, to a certain extent, with the Latin language is indispensable; for, without it, he would be utterly at a loss to understand the simplest medical prescription, and might often commit mistakes, the consequences of which might be irremediable, as regards both the health of the patient and his own reputation. Equally essential is an accurate knowledge of the two extensive sciences of chemistry and materia medica. Whether in the preparation of his own medicines, or in the formation of a correct judgment relative to the strength and purity of those he procures from others, the assistance which these sciences afford is of the greatest importance; for the principles of the one are intimately concerned in every pharmaceutical operation, and an account of the sensible properties of drugs, with their effects upon the system, constitutes the very essence of the other. Botany and mineralogy, though of less importance,

will, however, serve to enlarge his fund of useful knowledge, and procure him a profitable reputation; while, by the facility they give to his researches in the two great kingdoms of vegetable and mineral nature, they will be found highly serviceable in his professional pursuits.

But the possession of this knowledge is by no means sufficient. The apothecary is eminently a practical man. Having accumulated a sufficient store of science, he must familiarize himself with the various modes of applying it. To become perfectly acquainted with all the manipulations of pharmaceutical processes; to acquire that accuracy of observation which shall render the evidence of his senses certain, and a mistake as to the nature of articles submitted to his inspection next to impossible; to be able, amidst the bustle of business, to dispense his medicines neatly, and without the least variation from the formula prescribed; these attainments, which are essential to merited success, require a long devotion of time, and a close attention to the practical duties of his profession. They require that he should have served a diligent apprenticeship to his art, under the direction of some competent instructor, and in a situation where opportunities for practice are constantly afforded.

Still, however, something is wanting to the perfection of his character. Knowledge and practical skill must serve as the main spring of his actions; but these are insufficient without the regulating influence of correct principles. The temptation to dishonest practices is strong in proportion to their apparent advantages, and their difficulty of detection; and the degree of their criminality may be considered as commensurate with the evil they are calculated to produce. These conditions are peculiarly incident to the profession of pharmacy; for spurious or adulterated drugs must afford immense profit in their sale, and but a small proportion of purchasers are able to judge of their efficacy; while the injury which must result from their

employment, can be measured only by the value we attach to our health and our existence. Thus strongly tempted, and thus guilty when yielding to temptation, the apothecary is especially called on to cultivate his moral sense; to cherish in his mind correct and virtuous sentiments; and to watch, with peculiar care, that his conduct accord with the dictates of his conscience.

Such as I have described to you is the truly accomplished apothecary; a man of general information, of literature, of science; intimately acquainted with the principles, and skilful in the practice of his peculiar art; upright and honourable in his dealings; a man whom all who know him must esteem, and who will necessarily hold a most respectable station in every community, where rank is at all the criterion or the reward of merit. As a profession is generally exalted in proportion to the reputation of its members, such a man will elevate with himself the whole body to which he belongs. How grateful to the best feelings of his nature, must be the consciousness of this truth! how powerful and honourable the motive which it offers to strong and continued exertion for individual improvement!

But such is the constitution of human nature, that whatever, even with a view to our own good, calls upon us to overcome our habits of negligence, and natural indisposition to labour, unless the advantages to be derived are manifest and immediate, is apt to appear chimerical in our eyes, the result of wild speculation, not of sober reflection;—or, even if the propriety of the call be undisputed, we are too often inclined to prefer present ease and gratification, to an obedience which would involve us in much painful exertion and self-denial.

I am sure you would accuse me of a base attempt at adulation, were I to exempt the members of the pharmaceutical profession from this general reproach. Though the apothecaries of Philadelphia have certainly outstripped those of any other part of the American continent in the race of improvement; yet even here,

the most partial of us will allow, that the goal is far distant. Instances are not wanting of extensive general information, and great scientific attainment; and the reputation of the profession for knowledge, skill, and character is highly respectable: but a wider diffusion, and more accurate knowledge of those sciences to which I have before alluded, will be admitted to be desirable; and greater skill and strictness in the practical management, by insuring to the purchaser the best possible preparations, and to the physician an exact compliance with his directions, will have a most beneficial influence on the general credit of the art, and the private advantage of its members. It becomes, therefore, a matter of no little importance, to discover and adopt some comprehensive system, by which, at the same time, stronger motives and more extensive means of improvement shall be afforded to the student, and a controlling and regulating influence exerted over the whole profession.

A strong and general sense of the usefulness, if not the necessity, of such a system, has already induced the apothecaries of this city, with a spirit which does them honour, to unite their exertions for the establishment of a college;—the first attempt of the kind made on this side of the Atlantic. That an institution of this nature, properly regulated and supported, is calculated to contribute greatly to the attainment of the ends proposed, will be admitted by all who can be induced to examine the subject coolly, and with candour. My principal object, in the present address, is to call your attention to the College already established. Most of you are not ignorant that it stands in need of assistance; and, if I should be so fortunate as to impress you with a conviction, that great advantages must result from its successful operation, and that your honour as a body would suffer by its fall, I am confident that your zealous efforts will not be wanting, to augment its strength, and infuse increased vigour into its movements.

It has long been a well-established principle, that in all attempts to ameliorate the condition, extend the information, or exalt the character of large bodies of men, the greatest success may be expected from those efforts which are directed to the rising generation. The habits and opinions engrafted upon us in early life, and at first but feebly attached, become, as we advance in years, more and more closely united with our thoughts and affections, till at length they seem to form a portion of ourselves, and to be almost identified with our existence. They may indeed sometimes be torn away, as a limb may be torn from the body; but the whole mental constitution will be agitated to the centre, and any substitute which may be supplied, will seldom be characterized by the strength and symmetry of a natural growth. Besides, there is, in age, a great want of spirit and enterprise. The mind has settled down into consistency and firmness; but its elasticity is gone. New projects, even though their utility may be undisputed, as they require vigorous exertion, are received with coolness, and treated with neglect. Youth, on the contrary, while it is open to correct impressions, possesses also that vivacity of spirit which leads it to despise difficulties, and that energy of action which enables it to overcome them.

In aiming, therefore, at the improvement of your profession, your eyes should be especially directed to those who are yet in their state of preparation. In a few years they will constitute the majority of your number, and will give the tone of their own character to the whole fraternity. Make them scientific, skilful, honest, enlightened apothecaries, and you will have done more than could be effected by any other means, towards the advancement of your art in respectability and importance. For the accomplishment of this purpose, I know of no instrument so effectual as a collegiate institution, properly organized and supported.

To give full efficiency to such an institution, two great objects

should always be held in view ; the one, to provide competent means of instruction, the other to offer such inducements to the student as shall overcome his natural love of ease, and dispose him to the full exertion of his faculties.

The first of these objects is most readily attainable by the establishment of lectureships, with the auxiliary aid of a good cabinet of specimens, and a well-selected library. Universal experience has adopted the mode of instruction by lectures, as decidedly the most appropriate for conveying scientific information. The solitary student, who pursues his inquiries unassisted by those better informed than himself, meets with a thousand impediments, which, if they do not totally discourage him, will materially retard his progress. Almost all works of science contain much that is of little comparative importance, which, however, as the learner is unable to exercise proper discrimination, he feels himself bound to load upon his memory, equally with that which is most essential. In this way much time is lost ; and facts most deserving of remembrance, being mingled and diluted with trifling matters, and useless speculation, make a less vivid and lasting impression on the mind. There are, moreover, other disadvantages which attend the unassisted student. In the commencement of his studies, he will often encounter passages that are to him totally unintelligible, because they suppose a degree of knowledge which he has not yet attained ; and throughout his whole course, the description of unknown substances, and the history of phenomena with which he is not familiar, as they are unaided by the evidence of his senses, will present to his mind inadequate or erroneous conceptions. A competent lecturer will have it in his power to obviate these difficulties. From a great mass of materials, he may select all such as bear most immediately on the particular subject of his lecture, rejecting what is of little or no interest or practical utility, and placing in a prominent point of view those facts most

essential to the learner. Whenever any difficulty occurs, he may enter into familiar explanations adapted to the capacity of the most uninformed of his hearers. He may draw from every source appropriate illustrations, and, without losing sight of the main design of his course, may endeavour to attract and fix the attention by just and pleasing reflections, entertaining anecdotes, and the beauties of an easy and spirited style. In the experimental sciences, the lecturer has the additional advantage of illustrating facts, and enlivening their detail, by the actual exhibition of interesting phenomena, which, by placing the objects of his attention immediately before the senses of the learner, renders the impression they make both more exact and permanent.

There can be little difficulty in deciding upon the most appropriate lectureships in a school of pharmacy. Those sciences should be taught which I have before mentioned as either essential or highly useful to the apothecary; and materia medica and chemistry, being exceedingly copious, will each afford abundant occupation for the time and talents of one individual. To these two lectureships might be added another on botany and mineralogy, which, being less important, and requiring, as regards the apothecary, less minuteness of detail, might readily be united without imposing too heavy a burden on the lecturer.

I have mentioned, among the advantages of a collegiate establishment, the facility which a good library and cabinet of specimens will afford to the student, in extending his knowledge, and forming an accurate acquaintance with the materials of his business. On this head I need not enlarge. Their utility is too obvious to need illustration; and I am happy to be informed that, in our own College, no inconsiderable exertions have been made for their attainment.

Professorships on the two most important pharmaceutical sciences have also been instituted, and regular courses of lectures

on chemistry and materia medica have been delivered for the last three winters. It would give me great pleasure to be able to tell you, that this department of the College is in an equally flourishing condition; but most of you are aware that such an assertion would be an empty boast. The fact is, that, during the last winter more especially, the labours of the lecturers were rewarded by little more than the consciousness that their own share of the necessary duties had not been entirely neglected. The slender expenses incident to the chemical course absorbed, within a very trifling sum, the whole receipts from the students of pharmacy; and the lecturer was denied the pleasure he himself would have derived from the exhibition of more numerous experiments, by the apprehension of actual private loss. He might, indeed, be disposed to attribute this want of encouragement to his own imperfections as a lecturer; but surely the same reason could not be assigned for an almost equal desertion of his colleague. The lectures of the professor* of materia medica have never been accused of deficiency, either as to the value of the knowledge they inculcate, or as to the manner in which that knowledge is conveyed. We must, therefore, look to another source for at least a portion of this neglect; and may we not find it in the apathy of a great majority of the members of the College? Considering it a probable circumstance that this apathy may have arisen, in some degree, from an imperfect appreciation of the importance to an apothecary of an acquaintance with the sciences alluded to, or at least from a belief that a sufficient knowledge of them could readily be attained by private and industrious study, I attempted, early in the discourse, to impress you with the conviction of their great utility, and subsequently to exhibit the superior advantages of the mode of in-

* Dr. Samuel Jackson, now Emeritus Professor of the Institutes of Medicine in the University of Pennsylvania.

struction by lectures. How far the attempt has proved successful, you are certainly the most competent to decide.

It may, indeed, be urged, that even allowing the great importance to the student of the opportunities which the lectures afford him, still, as no immediate profit can accrue to those at present established in business, they cannot be expected to incur much expense, either of time or money, for their maintenance. But supposing, for a moment, that this department of the College can be productive of advantage only to the future apothecary; are there no other motives than the mere prospect of pecuniary profit which can excite a man to action? Are we not under a strong moral obligation, to provide for those committed to our care the most ample means of instruction in the art we profess to teach them; and are we not, in some measure, answerable for the evils which must result from their deficiencies? Can we feel no gratification in contributing to exalt the character, and brighten the prospects of our younger brethren by profession; and thus giving to the profession itself an increase of consequence and respectability? When, moreover, we have introduced ourselves to the notice and applause of the world, by originating a project, noble in its objects, and calculated to produce the most beneficial results, is there no disgrace in abandoning it without an effort? in allowing it to perish from neglect in the very infancy of its existence? Are not these considerations alone sufficient to counterbalance the pain and inconvenience of a little exertion, or a trifling pecuniary sacrifice? I am confident that you feel them so. I am satisfied there are very few among you, who would not willingly contribute, to any reasonable extent, towards the attainment of objects so praiseworthy in themselves, and so closely connected with your own honour.

It may justly be expected, that, while I am thus calling for your active interference in support of the school you have established, I should also indicate the path in which your efforts may be most

successfully directed. At present, I allude only to the lectures. You will admit them to be an essential part of the institution; and you are aware that, without further support than they have hitherto obtained, they must either be entirely abandoned, or drag on a feeble, languid, and almost useless existence. The question then is, in what way can assistance be most conveniently and effectually afforded. Extensive pecuniary contributions, though a powerful agent of improvement, cannot, in the present instance, be justly demanded. The profession of pharmacy, like that of medicine, abounds more in honour than in profit. I know what it is to feel a spirit of enterprise cramped by the narrow bounds of a slender income; to find all the resources which industry can supply, absorbed by the necessities of daily support. There are other methods by which the desired end may be more conveniently attained. Within the limits of Philadelphia, the number of young men who annually engage as apprentices to the apothecary's business is certainly sufficient, if their attendance upon the lectures could be secured, to afford the lecturers a compensation, not indeed very ample, but such as might at least prevent the discouraging reflection, that their labours, as regards themselves, are totally fruitless. To these your efforts should be directed. Your relation with them is of such a nature, that your opinions must be highly respected, and your advice influential. Endeavour to impress them with the belief, that their own reputation and consequent success will be essentially promoted by a diligent cultivation of the opportunities afforded by the lectures; represent to them that no policy is more absurd, than, from the fear of incurring a slight expense, to build on an insecure foundation; and that a small sum, appropriated to the enlargement of their professional knowledge, will yield, in the future prosecution of their business, a most ample interest. Lay before them the prospect, so attractive to the ambitious and generous spirit of youth, of contributing by their labours for self-improvement, to

elevate the dignity, and augment the influence of their art; and, having thus addressed yourselves to their interest and honour, appeal also to their sense of duty, by inculcating their strong moral obligation to enter fully prepared upon a business, in which it is easy to err, but difficult and often impossible to retrieve the consequences of error.

Thus far, your efforts are individual and private. You may also contribute much to the prosperity of the school, by engrafting upon it such regulations as shall offer strong motives to the young apothecary to come forward, and avail himself of its advantages. This brings us to the consideration of the *second object*, which I before stated to be essential in the institution of a school of pharmacy.

In all great seminaries of learning and science, it is a practice sanctioned by the experience of centuries, to reward, by some public testimonial of approbation, those students, whose industrious application and correct deportment have given satisfaction to their instructors. The hope of distinction is, perhaps, the strongest passion of the youthful mind; and even that honour, which an ordinary degree in the arts confers, is sought after with an ardour and perseverance, which they who have forgotten the feelings of their earlier years can seldom fully appreciate. Of the thousands whom the prospect of such an honour has attracted into the paths of study, many have subsequently attained to great literary or scientific eminence, who, in all probability, without this original motive, would have passed through a life of contented ignorance. Of this principle in human nature, wise men will always avail themselves in their plans for its improvement. They will not only open the doors of knowledge to the young; but will entice them to enter by the prospect of those trophies which exert so strong an influence over their imagination. The power of conferring degrees, attached to all collegiate institutions, may be considered almost

an essential part of their constitution ; and the practice is certainly essential, as a general rule, to their successful operation. The School of Pharmacy cannot be regarded as an exception. I do not think I am going too far when I say, that it will never flourish until this practice is adopted.

To the young apothecary, a degree from the College would be desirable, not only as an honour, but also as an effective instrument for the promotion of his success in business. When the public are generally informed, as they some time undoubtedly will be, of the nature and designs of the institution, it cannot but happen that a preference will be shown for those, to whose knowledge and skill its testimonial can be advanced ; and, at some future period, a degree in pharmacy may be as indispensable to the apothecary, as that in medicine now is to the physician. In order, however, that the degree may have the greatest possible weight in the opinions of men, it should never be conferred on the student, till he shall have passed through a certain course of study and practice united, and, by an examination before competent judges, shall have shown himself worthy of the honour. It should, moreover, be confined to those whose moral character is unexceptionable.

The honour and advantage which I have hitherto stated as likely to accrue to the student from the adoption of this plan, are calculated strongly to attract his attention to the College, and to entice him within its walls. Another very important result will be the promotion of increased diligence in his studies, and carefulness in his conduct, and consequently, his essential advancement in knowledge and respectability of character. They only can estimate the influence which the prospect of being submitted to a formal scrutiny, preparatory to the attainment of a highly prized honour, will always exert over the young expectant, who are able to revert to their own feelings under similar circumstances. It has fallen to my lot to experience in myself,

and to witness in others, strong proofs that the influence is powerful. Motives which have their origin in remote consequences, though these may be of the utmost importance, are generally less successful in rousing us to exertion, than others, which though comparatively trifling in their nature, are much more immediate in their action. It would seem as if mind and matter obeyed the same law of attraction; the nearer the attracting body, the more energetic is its influence. We all know that a slight temptation will lead us into error, though the ultimate consequences may be incalculably injurious. I shall not, therefore, be thought at variance with nature, when I advance the opinion, that, among the students of medicine, even those whose sentiments of honour are most lofty and determined, the necessity of due preparation for the trial which is to test their claims to a degree, has often proved a stronger incentive to active and persevering study, than all the considerations of future good or evil in the practice of their profession. The same effects must result from a similar cause among the students of pharmacy; and it follows, therefore, that, while you contribute to the welfare of the College by the adoption of the plan recommended, you will also accomplish, what is perhaps of still higher importance, a much greater individual improvement among those who are hereafter to constitute the profession, than would result from their own unstimulated efforts.

Hitherto, my observations have been confined to the College as a school of pharmacy. The improvement of your art has been contemplated, not through any direct alteration in its present state, but by the slow and gradual, though, in the end, effectual operation of a well conducted professional education. In calling for your support, I have addressed myself much less to your personal interest than to your moral sense, and your feelings of generosity and benevolence. But must we look altogether to the distant future for any favourable change? Can no

regulations be devised, the beneficial influence of which shall be speedily experienced? Before the close of this address I hope to prove, not only that such regulations are not impracticable, but that the College of Pharmacy affords you the most ample means of carrying them into effect.

In every business, the entrance into which is open indiscriminately to all, a number of individuals will invariably be found, whose eagerness in the acquisition of wealth is never regulated by principles of honour and morality. Money is their god; the pursuit of gain is their religion; honour, honesty, benevolence, even the safety of their own souls, are the sacrifices they are ever ready to offer. It is, therefore, by no means a matter of surprise, that, in the business of the apothecary, where, as I have before observed, the profit from dishonest practices is often great, and their detection difficult, there should prevail, to no inconsiderable extent, a custom of adulterating drugs, and of selling as genuine many articles which are either entirely spurious, or inefficient from age, accident, or defect in their original preparation. Though the apothecaries of Philadelphia are as little concerned in such practices as perhaps any similar body in the world, yet instances of the most criminal adulteration are known to have occurred; and, with regard to some important medicines, the complaint of their inefficiency has been but too general and well founded. It is needless for me to reiterate an account of the evils which must result to the community from such dishonest conduct: upon your whole class, upon the art itself, it is calculated to have the most injurious influence. An individual apothecary, by supplying adulterated or spurious drugs, is enabled to undersell his honest neighbours, acquires a credit he does not deserve, and thus attracts to himself the public patronage. A small degree of management is sufficient to secure him, at least with the great mass of his customers, from the danger of detection; and, even if his fellow-dealers should be aware of

his conduct, their complaints would be considered as the result of envy at his success, and regret for their own inferiority. Either to lose their livelihood, or to cope with him by the employment of similar means, becomes their only alternative; and, to a certain extent, the practice of adulteration is rendered common, inferior or useless medicines are universally sold, and, what was at first considered a most criminal procedure, comes to be regarded in the light of a necessary evil. The baneful effects are at length experienced by the people and their physicians; all confidence is lost in the general honesty and competence of the profession; and its character suffers, in the public opinion, that degradation which it had long in reality undergone. Even supposing the evil to have become much less extensive, still, a general distrust will prevail; and the sick, unable to depend on their own judgment, will rely implicitly on the recommendation of their medical attendants. The current of patronage will thus, in all probability, be directed to a few prominent individuals, with whose character for honesty and skill the physician may happen to be acquainted; while many others equally meritorious, but more obscure, must continue to languish on in neglect and poverty. It is evidently, therefore, your interest to eradicate this evil on its first appearance; before it shall have had time to strike its roots so deeply, or shoot forth its branches so vigorously, as to resist your utmost efforts for its destruction. In what way can this object be so conveniently accomplished as by the interposition of your representatives, the Trustees of the College, in their official capacity? As the depository of your interests, they will feel themselves bound to be watchful; and, clothed with the authority of the whole profession, they will be enabled to act with promptness and energy. Fraudulent transactions will be investigated with diligence and caution; and their authors, when clearly detected, if no milder measures should be deemed sufficient, may be exposed to the indelible

disgrace of public censure. Nor can this power, so fearful to the guilty, be exercised to the oppression of the innocent. The judicial tribunals of his country are open to every one; and he whose character has been held up to unmerited ignominy, has there an ample opportunity of redress. Even under the improbable supposition, therefore, that the majority of a respectable body should, from private animosity or prejudice, desire the persecution of an innocent individual, still, the least degree of common sense will teach them, that such a desire could never be indulged with safety. Their censure will necessarily be confined to those who may deserve it; and the consequence of its proper exercise will probably be, that it will soon altogether cease to be deserved.

Abuses of a different nature from those already noticed, the result rather of mistaken notions of convenience and propriety than of dishonest intention, have crept into the practice of your art, and are making a silent, though not unobserved progress among you. To point out each one of these abuses, and to display the extent of evil which must grow out of its encouragement, even if time were allowed me, does not come within the scope of my present design. I cannot, however, refrain from noticing one or two circumstances, which have recently attracted considerable attention. I have before stated my opinion, that the professions of pharmacy and medicine should be distinct. So much study, and labour, and devotion of time are necessary for an approach to perfection in the knowledge and practice of either, that he who attempts to unite them, must, to a greater or less degree, be deficient in both. It is the pride of Philadelphia to have set the example of their separation to her sister cities of the Union; and perhaps to this cause we may, in some measure, attribute her pre-eminence in medical reputation. The apothecary is especially bound to transgress, as little as possible, the limits of his own province. Not to mention the con-

sideration, that the surrender of this department by physicians was a voluntary act, and therefore deserves a better return than an encroachment upon the portion they had reserved; the good of the public, and his own ultimate interest, require a close adherence to the duties of his proper profession. I might here enlarge on the evils of empirical practice; might picture to you cases of pain and suffering protracted, of gentle maladies aggravated, of complaints rendered incurable, of life endangered or destroyed; might lay before you the terrors of an alarmed conscience, the dread of public discovery, the agonies of self-condemnation and remorse; all these consequences of an unprepared encounter with disease I might paint in their strongest colours, and the picture would not be too highly charged: but at present I wish to advance no other dissuasive argument than the injury which would accrue to your own prosperity, to the solid reputation and lasting good of your profession. Do you suppose that medical men can with complacency behold their peculiar province invaded, their sources of livelihood cut off, the very bread taken from their mouths? Will they not be compelled in self-defence to make resistance; and can resistance be made anywhere so effectually as on the ground of your adversary? It appears evident to me that, were it to become customary with apothecaries to undertake the management of diseases, physicians would almost universally recur to the plan they have abandoned, and, like their brethren in other parts of the continent, would supply their own patients with medicine. Granting that this measure might not inflict a fatal wound on your business, it would certainly far overbalance all the emoluments you could derive from your medical advice. There would be brought into competition with you a great number of respectable men, whose inclination as well as power it now is to afford you encouragement. You are called on, therefore, both by duty and interest, to discourage any attempt on the part of individuals

of your profession, to connect the practice of medicine with their own appropriate occupation.

Nor is it less your policy to correct another abuse which is said to have made its appearance among you, derived from the same source, of a practical connection between the pharmaceutical and medical arts. You have been told, and I have no doubt with truth, that engagements have been made between the apothecaries and physicians, by which the former have agreed to share with the latter all the profits which might accrue from their prescriptions. We can scarcely conceive a practice, not in itself absolutely dishonest, better calculated than this to lead both parties into a course of conduct really criminal. The physician would be strongly tempted to prescribe unnecessarily, and in an oppressive manner for his patient, while, at the same time, he would feel little disposition to examine narrowly into the quality of the medicines furnished; and the apothecary, in his desire to supply the deficiency in his profits, would find a powerful motive to lessen the original cost, if not by adulteration, at least by the purchase of inferior articles. To be efficacious, the engagement must be concealed from the public knowledge; and this very secrecy affords both an inducement and a protection to fraudulent collusion. Other apothecaries are deprived of a portion of their usual custom; and, if the plan should be adopted by a considerable number, it is evident that the remainder must be left almost destitute of support. The consequence, moreover, will be, either that a large portion of the just profits of the drug business must centre in medical men, without any sacrifice of time and labour, or risk of capital on their part; or that the community must suffer all the baneful effects of a general depreciation in the quality of those articles, upon the purity and efficiency of which, health, happiness, and life are often dependent.

While I thus draw your attention towards the abuses of your

art, I do not wish to be understood as advancing the opinion, that they have yet attained any alarming magnitude. Happily, they are still in the very first stage of their existence, feeble and comparatively harmless. Soon, however, if fostered by your neglect, they will burst their shell, and, before many years, may grow up into a hydra, which even the strength of Hercules might be unable to subdue. But the general interest of a large number of people, particularly when it is remote and not obvious, is exceedingly liable to be neglected. Each individual, occupied with his own private and more urgent concerns, either sees not, or seeing heeds not the distant evils, which, though they may affect himself, involve equally all his associates in their consequences. Besides, it is seldom in the power of unconnected, individual effort, however strenuous it may be, to destroy the existence, or even arrest the progress of those abuses which have their foundation and support in an ill-directed eagerness for gain. To effect such a purpose, we must render it the particular business of a few, and devolve on those few our whole united influence. Here, then, we are enabled to appreciate another advantage to be derived from the establishment of the College of Pharmacy. By making it the duty of the Trustees to watch over the interests of the profession; and by conferring on them the power to investigate and correct whatever abuses may originate among its members, you will obtain that union of individual activity with public strength, which is an indispensable requisite to the accomplishment of any great object of general usefulness. Already they have evinced a disposition to guard with vigilance the honour and advantages of those whom they represent. They have raised their warning voice against one of those practices, which, as I before attempted to show, are pregnant with evil. They have denounced, as of the most injurious tendency, those partnership connections with the physician, in which his patronage is his only capital; and have strongly re-

commended to all those whom their advice may influence, carefully to avoid entering into such engagements. At present they can go no further. Their authority rests, as in this country it ever must and should rest, upon the basis of public opinion. To render them fully competent as the guardians of your profession, they must obtain a standing in public estimation, which shall give to their decisions the authority of law. The errors of ignorance or inconsiderateness often require, for their correction, only to be pointed out; and advice from a respectable source will generally prove all-sufficient: but the licentiousness of unprincipled avarice can seldom be curbed by admonition alone. The hope or enjoyment of profit can, in such cases, be effectually opposed only by the certainty of an equal or greater loss. Hence, though the recommendation of the College may have great influence with men of good intentions, and such, I have no doubt, is the great majority of your number, yet, for the effectual suppression of all abuses, it must be possessed of power to control the most unworthy, and to render it their interest to act uprightly. How can this power be attained, without recourse to the odious expedient of legislative interference? Only by a general conviction of its usefulness, among the members of your profession, among the practitioners of medicine, and among the people at large.

The first and most essential step is, undoubtedly, to obtain the cordial co-operation of all the most respectable apothecaries. I have spoken, on this occasion, to very little purpose, if most of those whom I address are not convinced of the importance of supporting the College in the exercise of a superintending vigilance; and conviction, in a well-constituted mind, is always followed by a willingness to act accordingly. You are prepared, therefore, to unite your influence in support of whatever measures the College may adopt for the general good.

To obtain the sanction of medical men, nothing further is re-

quisite than to make them fully acquainted with the nature and tendency of the Institution. Their own interest is deeply involved in the state of practical pharmacy; and the College will receive their sincere approval, and active assistance, in its efforts to establish and maintain regulations, essential to the supply of medicines in their best possible condition.

Public sentiment must ultimately derive its tone from the opinion of these two professional classes. Though quackery and imposture may blind a few well-informed and respectable men, and may impose upon many of the ignorant and simple, yet, if proper means be zealously employed to convey correct information, the great mass of citizens will, in time, be brought to see their own welfare concerned in the prosperity of your art, and will cheerfully concur in those plans which may be formed for its promotion.

Thus armed with the authority of the professions both of pharmacy and medicine, and supported by the favourable opinion of the community, the College will possess a degree of strength which the dishonest and disreputable trader will find it impossible to withstand. As it is weakness which principally provokes resistance, this very strength will produce a quiet acquiescence in the necessary regulations; and the College will thus be enabled, without interruption, to go on remedying evils, correcting abuses, promoting just and honourable dealing, and vigilantly guarding the interests, integrity, and respectability of the profession.

No reasonable apprehension can be indulged, that the possession of so much power should be abused for purposes of self-aggrandizement; for the influence which is founded on enlightened public opinion, will inevitably be lost as soon as it shall cease to be merited; and as the Trustees are a representative body, changeable by frequently renewed elections, they can

never carry into effect any designs which do not meet the full approbation of the majority of their constituents.

I have now spoken of two great objects, attainable by a due encouragement of the College of Pharmacy; the first, an improved education of the young men who design to enter the profession; the second, such a regulation of its general concerns as may afford security against corrupt practices and abuses of every kind, and cherish upright and honourable principles in the transaction of business. I will close the address by adverting to a third, little inferior in importance to either of the others, and for the attainment of which the College affords abundant opportunities; I allude to the improvement of the materials of your art.

With respect to those of foreign growth, an inspection might be instituted, under the direction of the Trustees, into the qualities of each parcel imported, and the stamp of their approval fixed upon all such as present the genuine characters of strength and purity. Inferior, useless, or vitiated medicines from abroad would thus find a less ready sale, and might perhaps, in the end, be excluded in great measure from the market.*

It has been ascertained that many foreign medicinal plants may be naturalized in our own climate, and cultivated with as great facility as in their native countries. With regard to such of these as are most active in their recent state, or require extraordinary care in their preparation, or, from their value, are most liable to be adulterated, it is peculiarly important that we should introduce their cultivation into our own immediate neigh-

* This object has been, to a considerable degree, accomplished through Congressional legislation. The law for the inspection of imported drugs, obtained through the influence of the two professions of medicine and pharmacy, has effected a most happy change in the character of our drug market; and adulterated, or otherwise inefficient medicines, are much less used than at the time when this address was delivered.

bourhood, and thus be enabled to obtain them in their highest state of perfection. It is, moreover, highly probable, that many of our indigenous plants, for a supply of which we depend solely on the bounty of nature, might not only be increased in quantity, but might also be materially improved in quality by a careful culture. Were the influence of the College firmly established, and its resources sufficiently ample, it would have the power to contribute greatly to undertakings of this nature, both by the offer of suitable premiums, and still more, by securing to the successful cultivator a ready sale for his produce. By similar means, they might promote investigations in practical pharmacy, and give rise perhaps to valuable discoveries, or at least great improvements in the modes of preparing medicines.

Besides enhancing the value, and enlarging the supply of medicines, the College might exert its influence in promoting a perfect uniformity in pharmaceutical processes. It is unnecessary for me to inform you, that many compound preparations are kept in the shops, which, though they have never found a place in the Pharmacopœias, are nevertheless in very extensive use, some of them even among medical men. It is equally unnecessary to say, that great diversity has prevailed in the formulas employed by different apothecaries for the combination of their ingredients; and that consequently evils of the greatest magnitude must arise from their indiscriminate application to the treatment of diseases. The same remark, though not in an equal degree, will apply to many of the regular pharmaceutical preparations. As no standard Pharmacopœia has been generally adopted by the profession in this city, each individual is left to choose, from the various European authorities, those processes which may best accord with his own peculiar notions; and much confusion has accordingly resulted, in many instances where those authorities differ. A suitable regulation of this branch of your business can be effected by no other plan so conveniently,

and with such propriety, as by the intervention of your College, the voice of which must be considered as expressing your collective sentiments. Nor have the Trustees been entirely idle. With a praiseworthy zeal for the improvement of their art, they have instituted inquiries into the various modes of preparing the patent medicines; have selected the formulas which seemed best to answer the indications for which these medicines are usually prescribed; and have recommended their general adoption to the members of the College. If properly supported, they will soon be able to proceed much further. In connection with the medical faculty, and with similar institutions to their own, either now in existence, or which may hereafter be established through the United States, they may enter upon the great work of forming a National Pharmacopœia. If left entirely in the hands of practical physicians, such an undertaking must almost necessarily prove abortive. A minute and experimental knowledge, derived from long experience in pharmaceutical operations, is not less essential to its success, than an acquaintance with the remedial effects of medicines; and this knowledge can be found only among the members of your profession. The College of Pharmacy affords decidedly the most convenient means of concentrating your efforts, and to its interference, therefore, we must look for the accomplishment of an object, which yields little in importance to any other connected with the healing art. Should an American Pharmacopœia, so constructed as to meet with general approbation, be one of the results of your labours and sacrifices in founding and maintaining this Institution, you will have gained the merited reputation of conferring on your own profession, on the profession of medicine, on the country of which you are citizens, a great and permanent benefit.*

*The U. S. Pharmacopœia of 1820 was not generally recognized. But, soon after this address was delivered, a series of laborious investigations

Time is not allowed me to proceed further in my observations ; nor, were the opportunity afforded, am I aware that I could offer any stronger inducements than have already been presented, for your support of that cause, as the advocate of which I have this evening stood before you. Your individual honour and interest ; the future good of those committed, for their instruction, to your superintending care ; the permanent usefulness, reputation, and prosperity of your profession ; the health, comfort, and safety of your fellow-citizens ; these are objects in the pursuit of which, if you find no incentive to exertion, I know not by what motive I can address you with any possibility of success.

But I am confident that you require no further incitement. You cannot but feel the importance of those purposes which your assistance to the College will enable it to fulfil ; nor can you be insensible to the disgrace, which its failure, from your neglect, would indelibly attach to your name and vocation. That in the populous, wealthy, and public-spirited City of Philadelphia, the very birthplace of American medicine and pharmacy, and still their most favoured residence ; that here, with every encouragement which an enlightened population, and an influential medical faculty can offer, more than one hundred apothecaries should, by their united efforts, be unable, or, from an unaccountable apathy, neglect to maintain an institution, combining so many advantages as a well-regulated College of Pharmacy must do, is a supposition too derogatory to the character of your profession, too humiliating to our pride as citizens,

was set on foot, under the auspices of the College of Physicians of Philadelphia, which resulted in a revision of that work, such as, when the edition of 1830 was published, rendered it acceptable to the professions of medicine and pharmacy. Since that time, it has undergone decennial revisions, the latest in 1870, in which the Philadelphia College of Pharmacy, and other pharmaceutical bodies rendered important aid ; and it may now be considered as the authoritative pharmaceutical code of the United States.

to be allowed one moment's indulgence. With great confidence we may anticipate, not perhaps an immediate, but certainly a high degree of ultimate prosperity for the Institution. In the progress of years, it will outgrow its present sick and fragile condition. Strong internally by its own regulations, and externally by your unanimous support, it will be enabled to exercise over your profession an authority, equally beneficial to yourselves and to the community. Provided with ample means of instruction, and holding out strong inducements to studious application, it will diffuse copious and accurate knowledge among the apprentices to your art, and will greatly elevate your standard of scientific attainment. Finally, when the division of the professions shall have become more general, and apothecaries shall be required, not only in our larger towns, but in almost every village of the country, it may widen the sphere of its attraction far beyond the limits originally contemplated, and render the City of Philadelphia the centre of pharmaceutical, as it has long been of medical instruction to the whole extent of the Union.

II.
ADDRESS TO THE GRADUATES
OF THE
PHILADELPHIA COLLEGE OF PHARMACY.

DELIVERED APRIL 2ND, 1833.

Prefatory Remarks.

THE address which follows was delivered on the occasion of the first public commencement in the College of Pharmacy. The degree of Graduate in Pharmacy had been previously conferred on a few, who had completed their course of study, and undergone the requisite examination; but the numbers had never before, I believe, been sufficient to warrant a public demonstration. I was at the time professor of materia medica in the College, having been appointed to that chair in 1831, when it became vacant by the death of Dr. Ellis. My colleague, at the time, in the chair of chemistry, was Dr. Franklin Bache, afterwards professor of chemistry in the Jefferson Medical College.

THE ADDRESS.

YOUNG GENTLEMEN:—

YOU have arrived at a period of your professional life, toward which your hopes and efforts have been directed for many years. Having complied with all the regulations of the College of Pharmacy, and acquitted yourselves with credit in the requisite ex-

aminations, you are about to receive the honours of the institution, and to enter, under its auspices, upon the practical duties of your profession.

You must be aware that your labours are not ended with this change of position. The goal you have attained is only the starting-point of a new career. Your future course will require, for a successful issue, no less application, industry, perseverance, and self-denial, than that which is passed. In this respect it differs, that you will no longer have guides to direct and encourage you. In the life you are about to enter, you must select your own objects, mark out for yourselves the paths by which they are to be reached, rely upon your own energies in the difficulties you will encounter, and look to your own mental resources for comfort and support in the numerous discouragements, disappointments, and partial failures, which will inevitably attend your progress. I need scarcely tell you that much, very much, will depend on your first choice of an object, and on the general views which you may at first take of the prospect before you. Should your aim be low, and your views contracted, what can you expect but an ignoble result? labour with little reward, a life without honour, a death with no permanent recollections behind it; your existence fruitless, and your end, so far as relates to this world, the grave. If, on the contrary, your eye be fixed on some elevated point, if your spirit expand beyond the narrow limits of merely personal concerns, and embrace in its scope the general good; what a noble field is open to your exertions! what a rich harvest of honour is within your reach! Every step, while it raises yourselves, may be attended with good to others; the approbation of your own hearts and the esteem of those around you may shed a happy sunshine over your days; and, when your earthly race is run, you may depart, not, like the bird in the air, leaving no trace behind you, but with the pleasing consciousness of having lived up to the dignity of your

nature, of having partially at least fulfilled the design of your Creator by contributing to the advancement of your race, of having impressed upon the condition of your profession, or the society in which you moved, some permanent marks of your labour in its cause.

Standing, as you do, at a point of life from which so many paths proceed, leading to results so different, you will, perhaps, permit one who feels a warm interest both in your personal welfare, and in the general welfare of your profession, to make a few suggestions in relation to your future course, which may possibly have a tendency to enlighten your choice, or to confirm you in that to which your own judgment may have conducted you. It is not my design to press upon your attention the virtues requisite for great success in all honourable pursuits; sobriety, industry, perseverance, honesty; you are too well convinced of their importance to need any extraneous encouragement to their cultivation. I wish to point your attention to higher and more generous aims than mere personal profit; to the improvement, namely, of your art, and to the elevation of the character of your profession. It is happily true, that the measures you may adopt in the pursuit of these ends will redound also to your individual advantage, by the increased skill and reputation you will acquire, independently of the general advancement of which you will partake as members of the profession: but, though the weakness of our nature requires all possible support in our nobler enterprises from the selfish principle, there is, nevertheless, I believe, a feeling within us, which prompts to great and generous actions without the necessary expectation of personal reward. This is found especially in the warm heart of youth, and, like every other, is enlarged and strengthened by frequent exercise. To this feeling I would appeal, and, without excluding less elevated motives of action, would call on you to exert yourselves strenuously for the improvement of your profession, the honour of

your calling, and the consequent good of the community in general. Should you demand in what manner these ends may be best promoted, I would answer by referring to the history of your profession, and pointing to the causes which have operated in raising it from its former humility to its present comparatively elevated position.

The period is not very remote, when the apothecary was almost at the lowest extremity of that scale, which measures the relative respectability of occupations above mere manual labour. Engaged in preparing or compounding medicines according to certain fixed formulas, with little or no knowledge of the principles concerned in his operations, he could boast of superiority over the pastry-cook or confectioner, in no other respect than in the greater variety and importance of the materials of his art; and, while the nature of certain offices about the sick to which he was occasionally subjected exposed him to the sneers of the vulgar, the assumption of a character for research into the mysteries of nature, supported by the exhibition of reptiles and various monsters upon his shelves, made him the subject of ridicule with those who were aware of the real weakness of his pretensions. The apothecary, therefore, became the jest of the novelist and comedian; and so little was the humility of his occupation compensated by pecuniary advantages, that he was chosen by the wits of the time as the very personification of poverty and leanness.

In this country, pharmacy was at first almost universally, as it still is in many places, united with medicine. To do justice to the two occupations of the physician and apothecary was utterly impossible for any man of ordinary endowments. That was, therefore, neglected which was deemed of least importance; and the practitioner was too much in the habit of leaving the preparation and dispensing of medicines to his students, who necessarily knew little upon the subject, though, it is true, not

much less than himself. How was it possible for pharmacy to flourish, or attain respect under these circumstances? Overshadowed as it was by the sister profession with which it had been planted, its growth was mean and stunted, though still sufficient to abstract a portion of the nourishment, and thus restrain also the growth of its companion. No wonder that it was looked upon in a degrading light! No wonder that men of education and a generous spirit were unwilling to place themselves behind the counter to dispense potions and powders, when no other qualifications were requisite for the task than such as are requisite for the selling of tape and bobbin. Even medicine was less esteemed in such an association; and young men of elevated views and respectable station in society were not then as now seen crowding the ranks of that profession. That in some parts of the world, the business of the apothecary may not have been disreputable, and that in all parts individuals occasionally by their talents or conduct raised themselves above the mass of their associates into notice and esteem, is no proof that the general grade of the profession was not as low as I have described it; any more than the occasional incompetence of individuals now attached to the profession, and its comparative discredit in certain countries, can be received as evidence of its want of respectability at the present day.

Admitting, as every one must do, who has the least pretension to accurate information on the subject, that the present state of the profession is in many respects the reverse of its former state, that almost everywhere pharmacy is now respectable, and that in some places it has been elevated to a position calculated to reflect positive credit upon those engaged in it, let us briefly inquire into the means by which so great a change has been effected. It certainly has not been solely in consequence of the progress of the world in knowledge and the arts of civilization; for the condition of the profession would, in this case, bear the

same relation as formerly to others, and, though it might have become more efficient in contributing to the general good, it could not have advanced in respectability, which may be considered as altogether relative. The causes, therefore, which have produced its elevation must be in some measure peculiar; and, if ascertained and applied hereafter with increased energy, will promote, in a still greater degree, the same upward progress.

Among the most prominent of these causes, and that which was the first to operate, was a dissolution of the union which originally existed between the two professions of medicine and pharmacy. It is not my intention to trace the gradual steps of this separation; to mark the frequently hesitating and reluctant recession of the physician from a source of accustomed profit, or the disposition which the apothecary as frequently evinced to step over the boundary line, and harvest in the fields of practical medicine. It is sufficient to observe that wherever the separation is complete, pharmacy has assumed a position decidedly more elevated than formerly, and much superior to that which she at present holds where the separation has not been effected. I need only compare Great Britain and France, the former making few improvements in the science, and most of these through the instrumentality of physicians, the latter sending forth discoveries in rapid succession, and acquiring by the labour of her pharmacutists increased national fame, while she is benefiting the world. In the former, the apothecary is half pharmacist and half physician, and consequently is good for little in either capacity; in the latter, the two professions are entirely distinct, and both in a condition of rapid advancement.*

* It will be noticed that these remarks apply to the times at which the address was delivered. The condition of things has since then very materially changed in England. The pharmacutists have erected themselves into a distinct profession, and have made rapid advances in their art;

If we come home, and examine into the relative condition of pharmacy in different parts of the Union, shall we not at the first glance fix upon our own city as pre-eminent; and where else, within this country, have the professions been so long divided? That this cause is capable of producing the effects attributed to it, is almost too evident to require the support of argument. The pharmacist, while struggling to acquire a faint insight into disease, and burdened with the responsibility of patients whose lives are in his hands, has his mental energies and anxieties too much enlisted in the practice of medicine, to be able to do justice to his more legitimate pursuit. Not only, therefore, are his time, attention, and interest divided between two objects, each of which is sufficient to absorb the whole; but one of these objects becomes in his estimation of paramount importance, and throws the other comparatively into shade. It almost always happens that, when medicine and pharmacy are conjoined, the latter suffers most, because less immediately and forcibly called into action. When, on the contrary, the apothecary confines himself exclusively to his own profession, he gives up to it his whole time, and, feeling his dependence on it for support, fortune, and reputation, is induced, if possessed of a spirit of enterprise and ambition, to exert himself to the utmost to increase its resources, and elevate its character. To this total separation, therefore, we may trace, as to their source, most of the other causes of improvement which were brought into operation. They were all such as sprang from the awakened energies of the individual members of the profession.

Out of this zeal arose the establishment of pharmaceutical

while there is a strong and increasing tendency in medical practitioners to throw off entirely the business of preparing and selling medicines. Before many years, it is probable that the mongrel race of apothecaries in England will have entirely disappeared; and the two professions of medicine and pharmacy be recognized as distinct.

schools, which, in all places where they have been in full operation, have produced the most decidedly favourable effects; and, next to the original cause already stated, have been the instrument of more good in the diffusion of knowledge, the promotion of a spirit of enterprise and investigation, and the establishment of a common professional feeling, than any other that could be mentioned. I appeal to every apothecary who has resided during the last fifteen years in Philadelphia, whether this remark is not justified by his observations of the influence of that school, in the hall of which we are now assembled. The apothecaries of Philadelphia, in the establishment and support of the College of Pharmacy, have evinced an intelligence and foresight which do them great honour, and of which they have, as a body, already begun to reap the legitimate fruits, in a wider diffusion of intelligence and enterprise, and a more elevated position in the social scale.*

The professional spirit, fostered by schools and collegiate asso-

* Justice requires that some allusion should here be made to the services of a gentleman, to whom the pharmacy of this country is greatly indebted; I refer to Daniel B. Smith, formerly President of the Philadelphia College of Pharmacy. Standing among the first of the apothecaries of his time in literary and scientific attainment, peculiar skill in his art, and general reputation, he entered zealously into the movement which originated and sustained the College of Pharmacy; and, by his own written contributions, the encouragement which he extended to the efforts of younger men, and the measures set on foot, or ardently supported by him, for the improvement, in various ways, of the profession to which he was attached, he contributed, I think, more than any other one individual, to the impetus which has carried the pharmacy of this country to its present relatively high position. Should this notice reach him in his retirement, the author hopes that he will receive it kindly, as the testimony of one who has known him for more than fifty years, has always esteemed him highly, and entertains a grateful sense of the early aid and encouragement extended by him to his own professional labours.

ciations, is one of the most efficient results of their favourable influence. By this principle I do not mean a community of feeling in any particular body of men, as to measures calculated to promote their pecuniary interests. This is almost universally prevalent, and, in the illiberal character of its action, is probably productive of as much injury as benefit. Dividing the community into classes, it causes each to exert itself for the acquisition of peculiar advantages, at the expense of the others, and thus occasions hostility among neighbours, and diffuses an evil feeling, which is felt through all the ramifications of society. It has its foundation essentially in selfishness, and, under the pretense of working for the good of the class, is in fact directed altogether to individual profit. The principle to which I allude is of a different character. It looks primarily to the honour of the calling, secondarily to the advancement of self. Based upon the generous emotions of the heart, it has nothing in it mean and low, and scorns even the attainment of its own ends by other than honourable means. True professional spirit prompts, not to raise the *relative* position of one's own calling by depressing that of others, but to effect its *positive* elevation by industry, enterprise, vigorous personal effort, and careful personal deportment. It thus comes in aid of the disposition to raise the standard of one's own attainments and character, and, while it promotes the general good, promotes that of the individual in a still higher degree. Its tendency is to render every member of the profession a more industrious, a more honest, and more honourable man.

With such causes as those I have mentioned in operation, it was not possible that pharmacy should remain in that state of depression, in which it existed before their development. Confined to their own legitimate pursuit, the apothecaries began to exert themselves for the improvement of its resources. Looking abroad into the fields of natural science, they observed much that could be advantageously applied to their art, and

therefore turned their attention to the cultivation of the different branches of this kind of knowledge. The establishment of schools fostered habits of study, and, by giving a proper direction to the industry of the pupils, caused them to apply their time and talents efficiently, and not to waste them, as the uninstructed are too apt to do, in fruitless because ill-directed efforts. A professional spirit was at length developed. This gave renewed energy to the enterprising, instilled animation even into the dull, and breathed into the whole body one common soul of life and activity. Happily the advanced state of those sciences which have a bearing on pharmacy, afforded to this newly awakened spirit materials upon which to act with advantage. Chemistry, as the science most deeply interested in all the operations of the apothecary, was cultivated with peculiar zeal and success. Light broke upon the art from every side, and penetrated even its darkest recesses. The confused mass of facts and absurdities which had accumulated, during ages of ignorance and superstition, experienced under this regenerating influence an internal fermentation, which, separating error from truth, gradually threw off what was noxious and superfluous, and combined the remaining materials into new forms of usefulness. What had before been merely a business or an art, began now to assume the dignity at the same time of a science and a liberal profession. The ascent of pharmacy was rapid; and every step, while it widened her prospect, and brought new resources into view and action, elevated her also in the eyes of the world, and thus increased at once her usefulness and credit. To the present time she has suffered no intermission in her progress; and, in some parts of Europe, she has gained that position of equality among other liberal pursuits, to which her nature entitles her, and which she had been prevented from attaining only by extraneous causes repressing her inherent energies. In France, her votaries are at this moment little inferior to those of any other profession in

scientific attainment. Discoveries honourable in themselves, and of vast importance to the human race, have resulted from the labours of pharmacutists; works of great value on different branches of the art have been put forth by men of the same profession; and the names of apothecaries might be mentioned, which, in all that constitutes true honour and greatness, might stand by the side of those now highest in the world.

Do not understand me as asserting that the pharmacy of this country has attained an equal elevation. It has, indeed, within a few years been rapidly advancing, from the commencing operation of causes already alluded to; but it is yet far behind that of continental Europe. The field, however, is open, and there is no want of hands to labour. Let them be under the influence of a proper spirit, and the guidance of proper principles, and they will work out here the same results. You, young gentlemen, are among the labourers to whom the profession is anxiously looking for support. Your predecessors have done much; but they could not accomplish all. To you belongs the task of rolling on the accumulating ball which they have put in motion. You have seen the steps by which your professional brethren on the other side of the Atlantic have attained to eminence. I can do no better than point to their example, and bid you follow.*

Let me, however, for a few minutes, recall your attention to the means which experience has indicated, and reason approves, as the most efficient.

The first consideration which I desire particularly to impress on your minds is the importance of entirely abstaining from the

*It is due to the pharmaceutical profession in this country, to state that the anticipations, put forth in this address nearly forty years ago, have been in a great degree realized. The profession now abounds in men of real science; many discoveries and improvements have been made by the pharmacutists educated in this school; and the general standard of practical skill and thorough knowledge has been greatly elevated.

treatment of disease. You have seen that the separation of pharmacy from medicine was the first and most essential step towards giving respectability to the former. The separation, however, has not been completely effected in this country. Physicians are in many places their own apothecaries; and, even in Philadelphia, we find a disposition in each profession to encroach, in individual instances, upon the legitimate province of the other. Am I mistaken in the opinion, that this disposition is much more general in the profession to which you are attached than in that of medicine? So long as this continues, admitting it to be so, it will be impossible for pharmacy to attain that excellence in itself, and that respect in the eyes of the world which ought to belong to it. Independently of the consideration previously urged, that the distraction of time and attention will prevent the due cultivation both of the science and practice of pharmacy, there are others which should have their influence on the mind of the apothecary. If the physician find a determined interference in his pursuits, diminishing the profits of his labour, and actually taking the bread out of his mouth, will he not be compelled to abandon the ground he has taken, and attempt to add the profits upon the medicines which he prescribes to his other resources? Will he not thus necessarily contract the business of the apothecary, and deprive the latter, to a great extent at least, of the opportunity of treating disease, by directing every applicant for medical aid to his own establishment? Grant that he may thus degrade his own profession; but we all know that necessity will generally triumph over opinion; and the most high-minded men may be compelled, by the prospect of starvation, to courses which they would not under other circumstances approve. There can, I think, be little doubt, from the relations which the two professions respectively bear to the sick, that, if they are brought into conflict, pharmacy will most essentially suffer:—how short-sighted, therefore, is that course, which for

the sake of a little temporary and doubtful pecuniary advantage, will risk the production of such a conflict. But this is not all. By attempting to perform offices for which you are not qualified by previous study, you necessarily degrade yourselves and the profession to which you belong. In this particular instance, you incur the risk of injury to others, at the contemplation of which a properly regulated mind would shudder. What would you think of a man, who, without any acquaintance with medicines, should attempt to perform the office of an apothecary? Would he not run the most fearful hazard of inflicting serious, perhaps fatal injury upon others? You can readily understand how wholly unfit he must be for the business he has undertaken; and you are all prepared to feel for him the due degree of contempt or repugnance. Would you not be in precisely the same situation in attempting to practice medicine? Believe me that the studies which are calculated to make a good apothecary, give not the least insight into the proper mode of managing disease. To understand this, a knowledge of the human system both in its healthy and morbid conditions is absolutely essential; and an acquaintance with medicines alone, so far from being sufficient, will often be even worse than useless by inducing a false confidence, and thus preventing the caution that one wholly unacquainted with the subject would feel himself bound to observe. I have no hesitation in expressing my belief, that an apothecary, who, without proper study, should assume the functions of a physician, would, as a general rule, be in greater danger of doing mischief than the most ignorant empiric; as the latter, aware of his incompetence, will often confine himself to comparatively innocent means, and therefore leave nature an opportunity of effecting a cure; while the former, familiar with the preparation of the dangerous instruments with which he is surrounded, might suppose that he knew how to employ them, and thus be tempted to the most hazardous experiments. If, then, you regard with

little respect the individual who empirically practices your own profession, how must the instructed physician regard the apothecary, who, without suitable preparation, attempts to practice medicine? I am certain, my young friends, that you are not willing to incur this odium. Your own proper self-respect will secure you against the temptation, which a little pitiful pecuniary profit may offer. You will be too proud of your profession as apothecaries, to be willing to sink into mere quacks. Should you desire to change professions, you will enter the fold of medicine, not over the wall like a thief in the night, but by the regular and legitimate path of laborious study; but your best plan is to persevere in the course which you have so reputably commenced. Your profession is honourable. In its essential nature, there is nothing which should prevent it from standing on a footing of perfect equality, in the estimation of the world, with any other pursuit to which man is addicted. Be it your ambition to assist in placing it upon such a footing by your labours and conduct. But this end, be assured, you never can attain, if you mingle with your proper pursuits those of other professions having no essential connection with your own.

There is another point in relation to this subject which merits attention. You prepare and dispense medicines according to certain known and recognized principles. Does it also form a legitimate part of your occupation, to sell those with the composition and character of which you are unacquainted; upon the purity of which you are unable to form an opinion; which, for aught you know, may contain the most deadly poisons, and may produce the most injurious effects upon the health of the community? Is it sufficient for your justification, that these secret nostrums have upon them the stamp of some ignorant knave, who claims an intuitive insight into the nature of disease, and a miraculous power to apply the suitable remedy? I submit it to your own sense of honour, whether it accords with your personal dignity to be

the agent of empiricism ; whether your profession is not somewhat degraded, when she stoops to become the handmaid of impudent imposture. Though not one of her peculiar votaries, I esteem and love her too much to see her thus degraded without deep regret ; and I cannot but hope that you will participate my feelings, and that by your hands those trammels will be removed, which bind her to so low a servitude.

But it is not enough to confine yourselves exclusively to your own pursuit. You should endeavour to promote its interests by a diligent cultivation of all those branches of knowledge which have an important bearing upon its practice. You have hitherto acquired but the rudiments of the sciences that constitute the study of pharmacy. The path has been cleared for your entrance ; but much patient labour will be necessary before you can penetrate all its recesses, and become masters of all its secrets. Even to keep pace with the progress of discovery, will require the devotion of no small portion of your attention. Having rendered yourselves familiar with all that is valuable of what is already known, you will be prepared to become candidates for fame in the career of discovery. Whether successful or not in gaining any high prize, your character as men of intelligence will be evident, and the public, observing in your example the connection between pharmacy and science, will be led to form a more elevated opinion of the art. There is one caution, in relation to experimental investigations, which I wish strongly to impress on your attention. Do not be in too great haste to promulgate any results you may have attained, which may strike you as new or interesting. It is a common fault, particularly in this country, to aim at speedy distinction ; to search for some short and easy path to fame. Men unprepared by previous study or practice, enter at once into the course as competitors with those of the most careful training. Meeting with some result which appears new to them, in consequence of their own want of information,

they proclaim it prematurely to the world, only to learn from the greater experience of others, that their supposed discovery is a well-known fact, or altogether illusion. Disappointed in their first attempt, they are apt to sink into discouragement, and to abandon a pursuit, which, under proper direction at first, might have conducted them to eminence, and in which assiduity and perseverance might still be rewarded with success.

Analytical investigations of the various materials and products of pharmacy afford you the fairest opportunity of fruitful exertion. Before entering on them, however, you should be thoroughly imbued with the scientific principles which have any bearing upon the subject. Practice in analysis is, moreover, essential, on account of the facility of manipulation which it affords, the accuracy it imparts to the perceptions, and the numerous contrivances or modifications of the process which it may suggest for gaining the object in view. In order to obtain the requisite dexterity, repeat the detailed processes of the skilful analytical chemists of continental Europe: and study carefully the observations which they have recorded, in relation to the various sources of failure, and to the means of facilitating success. Thus prepared, enter with caution and diligence upon the investigation of new objects, and weigh with the greatest care and scrupulousness the accuracy of the results you may obtain. Your discoveries will then stand the test of examination, will enter into the mass of knowledge, and, if practically important, or curious in their nature, will find a place for your own names in the annals of science, and contribute to exalt the credit of your profession, and your country.

Something more, however, is obligatory on you than exertion in the acquisition and extension of knowledge. Successful labours of this kind, on the part of individual members of a profession, have undoubtedly a tendency to elevate its general standing; but this tendency may be effectually counteracted by the operation of

other causes. However learned, however successful in scientific pursuits, individuals may be, they cannot render their calling respectable, without uniting with their other attainments the qualities which characterize the gentleman. These qualities, therefore, it becomes you to cultivate with the most sedulous care. A proper sense of what is due to yourselves and others, aversion from whatever is mean or base, contempt even of wealth united with dishonour; these sentiments, co-operating with courtesy of manner, will ensure you a respect from all the better classes of society which will extend also to your calling. It is a false notion that attention to petty details of business is incompatible with gentlemanly feelings and habits. If the business be, as yours certainly is, of a nature calling for mental cultivation and scientific attainment; if its proper exercise require, in an especial degree, upright principles of conduct; if it be calculated, according as it is well or ill conducted, to do much good or inflict much evil; it is undoubtedly entitled to a place among the most respectable occupations, however minute and apparently trivial may be some of its offices, and however small may be the items in which its profits are received. It would be false shame that would deter from any, even the minutest detail of the apothecary's calling. No one is in the remotest degree incompatible with the cultivation of the nicest and noblest feelings of honour, the possession of the most elevated sentiments and principles, the practice of all those courtesies of manner, and those observances of society, which tend so much to soften the asperities of life, and to lend additional charms to its enjoyments. Without, therefore, neglecting the details of your business, endeavour to imbue yourselves with elevated feelings and principles, to regulate your deportment in all cases according to the nicest rules of propriety and justice, to become, in a word, all that ought to be included in the idea of a gentleman. Thus endowed, and thus acting, possessed at the same time of an accurate knowledge of

the pharmaceutical sciences, and devoting your energies to their enlargement, what men in the community would stand or deserve to stand higher than yourselves? Your example would extend its happy influence to those who might accompany or succeed you in the same occupation; the force of emulation, and the natural craving of the cultivated mind after further improvement, would urge to renewed efforts and more scrupulous care; and, in all future times, your profession might exhibit, in her ampler development, more harmonious proportions, and loftier bearing, the ineffaceable marks of that life and spirit which you would have contributed to inspire.

The observations hitherto made refer to your individual and separate exertions. Much may also be effected, with little additional labour, by such a combination as will give to your actions a common direction, and a unison of character. The opportunity for this combination is afforded by the Institution in which you have been educated. The College of Pharmacy invites you to enter freely, to partake of all her advantages, and to join with her in working for the public benefit. Upon you, indeed, she depends for the extension of her means of doing good. Receiving no assistance from the government of the country, endowed with no exclusive privileges, and resting solely for her prosperity and even existence upon the basis of public opinion, she demands the warm and active support of all those concerned for the good of the body, whose interests she was designed especially to promote. Your predecessors have done their part nobly, first in establishing the College, and subsequently in labouring for its maintenance through all the discouragements and difficulties incident to a new undertaking, calculated rather for future than immediate good, rather for the benefit of the successors of those originally concerned in it, than their own. You have been among those benefited. In addition, therefore, to those public-spirited and magnanimous feelings which actuated the founders of the Insti-

tution, you have the sense of favours received to actuate you. The College has a right to expect your warm co-operation. She appeals to you not only as good citizens and honourable members of the profession, but also as children bound to her by filial ties; and I doubt not that her call will be answered. You will enrol yourselves among her members, will zealously labour in sustaining her measures and enlarging her sphere of usefulness, and, through these means, will more than repay, in advantages to those who may follow you, the debt of gratitude which you owe to your predecessors.

THE HISTORY OF THE UNITED STATES

The history of the United States is a story of growth and expansion. From a small collection of colonies on the eastern coast, it grew into a vast nation that spanned the continent. The early years were marked by struggle and conflict, but the spirit of independence and self-determination prevailed. The American Revolution was a turning point, leading to the birth of a new nation. The years following were a period of rapid growth and development, as the United States expanded its territory and influence. The Civil War was a defining moment, testing the nation's unity and values. The Reconstruction era followed, a period of rebuilding and progress. The United States emerged as a world power, leading the world in many ways. The 20th century was a time of great change, with the United States playing a central role in the world. The end of the 20th century and the beginning of the 21st century have seen the United States continue to grow and evolve, facing new challenges and opportunities. The history of the United States is a story of resilience and achievement, a story that continues to inspire and shape the world.

LECTURES,
INTRODUCTORY
TO THE
COURSES ON MATERIA MEDICA AND PHARMACY,
IN THE
UNIVERSITY OF PENNSYLVANIA.

WATSON

1877

THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

INTRODUCTORY LECTURES

ON MATERIA MEDICA

AND

PHARMACY.

Prefatory Remarks.

THE series of Introductory Lectures which follow have reference to the subject of Materia Medica, and were all delivered to medical classes in the University of Pennsylvania. They were designed to give instruction on various points connected with this science, which could not be conveniently considered in the body of the annual courses. The most prominent of these points are 1. the general history of the Materia Medica, 2. its special history in the United States, 3. its character and importance, 4. the abuses to which it is most liable, 5. the influence of mental agencies in a therapeutical point of view, and 6. the principles which should regulate the choice of medicines.

The lectures are not here presented exactly in the succession in which they were delivered, but rather in the natural order of the subjects. They were read at different times between the year 1835, when I was chosen professor of Materia Medica and Pharmacy in the University, and the year 1850, when I was transferred to the chair of the Practice. The reader will find in them observations, reflections, and opinions,

which have been the result of much experience, and of a long attention to the subject; and which, I cannot but hope, may have some value for the young medical man, who has not hitherto had opportunities equal to those of the author. The thoughts contained in them were not hastily thrown together, but were the result of mature deliberation; and the lectures themselves, so far as the matter is concerned, were elaborated with no little care.

LECTURE I.

DELIVERED NOVEMBER 7TH, 1843.

History of Materia Medica.

I GREET you all, gentlemen, most cordially. We are beginning a long work together. Let us join in it heart and hand. We shall thus not only do more, but shall have increased pleasure in what we do. Labour itself, when directed to a useful end, is never without its satisfaction. A sweet melody, that sleeps everywhere in nature, is awakened by a series even of solitary effort. But the music is heightened into a delightful harmony, when we touch the strings together and in concord.

I need not tell you that our field of joint labour is that of materia medica and pharmacy, or the science of pharmacology. Over this field let us throw a hasty glance before entering it.

We do not require history to inform us that the origin of the materia medica was nearly coeval with that of disease. Bodily suffering and the fear of death are eager and quick-sighted searchers after means of relief and safety; and nature is seldom niggardly when approached with an earnestly inquiring spirit. No tribe is so savage as not to have its little catalogue of remedies. The earliest records of the human race refer incidentally to the existence, not only of medicines, but of the art of preparing them. In the thirtieth chapter of the Mosaic Book of Exodus,

written probably nearly 1500 years before Christ, is the following injunction. "And thou shalt make it a perfume, a confection after the art of the apothecary." This is the first recorded notice, so far as I know, upon the subject of medicine and pharmacy. From other passages in Scripture, there is reason to believe that our art was cultivated, and in great esteem among the Hebrews.

The fabulous history of the early Greeks affords evidence that they also had their materia medica, and held the office of the physician in high honour. Pausanias relates that Melampus, who is supposed to have lived anterior to the Trojan war, cured the daughters of a king of Argos of mental disorder by means of hellebore, and received as a reward the hand of one of his patients and a third of her father's kingdom; and Esculapius, who practised the art of healing at a somewhat later period, was made a god after his death, and had temples erected to his honour in various parts of Greece.

It is altogether probable that both the Hebrews and Greeks derived the rudiments of their materia medica from Egypt. Whatever knowledge, other than that revealed in the wilderness, the Israelites took with them into Canaan, must have been acquired in the country of their birth and long bondage; and the early legends of the Greeks point to the same land as a place of philosophic pilgrimage, where those ambitious of enlightening their native country deemed it necessary to pay a preliminary homage at the shrine of science. Melampus is said to have brought his medical knowledge out of Egypt; and some have conjectured that Esculapius, instead of being of Grecian birth, was an Egyptian god adopted by the Greeks.

The list of medicines in these remote times was extremely meager, consisting chiefly of substances intended for external use. In the cure of internal disorders, as they arose from unseen and mysterious influences, reliance was placed chiefly upon equally mysterious remedies; upon charms and sorceries, upon

propitiatory prayers, sacrifices, and gifts, which might avert some supernatural malice or vengeance, or secure the favourable interposition of some health-giving deity.

A materia medica of this character fell naturally into the hands of the priesthood. Accordingly, among the early Greeks the temples of Esculapius were the chief resort of the sick; and the priests of that god, who were also his reputed descendants, and known by the family name of the Asclepiadæ, enjoyed an almost exclusive monopoly of the practice of medicine. The knowledge they possessed was handed down, either orally or through the secret records of their temples, for a long succession of generations, and must have gone on gradually accumulating, as the necessary result of continued observation and experiment. This knowledge was first made accessible to the world through the writings of Hippocrates, who was himself one of the favoured family, had studied in the school of Cos, one of the most famous of the Esculapian temples, and was thoroughly initiated in all the secrets of the brotherhood. To these writings we must have recourse in forming our opinion of the condition of medical science in general, and consequently of our own branch in particular, at the most flourishing period of Grecian civilization.

From their contents we should not infer that materia medica had made very great advances. Of the substances employed little more is mentioned than their names; and, from the uncertainty of the nomenclature, and the absence of precise description, it is impossible, in most instances, to determine as to their identity with those now in use. Even in cases where the ancient and modern designations are the same or similar, it does not follow that the substances designated are identical; for nothing is more common than the diversion of a name from its original application. There is, however, good reason for thinking that several medicines, which stand high in modern cata-

logues, were used in the time of Hippocrates. Among them may be mentioned black hellebore, elaterium, scammony, squill, myrrh, galls, and that most invaluable of medicines, opium, for which alone, had antiquity bequeathed us no other gift, we should be bound to it in endless gratitude.

From the time of Hippocrates, who died about 370 years before Christ, to that of Dioscorides, in the first century of our era, the materia medica underwent a gradual process of accumulation. It is probable that the medical sect denominated Empirics, which arose during the interval, contributed most largely to this increase. Sensible men were they who, in those times, could break loose from the trammels of speculation, and devote themselves exclusively to observation, experiment, and close induction. A vain notion appears to have taken possession of the minds of men calling themselves philosophers, that an industrious digging in the earth after truth was unfit occupation for one who could soar into the loftier and purer region of the spiritual. In their silly pride of intellect, they deemed that they could fathom the depth of creative wisdom, enter into the counsels of omnipotence, and comprehend the principles of things by their own mental energy. Usurping the functions of deity, they made for themselves hypothetical creations, into which they forced the things of nature, torturing them into all sorts of strange shapes to suit the measures of their fancy. Medicine, like every other science, was infected by this insanity of speculation. The Dogmatical physicians, as they were called, seated securely in their own imaginary truths, looked out with contempt upon the humble labours of research. Happily, their principles have in modern times fallen into disrepute; and the esteem in which they are now held may be measured by the discredit attached to the very title of the sect. Dogmatism is but another name for self-confident ignorance. Nor, in truth, has it fared much better with the Empirics. This sect was founded in

just principles. To observe, to experiment, to infer carefully, and to record, such was the course marked out for themselves in the search of truth; and such must ever be the course of those who expect to find it. But the Empirics did not carry out their own principles. While they sought new remedies, investigated the properties of those known, and tried the effect of various combination; they undervalued anatomy, neglected the study of disease, and fell into the fatal error of prescribing merely for a name. With their eyes fixed constantly on medicines, they could at length see nothing beside. Certain substances began to stand prominently out in their field of vision, and soon absorbed their whole attention and faith. Hence came nostrums and panaceas, and the inseparable attendance of loud boasting and confident promise. The scientific gave way to the sordid. The mysterious aid of secrecy was invoked. Fraud mingled in various proportion with self-deception. The stream which had issued pure from its fountain, became more and more contaminated as it pursued its downward course through the baser feelings of our nature, till at length it ended in the kennel. The name of Empiric became a badge of dishonour, a mere synonyme of quack. There is little doubt, however, that the sect added much to the resources of the materia medica; though it remained for later times to make these resources available for practical good.

It was probably during this period that the rage for multiplicity in the combination of medicines originated. Substances of the most heterogeneous character were mixed together in great numbers, upon no other grounds apparently than the hope that some one of them might be found effective, or that, in this haphazard pharmaceutical gambling, some lucky combination might occur to be set off against a thousand failures. Occasionally one of these luxuriant mixtures appeared to stand the test of trial, and obtained a more or less permanent reputation. Two of the

most famous were the Antidote of Mithridates, so called after its supposed inventor, the celebrated king of Pontus, and the Theriac of Andromachus, which originated with the physician of Nero whose name it bears. The former contained 54, the latter from 60 to 70 ingredients. In the view of modern science, they are both in the highest degree absurd; but they continued in great credit until a comparatively recent period; and the Theriac still encumbers and disgraces the national pharmacopœia of France.

A necessary consequence of this endless complexity of composition was the separation, to a certain extent, of the art of preparing from that of prescribing medicines. Each was abundantly sufficient to give occupation to one set of men. So early as in the third century anterior to our era, many physicians of Alexandria, then the seat of a celebrated school of philosophy and medicine, under the patronage of the Ptolemies, are said to have devoted themselves exclusively to the preparation of drugs. Since that time, the two professions of the physician and apothecary have been more or less divided; though in new countries, and in remote situations where the population is not dense, and not collected in large towns, it still happens that necessity frequently unites them in the same individual. Mantias, a pupil of the famous Herophilus of Alexandria, enjoys the credit of having composed the first pharmacopœia.

The treatise of Celsus "*De medicina*," written during the reign of Augustus, and the most classical of the Latin medical works, though not devoted especially to the materia medica, gives the names of numerous medicines, with occasional brief accounts of their properties and applications, and a long catalogue of recipes. Though richer in pharmacological information than any previous work now extant, it is yet very meager and indefinite. The reader seeks in vain for detailed and accurate description; and the formulas given are mostly for external reme-

dies, which are as poor in virtues as they are rich in the number of ingredients.

The work of Scribonius Largus "Upon the Composition of Medicines" was written soon after that of Celsus, to which it is greatly inferior in style, without being superior in its pharmacology.

The two authors mentioned treated of medicines only incidentally, or in relation to their pharmaceutical preparation. Dioscorides may be considered as having composed the first regular treatise exclusively on materia medica. This celebrated medical writer was a Greek of Cilicia, in Asia Minor, and is supposed to have flourished in the reign of Nero. He treated, under distinct heads, of the plants and animals remedially employed, of the composition and use of medicines, of counter-poisons, and of venomous animals. Not less than 600 plants are mentioned or described by Dioscorides, showing that our science had already become grievously burdened, far beyond the abilities of her young shoulders to support. His descriptions have all the imperfections of the unscientific methods of his age; so that few comparatively of the plants which he mentions can now be recognized, and endless controversies have arisen as to their identity with those at present known. His pharmacy and therapeutics are not less defective. How could it have been otherwise, when botany was not yet a science, chemistry was altogether unknown, and anatomy and physiology had scarcely burst the shell in which the rudiments of their future growth lay enveloped? These sciences are the basis of medicine. How then could a durable structure be erected without them? All that could be expected of an ancient writer on medicines was to lay up a stock of materials for future hands to put together. This was done by Dioscorides beyond any preceding author. His work, viewed in relation to the times when he wrote, was a great work, though in relation to the present nearly worthless.

The Natural History of the elder Pliny, who wrote at Rome somewhat after the time of Dioscorides, contains notices of numerous medical products; but, as he was not a physician, most of what he says upon this subject was borrowed from the writings of his predecessors.

We next come to Galen, perhaps the greatest medical name among the ancients, at least the one which has exerted most influence upon succeeding times. Had we lived four centuries ago, and ventured to doubt the infallibility of that name, we should have incurred the risk of being deemed suitable objects for the pillory or the mad-house. There can be no doubt that this author had great powers and great merit. But his influence over after ages rested more upon the time at which he wrote, than upon the excellence of what he wrote. Born at Pergamus, in Asia Minor, in the year 130 of our era, and dying about the close of the second century, he lived at a time when the human powers, mental as well as physical, had, in the progress of ancient civilization, begun to exhibit the decrepitude of age. The period was fast approaching when man ceased to have the energy of independent thought, and leaned exclusively upon the strength of the past. The Roman Empire propped up her physical decay by the uncorrupted bodily vigour of the neighbouring barbarians, whom she incorporated in her armies. No such resource existed for mental deficiency. The accumulations of former ages were the sole reliance of the feeble senility of the Empire, as well as of the mental infancy of the centuries which succeeded its fall. Galen had great industry and powers of observation, with a strong inventive and imaginative faculty. Out of the materials which lay scattered in the works of preceding authors, with no little aid from his own vigorous fancy, he erected a system of medicine which was faultless in the eyes of his contemporaries, and, standing prominently on that great elevation which looked over thirteen centuries of declension or

barbarism, loomed magnificently to succeeding ages, and only began to grow dim when the light of reviving letters and science once more shone upon Europe. At present, it has fallen into utter ruin; and the wonder is that a structure with so little of the solidity of truth, and so much of the pasteboard-work and colouring of mere imagination, should have so long withstood the ravages of time. When I tell you that, according to the theory of Galen, medicines have only the four primary properties of heat, cold, moisture, and dryness, and differ from each other only as they possess, or in the degree to which they possess, one, or another, or some combination of these properties, you will join me in admiring the simplicity which could receive so sheer an assumption for irrefragable truth. But thus it was received; and, from the commencement of the third down to the sixteenth century, it would have been deemed as heretical to doubt the four qualities of Galen, as the equally absurd fiction of the four elements—fire, air, earth, and water. As nothing was detracted from the theory of Galen during this long period, so little was added to his facts. Indeed, for a great portion of the time, Western Europe lay almost in the darkness of barbarism; and, so far from any improvement upon the ancients being made, only some feeble phosphorescent glimmerings of science continued to shine, here and there, about the musty remnants of antique learning, preserved in the convent libraries.

In the East, however, a new fountain of human energy had broken forth, which spread widely over the civilized world, and everywhere recalled a certain degree of fertility to the parched desert of the intellect. The successors of Mahomed no sooner found themselves securely seated in Bagdad, than they sought to beautify the rough edifice of their power with the ornaments of science. With the Syrian and African dominions of the Eastern Empire, the Arabians had seized also the treasures of Grecian learning, which they made available by recasting them into their

own language. Medicine, as one of the most useful of the sciences, received a particular attention. The chief writers upon materia medica were the younger Serapion, the younger Mesue, Rhazes, Avicenna, Haly Abbas, and Albucasis. What they wrote, however, was chiefly borrowed from the Greeks. A few medicines, indigenous in their own country, or brought from the neighbouring regions of the East with which they had commercial intercourse, appear to have been either newly introduced by them into use, or at least were first made known, through their instrumentality, to modern times. The first notices of senna and nuxvomica are to be found in the writings of the Arabians. They cultivated pharmacy with especial zeal, and enjoy the credit of having laid the foundation of chemical science. There is reason to believe that they were acquainted with some mineral preparations, wholly unknown to the ancients. Rhazes speaks of a preparation of mercury; and it is highly probable that they were not altogether ignorant of the antimonials.

The enlightened spirit which characterized the Arabians of the East was carried also into Spain by its Mahomedan conquerors; and schools of medicine were established in the cities of Toledo, Murcia, and especially Cordova, which continued in existence until the subversion of the Moorish power in the fifteenth century.

It was, indeed, through the Arabians that the knowledge of ancient medicine began to be revived in Western Europe. The medical school of Salerno, in the south of Italy, which is said to have been established in the ninth, and continued to exist in the thirteenth century, owed its foundation and support to individuals who had been educated in Mahomedan countries. Many of the Crusaders who, in the East, had exchanged their religious enthusiasm for admiration of Arabic science and civilization, and acquired a knowledge of the Arabic language, must have carried their new attainments back with them into Europe, and become

centres here and there of a feeble illumination amidst the deep general darkness. The Moorish schools, moreover, in the south of Spain, were frequented by individuals from the Christian countries of the North, who contributed to spread still further the second-hand knowledge of the Arabians. The leaven, thus introduced into various parts of Christian Europe, began to produce a slow working of the general mind, which required only the infusion of more abundant material to result in the most vigorous action. Such material was now poured in from the East, in consequence of the capture of Constantinople by the Turks in 1453, and the expatriation of all that remained of learning and science among the degenerate Greeks. The fugitives, scattered over Europe, and especially over Italy, sought a livelihood by teaching Greek, and thus afforded access to the riches of ancient knowledge stored away in that language. The works of the Grecian writers were also translated into Latin, and, by means of the art of printing, then recently discovered, were rendered accessible to all who had any pretension to learning in those days.

As, in the corporeal frame, excitability accumulates during sleep, so the long death-like repose of the human mind appears to have endowed it with renewed vigour; and the materials which, in the hands of the worn-out Greeks, lay useless for the want of power to employ them, were eagerly seized by the awakened spirit of the West, and wrought upon with all the energy of youthful ambition and enterprise. Medicine received its full share of attention. It was soon found that the knowledge, obtained from the Arabian authors, was but an imperfect abstract of that now open in the writings of the ancient Greek physicians, and especially in those of Galen. The works of this author were considered as oracles. In the intensity of the prevailing appetite, everything which they contained was received and devoured without scruple or selection; pure speculation,

crude assertion, absurdities of all kinds, as well as sound reason and truth.

But this could not last forever. The intellectual hunger was at length appeased. In many minds, satiety took the place of the first keen relish; new sources of excitement were demanded; and inquiry began to extend itself beyond the limits of authority. The remedies of the ancients were derived chiefly from the vegetable kingdom; and the few of mineral origin employed, were applied for the most part to ulcers and other external affections. The Arabians had originated a taste for chemical research. This, it is true, was directed towards the discovery of the philosopher's stone and the elixir of life, the former of which was to convert everything into gold, the latter to protract human existence to a thousand years. But the operations of the Alchemists brought to light numerous mineral compounds, which, though incapable of lengthening the natural span of life, were found useful in the relief of disease. The insurrectionists against authority seized upon these new instruments, and wielded them with a senseless and indiscriminate vigour. Isaac of Holland and Basil Valentine maintained that salt, sulphur, and mercury were the true elements of things. A work ascribed to the latter, under the name of "*Currus triumphalis Antimonii*," set forth the merits of the antimonials in extravagant terms. The bold, eccentric, and visionary Paracelsus, armed with mercury, antimony, and opium, and clothed with an impenetrable mail of impudence, ran a vigorous tilt at once against disease and old opinions, and roused the attention of all Europe to his feats. Van Helmont followed with a more enlightened defence of chemical medicine. The advocates of the ancients struggled manfully against these innovations; and a fierce contest arose between the Galenists on the one side, and the Chemists on the other, which continued not less than a century. The latter ridiculed the inertness of the Galenical simples; the former inveighed in unmeasured language

against the murderous violence of the chemical preparations. The depositories of political power sympathized with the supporters of authority in medicine; and at one time the use of chemical remedies was forbidden in France under heavy penalties. Common sense, however, at last prevailed; and physicians felt themselves at liberty to use efficacious means wherever they might be found. The materia medica was thus enriched by the addition of numerous metallic and saline preparations, some of which are at the present day considered among the most valuable of our remedies.

About the same period, important accessions to the materia medica began to be received through the channel of geographical discovery. The traders to India, by the Cape of Good Hope, brought various hitherto unknown medicinal products from the remote East, and rendered abundant in the markets of Europe others which had before reached the West, in small quantities, through the expensive route of Arabian and Venetian commerce. The discovery of America, too, laid open a vast field, which has not yet been completely explored or exhausted. Everything is said to be gigantic on this continent; our plains, our rivers, our mountains; we may add also our diseases and our remedies. For thousands of years the giant strength of Peruvian bark had been slumbering in the Andes. It was now awakened; and diseases which, since the creation, had been stalking, almost unresisted, with a desolating march over the earth, shrunk into insignificance before its beneficent power. Ipecacuanha, jalap, copaiba, sarsaparilla, guaiac, and logwood were also among the numerous contributions made by this continent to the general materia medica.

Up to the seventeenth century, the condition of our science was that of progressive accumulation. Remedy was added to remedy; the whole materia medica of Greece and Rome, swollen by Arabian contribution, was poured into the lap of modern

Europe; and art and nature were ransacked to increase the already vast and ill-assorted mass. There were gems in this mass; but they only sparkled here and there amid the rubbish in which they were embedded. It may be instructive to throw a glance backward, and mark some of the sources of the useless materials which thus loaded the materia medica.

In the first place, many substances inferior in virtues, or combining some noxious property with that for which they were originally used, though superseded by the discovery of others more efficient and less objectionable, were retained from habit, the weight of authority, the affectation of science, or the difficulty, in the irrational therapeutics of the times, of conclusively ascertaining their real relative efficiency.

Again, we now know well that most diseases will in the end, as a general rule, terminate favourably without medicines, and not unfrequently even in spite of medicines. One not properly instructed on this point, seeing recoveries taking place under his treatment, naturally ascribes the result to his medicines, though a closer observation, a more prolonged experience, or a better judgment might afterwards convince him that they were in fact useless, or worse than useless. Here has been at all times, and still continues to be, the stronghold of quackery, and of all other forms of irregular and irrational practice. "My patients get well," says the old woman, and the Indian Doctor, and the man of nostrums and panaceas, and the homœopathist, and the hydropathist, and the whole host of irregular prescribers, through all their ramifications of ignorance, self-deception, cunning, and impudent fraud. "My patients get well," say these pretenders; and so they often do. But it is because nature is wiser and kinder than the prescriber, who nevertheless ignorantly or unscrupulously ascribes to his nostrum all the credit of the cure. Such was the origin of a large proportion of the inert medicines, which crowded the catalogues of the older pharmacopœias.

But there was another abundant source of the same evil. Men had yet not learned the wonderful influence of mental operations over the bodily functions in health and disease. They had not observed how often disorders, especially those seated in the nervous system, give way before powerful emotions, or any strong excitement of the rational or imaginative faculty. In full faith they gave their inert medicaments; in full faith their patients received them; and, without irreverent allusion, faith in medicine is able to remove mountains. It is well known that the cure of intermittent diseases is often effected by exciting in the mind of the patient a firm belief that he will miss the paroxysm. The substance employed may have been wholly inert; but it is nevertheless believed to have produced the result, and takes its rank in the *materia medica*.

But if, along with faith, some other strong mental agency be called into operation; the mysterious, the fearful, the horrible, the disgusting; anything that makes one shudder, the effect is vastly increased. Hence, in old times, the bones of executed criminals, the moss growing on a dead man's skull, animal excrement, toads, and snakes, and disgusting insects, and all sorts of venomous beasts, were supposed to possess curative powers, and therefore found a place in pharmacological catalogues. So common was this, that the apothecary did not think his shop furnished, unless he had in his windows a goodly show of bottled snakes and lizards. The web of spiders is even now considered an efficacious remedy by some practitioners; and dried vipers are retained, as one of the ingredients of the Theriac, in the last edition of the French Codex.

Another somewhat analogous source of inert medicines existed in the singular doctrine of signatures, which supposed a therapeutical relation between substances endowed with certain sensible properties of colour, taste, and shape, and the diseases of organs in which these same properties were found or imagined.

Thus the euphrasia or eyebright was deemed efficacious in ophthalmic complaints, because its corolla bore a fancied resemblance to the eye; hepatica, in disorders of the liver, because its leaves were somewhat like that organ in colour; turmeric, in jaundice, because it was yellow; dragon's blood, in hemorrhage, because it was red; and mandrake, in barrenness and deficient virility, from a supposed resemblance of its bifurcated root to the thighs and body of a man.

But, besides these material incumbrances, the materia medica was burdened, if anything so unsubstantial can be said to be a burden, with a vast number of purely imaginary influences; some springing from mere superstition, some from erroneous science, some from the wildest vagaries of an excited fancy, which, not yet schooled in the strict philosophy of Bacon, and living in the midst of a world of mystery, viewed nothing as absurd or impossible which did not involve a self-evident contradiction. Not to speak of the healing powers ascribed to this or another shrine, to saintly relics, to priestly exorcisms, and to all those analogous means which selfish art has suggested to the misguided devotional tendencies of our nature; there were the influences of the sun, moon, and stars; of magic, sorcery, and witchcraft; of fortunate times, and fortunate numbers; of charms, and spells; of the royal touch, and of innumerable conjunctures of circumstance, to which accidental coincidence, false observation, or a bewildered fancy had attached the notion of positive efficiency. Many of these vagaries, though banished from science, still find a refuge in vulgar ignorance, and the credulity of childhood. Who among you has not heard of that infallible cure for sties, which consists in the patient standing in the middle of two crossing roads, and repeating that erudite couplet,

"Sty, sty, leave my eye,
And take the first person that passes by?"

Who does not know that red flannel is infinitely more efficacious

than white, and that a red string about the neck is a certain preservative against numerous distempers? I would not undertake to affirm, that some of us now present have not, in our childish days, worn a little bag of brimstone about the person, to secure it against a rather vulgar infection from our school companions. We may wonder that all these absurdities could ever have entered into the creed of the cultivated and the learned; but, when we see who and what many of those persons in our day are, who believe in clairvoyance and other extravagances of animal magnetism, and what numbers of distinguished persons, male and female, but especially the latter, swallow with a charmingly infantile faith and simplicity the millionth of a grain of silex, or some other equally powerful homœopathic medicine, and believe themselves cured; our wonder at the past may well be exchanged for a feeling of deep humility, at the real feebleness of the much-boasted human intellect.

A new era in our science commenced with the eighteenth century. The inductive system of philosophy passed, it is true, very slowly into medicine. In relation to the functions of our system, in health and disease, so much is unknown as to afford an irresistible temptation to the speculative spirit, which loves to expatiate in the misty obscure, where no stumbling-blocks of fact lie in the way of its weakness, and no torch of truth shines upon its defects. It was not till within our own times that this spirit of hypothesis yielded to that of investigation; and it still occupies many an intellectual stronghold, from which it is not likely to be expelled so long as the sports of fancy are found less fatiguing than the labours of research. Yet the general current of human thought has, since the days of Bacon, set so strongly into the channel of strict induction, that our science could not but feel its influence in some degree; and, though the *materia medica* has more or less followed the devious flights of medical theory, yet the claims of individual substances, whether of old

or recent origin, to a place in its ranks, have been examined with much greater care, and admitted with much greater caution than formerly. The consequence has been that a vast number of inert articles have been discarded, and all those, which owed their introduction to the vagaries of a deranged imagination, have been swept away, if not from officinal catalogues, at least from general use.

The unitarian theory of medicine, which recognized no other deviation from health than the exaltation of the vital actions above, and their depression below the normal standard, and consequently no other power in medicines than a stimulant or sedative property, had a tendency greatly to diminish the number of substances employed, and co-operated with the new-born common sense of the profession in clearing away the Augean accumulations of preceding ages; one of the constantly recurring examples of that order of Providence, which deduces ultimate good out of present evil.

Two other agencies operated very efficiently both in reducing the materia medica within narrower limits, and in giving a greater degree of precision, order, and consistency to the remaining materials. These were the sciences of botany and chemistry, which, though their seeds had been planted and begun to germinate in earlier times, had not pushed up into a characteristic growth until after the commencement of the last century. Botany proved useful by giving precision to the description of medicinal plants, thereby preventing the confounding of one with another, which had previously been a great source of error. It also served to concentrate the materia medica by leading to the observation of analogous therapeutical properties in certain families of plants, and thus suggesting the probable inefficiency of substances, derived from any particular plant of an inert family. It may even in the same way have tended to confirm the accuracy, or correct the errors of observation, in relation to efficacious medicines;

as the reputed virtues of a plant might be considered as real or suspicious, according as they did or did not conform with the characteristic properties of the family to which it belonged.

Chemistry has been still more beneficial in its influence. Even in its infancy it won for medicine many rich prizes from the domain of nature, and has continued to yield it new and valuable accessions even down to our own times. Witness iodine and its combinations, which have been added to the materia medica since the commencement of the present century. But its usefulness has been experienced even more in the selection, preparation, and various combination of the raw material than in its collection. Teaching the intimate nature of bodies, it afforded the means not unfrequently of ascertaining their relative value, of choosing the best out of a number having similar properties, and of sifting the useful from a mass of the worthless or injurious. By making known the relations and reciprocal actions of bodies, it originated or improved processes for their preparation, detected impurities and substitutions whether fraudulent or accidental, and enabled the prescriber to avoid all the hurtful consequences of incompatible admixture. Through its instrumentality, a precision before wholly unattainable has been introduced into all pharmaceutical operations. Another most important service, which it has rendered to pharmacology, is the discovery of the active principles of vegetable medicines, and the isolation of these principles for practical use; so that we have all the power of the original medicine without its uncertainty, and without the embarrassment of the inert or noxious matter contained in it. The art of extracting quinia from Peruvian bark, which is a pure result of chemical research, is one of the greatest blessings which science has conferred on man. If France has destroyed her millions by the sword, she has also saved her millions by this great discovery. How infinitely preferable are these peaceful and beneficent triumphs of science to all the bloody trophies of ambition! I

would rather, with Pelletier and Caventou, have been the discoverer of quinia, than to have shared the gory honours of Napoleon, exalted as he was in genius, intellect, and energy of will almost above humanity.

Under the influences above enumerated, materia medica has, within the last century and a half, assumed a definite and consistent form. It has risen from the state of embryotic chaos into the matured dignity of science. The pharmacology of our times bears to that of the sixteenth and seventeenth centuries the relation which a regular disciplined army, with its due proportion of foot, horse, and artillery, well furnished, well officered, and well commanded, bears to the vastly superior numbers of an Asiatic host, with several non-combatants for each fighting man, without order, without obedience, a mere armed rabble, which breaks to pieces in its own onset, and shatters under the first blow. How much more effectively, then, are we prepared than our ancestors to sustain the encounter with disease; to guard against its frequent ambushes, to conquer its strongholds! Could the times of antiquity return, and a single tyro in modern materia medica be left, of all the present world, among the sages of the past, the hoary heads of Galen and Hippocrates would bow at his footstool, and Greece and Rome would hail him as a god.

It remains for us, in order to close this very general sketch, to offer a brief account of the several departments of pharmacology as at present existing, and to name a few of the most distinguished modern writers.

The first division of the science is that which considers the source of medicines, in other words, the minerals, plants, and animals which yield them. This is denominated *medical natural history*, of which by far the most copious branch is that which treats of plants alone, or *medical botany*. The next division is the *history of simple drugs*, which embraces a description of medicinal substances as they are placed by commerce in the

hands of the apothecary, including an account of the modes of collecting and transmitting them to market, and a statement of their sensible, physical, and chemical properties. The science next follows the drug into the shop or laboratory, and, under the name of *pharmacy*, teaches the mode of preparing it for use, together with its characters and relations with other bodies when thus prepared. Lastly, the effects of the medicine upon the healthy and unhealthy system, its applications to the cure of disease, and the modes of administering it, constitute the subjects of another and most important department, that, namely, of *therapeutics*. *Toxicology*, or the history of poisons, may also be considered as forming a division of pharmacology; for most poisonous bodies are nothing more than medicines in a high grade of action; and the substances calculated to obviate their morbid effects are clearly entitled to a place in the materia medica. These several subjects, however, are seldom entirely distinct in practical treatises, which often embrace two or more, or even the whole of the departments, and, when ostensibly confined to one, frequently step over its boundaries into a neighbouring province.

The writers of the middle ages, being few, and mere copyists of the ancients, do not merit a particular notice. Among those of the sixteenth and seventeenth centuries were several whose names are still held in respect, though their works are scarcely ever consulted, except by the curious. Such were Tragus, Tabernæmontanus, Cæsalpinus, Bauhin, Pison, and Margraf, who wrote upon medicinal plants; Basil Valentine, Paracelsus, and Glauber, who directed their attention especially to chemical remedies; and Schroeder and Hoffman, who treated of medicines in general. Of the authors of the last 150 years, who have written upon pharmacology in one or more of its branches, the most distinguished are, in Sweden, Linnæus and Bergius; in Germany, Cartheuser, Murray of Göttingen, Vogel, Plenck, Sprengel,

Trommsdorff, Hayne, Nees von Esenbeck, Bucholz, Brandés, Geiger, and Richter; in France, Lemery, Tournefort, Chomel, Baumé, Alibert, Virey, Guibourt, Chevallier, Richard, Fée, Henry, Ratier, Soubeiran, Orfila, Merat, De Lens, Trousseau, and Pedoux; in England, Lewis, Woodville, Cullen, the two Duncans, Murray of Edinburgh, Paris, Thomson, Brande, Christison, and Pereira. Of these, Chomel, Plenck, Woodville, Hayne, Richard, and Nees von Esenbeck treated especially of medical botany; Lemery, Guibourt, Fée, and Geiger, of the history of drugs; Baumé, Brandés, Henry, Ratier, Soubeiran, and Brande, of pharmacy; Orfila and Christison, of poisons; the remainder, of the subject of materia medica in general. I do not speak of the writers of this country, because, in a previous introductory lecture, I treated at large of the history of the materia medica within the United States, and, on that occasion, endeavoured to do justice to those who had, by their writings or otherwise, contributed to the advancement of our science on this side of the Atlantic.*

I am aware that, in the list of European authors just given, many have been omitted, some, perhaps, as much entitled to distinction as those mentioned. I am aware also that a mere enumeration of their names is but a very meager satisfaction, either of their just claims, or your proper curiosity; but time is wanting for a fuller consideration of the subject in this place; and opportunity will frequently be offered hereafter, when upon the subject of particular medicines, to give due credit to those who have deserved well of the science by their contribution of material, fact, or useful reflection.

*Though the lecture here referred to preceded, in the order of delivery, that which is now occupying the attention of the reader; yet, in the relation of subject-matter, it should obviously take a subordinate position; and I have accordingly placed it second in the series.

I have thus, gentlemen, introduced the materia medica to your notice. You will find it altogether worthy of your acquaintance, and may be assured that it will repay abundantly your most solicitous cultivation. True, it does not possess many charms for the careless eye. The recollections of boyhood, when the nauseous draught was forced by parental anxiety down your reluctant throat, are altogether against it. The very odour of the drug-shop naturally indisposes to a close association with the drugs themselves. The nature of the science, moreover, is so manifold, that a laborious attention is necessary even to a moderate intimacy. But when you come to know it well, you will rejoice that you overcame the first feeling of disinclination. You will find it a true friend in your time of need, aiding you in your daily encounters with disease, inspiring confidence, and offering means of relief, when there would be no hope without it; and, where you cannot save, enabling you to smooth the way of the departing, and to shed comfort on the last hour. You will, therefore, gentlemen, I know, honour my introduction; you will give your best regards and your best efforts to the science; and I shall be happy to stand by, encouraging your zeal, and assisting your labours to the utmost of my ability.

LECTURE II.

DELIVERED NOVEMBER 3RD, 1840.

History of Materia Medica in the United States.

ALLOW me, gentlemen, before proceeding to the peculiar duties of the occasion, to greet heartily my old friends among you, and to those who are here for the first time to proffer my kindest regards, while I ask for theirs in return. It is always my desire, when entering with the class upon our mutual labours for the winter, that we should go hand in hand together. Not only is the way thus rendered more agreeable both to teacher and pupil; but they are also enabled to advance more rapidly; as the intellect always operates with greater efficiency when aided by the affections. That head must be empty indeed which the heart cannot stimulate into action. The consciousness that he possesses the good will of his class is to the lecturer one of the most powerful incentives to exertion; and instruction seldom fails to sink deeply into the learner, when he feels that it proceeds as much from interest in his welfare as from a sense of duty. Let us, therefore, gentlemen, set out as friends upon our contemplated journey. You will find me disposed to do everything, during its course, which will contribute to leave us friends at the end of it.

I have selected, as the subject of this introductory discourse, the *history of the materia medica in the United States*. In this choice, I do not wish to be considered as actuated by any narrow

preference of the discoveries or improvements, made in our own country, over those of foreign origin. Our patriotic partialities have been appealed to in favour of American medicine, in contradistinction to that of the old continent. But this is folly, or something worse. Medicine is a science, and science is truth brought to light. Now, truth is one everywhere. She is of no place or country. Wherever she may be brought forth, from the moment of her birth, she belongs equally to the whole world. She brooks no individual or national fetters; but is the common friend and servant of mankind. To speak of an American truth would be absurd. Would it be less so to speak of American medicine, as something distinct from the general science? But, though it becomes us to throw aside that impolitic self-conceit of patriotism which undervalues whatever comes from abroad, and stigmatizes with the ancient Greeks and modern Chinese everything foreign as barbarous, we may justly and profitably endeavour to estimate the amount of truth which our country has contributed to the general mass, and thereby stimulate a generous emulation to augmented efforts, either to supply deficiency, or to achieve or maintain an honourable precedence in the race of improvement. This is all that I purpose in calling your attention to the materia medica of the United States.

In treating of this subject, I propose, *first*, to give a general view of the medicines which our country has furnished to the world, and of the resources she contains within herself; *secondly*, to speak of the condition of this department of medical science, and of the individuals who have contributed to its promotion within our limits; and *thirdly*, to offer you some inducements to exertion in the development of our yet hidden, or but partially discovered treasures.

If we extend our view to the whole American continent, we have to boast, on this side of the Atlantic, of medicinal resources inferior probably to those of no other section of the globe. Not

to mention numerous substances of little importance, we have, in the Peruvian bark, the most valuable of all tonic medicines, scarcely indeed surpassed in efficiency and extent of application by any other article of the materia medica; in the quassia of Surinam and the West Indies, the strongest of the pure vegetable bitters; in the rhatany of Peru, one of the most efficient astringents; in the ipecacuanba of Brazil, the best of all vegetable emetics; in the jalap of Mexico, the best vegetable hydragogue cathartic; in the balsam of Tolu, a good stimulant expectorant; and finally, in copaiba, and guaiac, and sarsaparilla, medicines of peculiar and valuable properties, such as could not well be dispensed with in the practice of our art, and could not be replaced elsewhere. But none of these substances are found in the United States; at least none of them are furnished to commerce by the soil of our country.

It is, indeed, singular, considering the extent of our territory, the diversity of its climate, and the vast number of its vegetable productions, that so few medicines from this source have been admitted into the European catalogues of materia medica, or even come into general use among our own practitioners. When I have mentioned lobelia, sassafras, seneka, serpentaria, spigelia, toxicodendron or poison oak, and the Canada and common white turpentine, I should be at a loss to add the name of another medicine, procured exclusively from the territory of the United States, or north of it, which has been introduced to any considerable extent into European practice. It is true that there are several medicinal plants common to North America and the old continent; such as the bitter-sweet, dandelion, hop, Iceland moss, juniper, pipsissewa, thorn-apple, and uva ursi. But, even with this addition, the catalogue of our indigenous medicines recognized abroad is very meager; and it is a question of some interest, how it happens that so great a disproportion exists between the extent of our country and its contributions to the

general materia medica. It is not that our native resources, in this respect, are peculiarly deficient. On the contrary, as I shall soon have occasion to show, the United States are rich in indigenous medicinal products. But there is a coincidence in properties, real or supposed, between the old standard medicines and many of those of native origin, which has caused them to be applied to the same states of disease; so that the substitution of the latter for the former could yield no advantage sufficient to overbalance the influence of habit in practitioners, their natural want of confidence in untried means, and the various facilities for prescription, afforded them by a regular supply of the drug through established commercial routes, and long-settled modes of pharmaceutical management. Labour, moreover, in this country is too costly to compete with that which supplies most of the foreign drugs. We wield the various means of profit on too large a scale, and are too much accustomed to the floods of gain which pour in from vast fields of labour and enterprise, to pay much regard to those dribblets that accrue from the collection of barks and roots. Hence, the supply of our indigenous medicines is not such as to enable them, upon considerations of economy, to displace those already in use of equal or better understood virtues; and the consequence is that the general demand for them is confined to substances of peculiar properties, such as could not be elsewhere procured. The influence of our national habits of labour upon the commercial value of drugs, is strikingly illustrated in the very great increase in price of spigelia or pink-root, since the emigration of the Cherokee Indians, by whom chiefly it was in former times collected and sent to market.

I have said that the United States are rich in medicinal products. This will be rendered obvious by running the eye over a list of the more important indigenous medicines, classified according to their effects upon the system. Under the head of

astringents, we shall find the bark of different species of oak; the roots of the blackberry, dewberry, *Geranium maculatum*, and *Heuchera Americana* or alum-root; and the leaves of the pipsissewa and *uva ursi*. Among these are medicines capable of being employed for any object attainable by means of the class to which they belong, at least of the portion of it derived from the vegetable kingdom. In tonics our country is very rich. It is true that we have no cinchona; but, in the barks of the different species of *cornus* or dogwood, we have remedies analogous, though inferior to it in virtues. Of the simple bitters, *sabbatia*, *coptis*, and *xanthorrhiza* might be substituted for *gentian*, *quassia*, and *columbo*. The union of various important properties with the purely tonic, as those of a stimulant in *serpentaria*, of a narcotic in hops, of a sedative in wild-cherry bark, of a diaphoretic and emetic in boneset, renders these medicines of great value; and those of them not hitherto introduced into the universal materia medica, highly deserve to be so. I consider wild-cherry bark as among the most efficient remedies in the tuberculous diathesis, and not inferior to any other medicine in the treatment of consumption itself.* Our catalogue of aromatics is also copious, including, among others, *angelica*, *calamus*, *sassafras*, *hedeoma* or pennyroyal, common *marjoram*, *partridge-berry*, and *spice-wood* or *laurus benzoin*. Of stimulants we have *turpentine* and its volatile oil; of narcotics, *stramonium* and *dulcamara*; of antispasmodics, *dracontium* and *cimicifuga*. Our emetics, if we leave *ipecacuanha* out of the question, are inferior to those of no other country. *Lobelia*, though so much abused by empirics, is possessed of highly valuable properties; *gillenia* is supposed to resemble the famous Brazilian root in its action; and *sanguinaria* conjoins with its emetic properties others of a

* This was written before the introduction of cod-liver oil; and with this exception, I consider the remark as still holding true.

peculiar nature, which are thought to render it especially useful in certain forms of disease. Among the cathartics, we have substitutes for several of those imported, as in cassia marilandica for senna, in extract of butternut for rhubarb, and in podophyllum for jalap. We are not wanting in diaphoretics or diuretics, and as an expectorant our seneka holds, in my estimation, the very highest rank. As epispastics we have several species of *Cantharis* not inferior in virtues to the Spanish fly; and the *Cantharis Nuttalli* of the far West may some time come into extensive use, as it is said to be abundant, and has the advantage of equalling if it does not exceed the foreign insect in magnitude. Our native turpentine and its volatile oil, together with hemlock pitch, are good rubefacients; slippery-elm bark is an excellent demulcent and emollient; and perhaps in no part of the world are there vegetable anthelmintics more efficacious than *spigelia* and *chenopodium*. In this enumeration I have not attempted to exhaust the whole catalogue of native medicines. My object was only to show that our resources are ample, by calling attention to the more prominent of those substances the virtues of which are known. Besides those mentioned, there are many others which have been more or less investigated; and I have no doubt that some yet lie buried in the mass of our luxuriant vegetation, which will one day be brought to light, to the honour of their discoverers, and the benefit of mankind.*

More than fifty years ago, the opinion was advanced by Shoepf that, relying upon their native resources, the Americans might dispense with the greater part, if not the whole, of the

* Since this lecture was delivered, *Veratrum viride* or American hellebore, and *Leptandra*, have acquired a reputation, the former as a sedative, the latter as a cholagogue cathartic, which, had it then existed, would have insured their admission into the above list. The common poke-root, *Phytolacca decandra*, has considerable reputation as an alterative cathartic.

imported medicines. Even at the present time, however, with all the improvement which half a century has conferred upon our indigenous materia medica, I cannot coincide wholly in this sentiment. The present standard remedies are for the most part those which have stood the test of ages. They have been gathered from all quarters of the globe, have gone through every variety of trial, and have been sifted out from an immense mass of materials, which had been for thousands of years in the course of accumulation. Happy the country which can boast itself the source of one of the more important of these remedies! It will hold a place in the memory of mankind so long as human infirmity shall exist, and, even with no other claims upon our sympathies, will rank among the valued spots of the earth, when countries which derive their importance from mere temporary causes shall have been forgotten. The whole human family will ever look to the region of the Andes with interest, as the source of Peruvian bark, even though the political clouds which now overshadow her shall deepen into tenfold darkness, and her moral culture become as desolate as her own icy summits. It is not in the order of Providence to lavish on any one country a wealth, equal to that scattered over the whole world beside. Not even the microscopic eye of patriotism could magnify our medicinal riches into competition with those of the entire globe. They are, however, very ample; and, should political accident ever cut off our supply of drugs from abroad, though the want of them would certainly be severely felt, we should nevertheless be able, in the products of our own soil, to find partial substitutes for almost all that we had lost. It becomes us most carefully to cultivate our resources, both that we may be fully prepared against whatever adverse events may occur, and in the hope, moreover, that we may thereby add something new and valuable to the means already existing for the alleviation of human evil.

It is an interesting subject of inquiry, in what manner attention was first attracted to the medicinal plants of this country. When our ancestors had established themselves in their new home, and began to investigate with the eye of curiosity or interest the various novelties around them, it was natural that they should at once be struck with resemblances to familiar objects, and should expect a similarity in properties where they found a similarity in appearance. The care of their health no doubt early directed their inquiries towards medicinal products; and plants, resembling the simples with which they had been familiar, received corresponding names and similar applications. Thus we have our centaury, our dittany, our hellebore, our pennyroyal, our senna, our worm-seed, and numerous others so closely allied to the European plants by botanical affinities as to be entitled to the same generic designation, such as the elder, the elm, the oak, the pine, and the willow. In this way a domestic materia medica was immediately commenced, which gradually increased as substances before unknown were accidentally, or from the possession of certain striking sensible properties, submitted to trial, and found or imagined to operate usefully as medicines. Several substances were also derived from the aborigines, of which the most important are *seneka*, *serpentaria*, and *spigelia*.

It was at one time a general belief that the Indians were in possession of many valuable remedies, and had even specifics for various obstinate complaints which had baffled European skill. These they were supposed to keep secret from some mysterious cause, which acted powerfully on the popular faith by exciting the imagination. A class of empirics took advantage of this superstition, and, under the name of Indian Doctors, spread themselves over the country, imposing their nostrums upon the public credulity as secrets obtained from the aborigines, and decrying, with all the zeal of the Thompsonians who have succeeded them, the poisonous minerals employed by the regular

practitioners. But faith in the superior medical knowledge of our savage tribes is disappearing with the tribes themselves. The simple truth seems to be, that many of the indigenous medicinal plants were known and employed, though very unskillfully, by the Indians, who communicated all they knew to the Europeans upon their settlement in the country. Whatever mystery may have, in some instances, been thrown over the subject, was a contrivance of imposture to conceal its real ignorance, or to magnify, through the effect of partial obscurity, its little grain of knowledge into something worthy of notice.

The wants of the country during the war of independence, when the supply of drugs as well as other necessaries from abroad was very much impeded, stimulated attention to our indigenous resources, and led, if not to the discovery, at least to a fuller investigation and more extensive use of various native medicines.

Another circumstance which contributed very considerably to the cultivation of our native materia medica was the regulation, formerly existing in this school, which required the publication of the inaugural dissertations of the graduates. A laudable regard to their reputation stimulated the exertions of the candidates, many of whom were induced to extend their researches into the yet but very partially explored region of our native medicines, and were rewarded by discoveries either of new substances, or of new and valuable properties in those already known.

It is due to those who have aided in bringing a fresh soil of knowledge into culture, that their names and services should from time to time be revived in the memory of their successors, who are enjoying the fruits of their labours. It is, besides, a healthy excitant of our own exertions, thus to have placed before us the example of useful effort, and its just reward of commendation. An account, therefore, of the earlier writers upon our indigenous materia medica may be justly expected from a teacher

of that science, addressing those who are to be at once the depositaries of the reputation of their predecessors, and claimants of a like office from posterity towards themselves. I wish to make the proposed sketch as full as the occasion will permit; but it will be necessarily inadequate, and should be filled up by your own further research.

The earliest notices which I have been able to discover of North American medicinal plants are those contained in the *Flora Virginica* of Dr. John Clayton, published at Leyden by Gronovius in 1739. Dr. Clayton was a native of England, but emigrated early in life to Virginia, where he became eminent as a naturalist and physician, and died in 1773, at the very advanced age of 88 years. Dr. Thacher states that he published, in the *Philosophical Transactions*, an ample account of the medicinal plants which he had discovered. It is his name, I presume, that has been enshrined in the botanical designation of that beautiful little spring flower, the *Claytonia Virginica*.

In the years 1743 and 1744, similar medico-botanical notices of plants, growing in the province of New York, were published in the *Upsal Transactions* by Dr. Cadwallader Colden, a gentleman of considerable scientific and political distinction, who came from Great Britain to this country about the year 1710, and established himself in that province.

But, perhaps, the most ample of these earlier contributions was that by John Bartram, a native, I believe, of Pennsylvania, who was distinguished as an indefatigable cultivator of botany, and is very favourably remembered in this city as the founder of the botanical garden upon the Schuylkill, which has always gone by his name, and is still in the hands of one of his descendants.* His essay, containing a description of several medicinal

* This splendid botanical garden has subsequently passed into other hands, and is now greatly deteriorated, if, indeed, it retains at all its original character.

plants of North America, was printed in the year 1756, in the *Amœnitates Academicæ* of Linnæus, as a portion of a paper denominated *Specifica Canadensium*, prepared by John Von Cölln, and intended to embrace what was at that time known in relation to the materia medica of this country.

In subsequent years, various additions were incidentally made to the store of knowledge by writers upon other subjects, as by Catesby in his *Natural History of Carolina*, and by Kalm, a Swedish gentleman, who travelled in North America about the middle of the last century, and published an *Itinerary* on his return to Europe.

The first work devoted expressly to the materia medica of North America was that of Dr. Shoepf, a German physician, who came with the Hessian troops to this country during the revolutionary war, and remained for some years after its termination, travelling through the different States, and giving an especial attention to the study of plants. After returning to Europe, he published, at Erlangen, in Germany, a treatise in the Latin language, under the title of *Materia Medica Americana*, describing with scientific brevity a great number of our indigenous and naturalized plants, with the shortest possible account of their sensible properties, effects on the system, and medical uses. His work, however, can be of little use to the practitioner; for, though he has introduced everything into it with an indiscriminating eagerness, his practical remarks are exceedingly vague, meager, and unsatisfactory; and even the dose and proper mode of administration are, for the most part, withheld.

A much more valuable practical essay was that of Doctor Benjamin Smith Barton, formerly professor of materia medica, and afterwards of the practice of medicine in this University, whose various knowledge, zeal in the prosecution of natural history, and talents as a medical teacher are still fresh in the recollection of the profession. No one man in the United States, I

presume, has contributed so much to the improvement of our native materia medica. Not only did he diffuse by his writings and lectures the knowledge which he had accumulated by diligent research, but he breathed a spirit of investigation into the young men who heard him, that produced a rich result of discovery. The work referred to lays no claim to the consideration of a regular treatise, being modestly entitled "Collections for an Essay towards the Materia Medica of the United States," and consisting of materials partly gathered from previous writers, partly accruing from his own inquiries and observations, and thrown together without any great attempt at elaboration. His aim appears to have been to collect into a single repository, of convenient access, facts which might otherwise have been lost, or, from their scattered condition, have remained inaccessible to ordinary research. His book has been a storehouse of materials for subsequent authors, and will probably continue to be at the fountain-head of inquiry; as it contains all that an investigation pushed into the times beyond it would be likely to discover. It consists of two parts, the first of which was published in 1798, and afterwards with some additions in 1801; while the second part did not make its appearance till 1804.

It would be impossible for me, consistently with my present design, to mention individually the numerous inaugural essays and monographs published in the journals, in relation to particular indigenous medicines. Many of these have considerable merit, and some have been the means of introducing to general notice valuable remedies, which have since retained a place in the public esteem. It was soon after the appearance of Dr. Barton's *Collections*, that the attention of students of medicine appears to have been most strongly directed into this channel; for in the year 1802, not less than six theses on the subject of our medicinal plants were published by alumni of this school, though the whole number of graduates of that year did not exceed twenty.

I do not know that it is strictly in keeping with the plan of this lecture to call attention particularly to the botanical works, which appeared about this time and subsequently, and which, though they did not make the medicinal virtues of plants a special object, nevertheless contain scattered notices in relation to them, of some value to the physician and medical writer. It may, perhaps, be sufficient to mention the North American Flora of the elder Michaux, which was printed at Paris in 1803, and that of Frederic Pursh, who, after having been diligently engaged for more than twelve years in exploring the botany of this country, either by personal examination of the plants in their localities, or by means of the herbariums of others, published at London, in 1814, his very valuable work.

There is another author whom it would not be just to pass over, without some allusion to his merits in connection with our subject. I refer to the younger Michaux, whose treatise on the forest-trees of North America, written in French, and published at Paris in 1812, was soon afterwards translated by Mr. Hillhouse into English, and printed at the same place. This is a splendid work, containing a great number of beautiful illustrative engravings, and embodying a vast deal of information in relation to our forest-trees, which, though it bears more especially upon commercial and agricultural interests, is yet, in many instances, of considerable value in a medical point of view.

We have now come to the period of contemporary writers, in relation to whom prudence would recommend silence; as praise, though deserved, might to over-delicate ears sound like adulation, and censure might be ascribed to envy or the ill-will of opposite interests. Yet if we yield to this squeamish delicacy on the one hand, and to the fear of derogatory imputations on the other, we deprive merit of its best reward; the knowledge, namely, that it is justly appreciated; while impertinent ignorance is allowed to strut about with impunity, and impose its fooleries

or knavery upon modest simplicity as truth. I scarcely know why I should preface by these generalities the introduction to your notice of two works, which, from an American pen, deserve nothing but praise, and the character of which is so well established, that no commendation which I might bestow upon them would be ascribed to other motives than a sense of justice and patriotic pride. I confess, gentlemen, that I do feel some pride in naming to you the *Medical Botany* of Dr. Wm. P. C. Barton of Philadelphia, and the *American Medical Botany* of Dr. Jacob Bigelow of Boston; not that these productions offer a claim to the highest rank as works of science or art, but that, considering the materials at command, the state of the arts among us, and the meager patronage they were likely to receive, the enterprise, industry, zeal, and, I may say, success with which they were executed, and the great advance which they exhibit beyond whatever previously existed here, are calculated to do honour to all of us as fellow-countrymen of their authors. The design of their execution appears to have been nearly simultaneously conceived, and they were both published in the year 1817. They consist of descriptions, somewhat ample, of our medicinal plants in all their interesting relations, with coloured engravings of these plants, and all sorts of references. It might be invidious to discriminate between them; but if I were to venture an opinion of their relative merits, I should give the palm decidedly to the Philadelphia work upon the score of art and elegance of execution, while that of the Boston professor might well dispute the precedence on the score of science and research. They have conjointly placed our native materia medica on a much higher footing than it stood upon before; and nothing has been subsequently published which could have the least tendency to throw them into shade.*

* The date at which this lecture was delivered must be borne in mind by the reader.

To bring our hasty review down to the present time, we have only to allude to the facts, that, in the various treatises upon the general subjects of materia medica and pharmacy which have been published in this country, our own medicines have received their share of attention; and that articles have occasionally appeared in the medical journals, either containing new facts, or presenting what was before known in a new light.

There is, however, one circumstance connected with our present subject, which it would be improper to pass over wholly without notice; I allude to the chemical analysis of many indigenous medicines, which has resulted in a much more accurate knowledge of their composition, and a juster view of their pharmaceutical relations than previously existed. The particular results have been consigned to the journals, and cannot of course be mentioned here; but such of them as are of practical value to the physician will be noticed under the heads of the several medicines in my lectures. We are indebted for them chiefly to graduates of the Philadelphia College of Pharmacy, which appears to have afforded to its students, in their particular pursuit, a stimulus similar to that which our own school, at a period of its history already referred to, imparted to the candidates for its honours.

In no part of the United States, perhaps, has our indigenous materia medica been practically cultivated to the same extent as in New England, and particularly in Connecticut. Several medicines of native origin are, I am told, habitually employed by the regular practitioners, which are little if at all used elsewhere; and Professors Ives and Tully, who have successively lectured on materia medica in the Medical Department of Yale College, are said to have offered to the student a minuteness and variety of information upon the physiological effects and therapeutical uses of those medicines, which would be in vain sought for in books. It is to be hoped that the present professor may some time consent to share with his medical brethren in general his

peculiar knowledge; for it must be confessed that there is nothing in which we are more deficient, than in the accuracy and precision of our acquaintance with the virtues of most of our indigenous medicines.*

It is worthy of mention, in connection with this subject, that particular attention has been paid to the collection and preparation of indigenous plants by the Shakers, who furnish, indeed, to the shops most of their supplies, and generally in the best condition. An extensive business of this kind is carried on by the Shakers of Lebanon, in New York; and, during a recent journey in Ohio, I found that at their settlement in that State they were cultivating the same source of profit.

Our view has hitherto been confined to the state of materia medica, in relation to the objects of that science furnished exclusively by this country; we are now to consider the history and condition of the science in its general relations among us. A few words will embrace all that need be said on this subject; for the history of materia medica in the United States has been, till within a few years, identical with that of the same branch of knowledge in Europe. While we were colonies of England, we were willingly indebted to the mother country for intellectual supplies, as well as for manufactures, and, considering our credit as involved in hers, did not seek an independent national reputation. Our medical doctrines and modes of practice, the choice of remedies and their modes of preparation, even the medicines themselves and all their pharmaceutical modifications, were received from Great Britain with a filial respect, which did not allow us to suspect the possibility of anything better, or more

* It is scarcely necessary to inform the reader that Dr. Wm. Tully, alluded to in the text, recently died, while engaged in an elaborate work on materia medica, of which two volumes had issued from the press at the time of his decease.—*Note to the first edition.*

applicable to our condition. Her authorities were our authorities, her books were our books, and in great measure her physicians were our physicians; for the great West was then the Atlantic border, and the young medical men from the mother country found a welcome as cordial as that now extended, on the banks of the Mississippi, to the alumni of our own schools. Nor did our professional cease with our political dependence. For many years after we had thrown off the yoke of the mother country, we continued to look to her authors almost exclusively as our guides in medicine. So far as concerns the materia medica, the first effort to supply ourselves was in the publication, in 1806, of the American Dispensatory by Dr. John Redman Coxe. This work was little more than a reprint of the Edinburgh Dispensatory, with an alteration in the arrangement of the articles, and the introduction of some notices in relation to our indigenous medicines. Such as it was, however, it acquired great celebrity, passed through numerous editions, and, for many years, was the almost exclusive pharmaceutical guide-book of a great portion of the Union. In 1810, appeared the American New Dispensatory by Dr. James Thacher, of Massachusetts, which, with greater claims to originality, was scarcely less meritorious in other respects than its predecessor, and had the advantage of presenting more elaborate and better digested accounts of our native medicines than had yet appeared in any one work. This soon divided with Dr. Coxe's book the patronage of the country, circulating more especially in the Eastern States, though it also penetrated into a few shops and libraries in the more Southern sections.

In the year 1817, a new era in the history of our science in America commenced with the publication of Dr. Chapman's work on Therapeutics and Materia Medica. Hitherto we had done little more than add to the products of the European press our peculiar knowledge in relation to indigenous medicines. Dr.

Chapman took a bolder flight; and, by the publication of a systematic and original treatise, containing elaborate doctrine, interesting practical views, and highly important therapeutical facts of a general character, placed us at once upon a footing with English authorship in this department of medicine. If his work be considered rather in reference to the physiological effects, or practical application of medicines, than to their history as objects of physical science or pharmaceutical management, though, as they who have attended my lectures well know, I cannot coincide in all the opinions which it advocates, I can with sincerity say that I know of nothing superior or equal to it, among the treatises on materia medica in the English language, existing at the time when it was written. The work of Dr. Chapman was followed, in 1822, by the *Materia Medica* of Dr. Bigelow, and, in 1825, by the *Materia Medica and Therapeutics* of Dr. Eberle. The former was intended as a sequel to the *Pharmacopœia* of the United States, of which it may be considered as an explanatory commentary, without claiming to rank as a finished treatise upon the science. The latter is an elaborate work, prepared with great industry and research, and containing much very valuable information. I should not be doing justice to the student without recommending to him, especially in the intervals of his winter labours, the diligent perusal of Dr. Chapman's and Dr. Eberle's treatises.

Of the work which came next in the order of time it does not become me to speak, except in the most general terms. The United States Dispensatory, which has been adopted as the textbook of the ensuing course of lectures, made its first appearance in 1833. I may, perhaps, be permitted to say of that portion of the work executed by my friend, Dr. Bache, which concerns for the most part the chemical articles, that it is marked by all the scrupulous accuracy, precision, and faithfulness, which so favourably characterize the author in all his relations.

To complete the list of American works upon materia medica, it remains only to mention the "New Remedies" of my friend and co-labourer in this field of medicine, Dr. Dunglison, which was published in 1839. This is a valuable treatise, containing much information in relation to new or little employed remedies, and might advantageously lie on the table of every practitioner, with a view to occasional reference.*

* Since the year 1840, many other works on materia medica and pharmacy have been given to the world by American writers. The *Medical Formulary* of Dr Benjamin Ellis, published in 1826, and the work on *Baths and Mineral Waters*, by Dr. John Bell, first published in 1831, should have been noticed in the text. The following is the list, with the dates of publication, so far as the author has ascertained, of those which have appeared subsequently to 1840: *Dictionary of Materia Medica*, on the basis of Brande, by John Bell, M.D., 1841; *General Therapeutics and Materia Medica*, by Robley Dunglison, M.D., 1843; *Elements of Materia Medica and Therapeutics*, by John P. Harrison, M.D., 1845; *Adulteration of various Substances used in Medicine and the Arts*, by Lewis C. Beck, M.D., 1846; *Illustrations of Medical Botany*, by Jos. Carson, M.D., a splendid work in two large quarto volumes, 1847; *Medical Botany*, by R. Eglesfeld Griffith, M.D., 1847; *Materia Medica and Therapeutics*, by Martyn Paine, M.D., 1848; *Catalogue of the Medical Plants of New York*, by Charles A. Lee, M.D., 1848; *Essay on Infant Therapeutics*, by John B. Beck, M.D., 1849; *Chemical and Pharmaceutical Manipulations*, by Messrs. C. Morfit and A. Muckle, 1849; *Materia Medica and Therapeutics*, by Thos. D. Mitchell, M.D., 1850; *A Universal Formulary*, by R. Eglesfeld Griffith, M.D., 1850; *Lectures on Materia Medica and Therapeutics*, a posthumous work, by John B. Beck, M.D., edited by C. R. Gilman, M.D., 1851; *Synopsis of the Course of Lectures on Materia Medica and Pharmacy*, in the University of Pennsylvania, by Joseph Carson, M.D., 1851; *Outlines of a Course of Lectures on Materia Medica*, in the Medical College of South Carolina, by Henry R. Frost, M.D., 1851; *Review of Materia Medica, for the Use of Students*, by John B. Biddle, M.D., 1852; *Mineral and Thermal Springs of the United States and Canada*, by John Bell, M.D., 1855; *Introduction to Practical Phar-*

Having seen what has been written upon the subject of which we are treating, we are naturally led to the inquiry, what has

macy, by Mr. Edward Parrish, 1856; *Treatise on Therapeutics and Pharmacology*, by the author, 1856; and *Rational Therapeutics*, by Worthington Hooker, M.D., 1857. The unfinished work of the late Dr. Wm Tully has been referred to in a former note; and a *Treatise on Materia Medica and Therapeutics*, by Alfred Stillé, M.D., is announced as in the press.* Besides the publications above mentioned, valuable additions have been made by their American editors to various foreign works on materia medica and pharmacy, reprinted in this country. Without attempting to enumerate all these, I would call attention to the *Additions to Mohr and Redwood's Treatise on Pharmacy*, by Prof. Wm. Procter, Jr., and those of Prof. Jos. Carson, M.D., to the excellent work of Dr. Pereira on *Materia Medica*.

It would be unpardonable, in a catalogue of American contributions to materia medica and pharmacy, to pass without notice the *American Journal of Pharmacy*. Commenced, with the title of *Journal of the Philadelphia College of Pharmacy*, in the year 1825, under the auspices of the College, it was suspended, after the issue of a few numbers, until the year 1829, when it was resumed, under the same auspices; and from that date it has continued uninterruptedly to the present time, having, in the year 1835, taken the more appropriate title of the *American Journal of Pharmacy*. The editors, who have always been aided by a publishing committee of the College, have been, successively, Dr. Benjamin Ellis from 1829 to his death in 1831, Dr. R. E. Griffith from 1831 to 1837, Dr. Jos. Carson from 1837 to 1850, and Prof. Wm. Procter, who followed after the resignation of Prof. Carson.† This journal has contributed largely, at all times, to the progress of pharmacy in the United States, and is at present by far the best pharmaceutical periodical with which the author is acquainted, in the English language. Another pharmaceutical journal, entitled *New York Journal of Pharmacy*, was

* I need not say that this work met with distinguished success, and is now, January, 1872, among the standard works on *Materia Medica*.—*Note to the second edition*.

† Professor Procter having retired from the editorship of the *American Journal of Pharmacy*, it has passed into the hands of Professor John M. Maisch.—*Note to the second edition*.

been done or discovered, in this country, towards the advancement or improvement of the science of materia medica, independently of the additions it has received from our indigenous products. The amount of our contributions in this way is not large. Most medicines have been so long subjected to all sorts of trial, in every variety of disease, that to fall upon a really new physiological property, or therapeutical application, is a rare occurrence; and even where an individual may imagine that he has made some interesting or important discovery, the chances are great that it is a long known and recorded fact, of which he was ignorant from deficient means of information. In the short annals, therefore, of our independent medical history, we are to look for very few improvements of the kind alluded to. Still, by running our eye over the medical journals, we shall find that our soil has not been entirely barren. From among the great mass of suggestion and reported experience, a few facts might be picked out here and there which have the stamp of novelty. You will observe that I am now speaking of the general materia medica, exclusive of that which is the peculiar product of our native vegetation, and in which our contributions have been ample. To mention each individual case, in which an old medicine may have received a new application at our hands, would be out of place on this occasion. Such notices belong to the special history of medicines, and will be introduced

published in the city of New York, in the year 1852, but was suspended after a short continuance; and a third, now in existence, is published in Baltimore, under the name of *Journal and Transactions of the Maryland College of Pharmacy*, and bids fair to maintain a highly respectable position among the journals of the country. *The American Pharmaceutical Association* has also published annually, for the last seven years, a volume of its *Proceedings*; and the volume giving the proceedings for the year 1858 contains much matter of interest to the medical as well as the pharmaceutical profession.—*Note to the first edition*, Dec. 1859.

into my lectures under appropriate heads. There have, however, been two discoveries by American physicians which merit particular notice; as they have been the means of introducing, out of the mass of materials everywhere accessible, new and effective remedies into general use. One of these discoveries, made by Dr. John Redman Coxe, was of the existence of virtues, analogous to those of opium, in the inspissated milky juice of the common lettuce, which has consequently found a place in the officinal catalogues, both here and in Europe, under the name of lactucarium; the other, due to Dr. Stearns, of the State of New York, was of the peculiar and highly important properties in ergot, which have led to its universal adoption as an article of the materia medica.*

There yet remains another point of view, from which to consider the materia medica of the United States. In every civilized country of Europe, it has been considered indispensable, in order to a due regulation of the nomenclature and preparation of medicines, to establish a system of rules, which should have the sanction of law. Without the uniformity resulting from such pharmaceutical codes, no physician could depend on obtaining from the apothecary the same medicine or preparation, under the same name, and infinite confusion, with its consequent mischief, would result. These codes are put forth, under the title of pharmacopœias, by colleges or other authorized bodies, and, having the sanction of the government, constitute a part of the public law. Thus, the pharmacy of England is regulated by the London College of Physicians through their pharmacopœia, that of

* In this connection, it is proper to refer to ethereal inhalation, as an anæsthetic in surgery, first brought into notice by Dr. Morton, of Boston, and to the employment of collodion for its adhesive qualities, which is due to Dr. Maynard, also of Boston; both of which are discoveries of American origin, and the first, perhaps the most important which has been made, in this department of medicine, since the discovery of quinia.

Scotland in like manner by the Edinburgh College, and that of Ireland by the Dublin College.* In this country we were long without any such generally recognized code; and the preparations were made according to the directions of one or another of the British Colleges, at the discretion of the apothecary, or even according to some favourite recipe of his own; so that compounded medicines of the same title were often entirely different in different sections of the country, and even in different shops of the same town. The first effort to remedy this evil, of which I have any knowledge, was made in 1808 by the Medical Society of Massachusetts, by which measures were taken for the preparation of a pharmacopœia, which was published, and was afterwards adopted by the Medical Society of New Hampshire. But no general movement took place till about the beginning of the year 1820, when a convention of physicians from various parts of the country met at Washington, and framed a pharmacopœia, which was intended to express the sentiments of the profession throughout the Union, and thus to acquire an authority which we have not the means of conferring on such a work by law. It was denominated the Pharmacopœia of the United States,

* In consequence of an act of the British parliament, regulating, in some degree, the medical profession in Great Britain and Ireland, the three pharmacopœias hitherto recognized are to be consolidated into one; and a committee, under the auspices of the general Medical Council, which may be considered as the representative of the whole profession in the British Islands, is at this moment engaged in preparing a pharmacopœia, which is hereafter to be the sole standard for the empire.* If no other good than this shall result from the recent movements of the medical profession in England, all the time, trouble, and expense which they have cost, will be far overpaid.—*Note to the first edition*, Dec. 1859.

* This has been published, and has even gone through a second revision; and is now the only recognized code within the bounds of the British empire.—*Note to the present edition*, Jan. 1872

and was received, to a considerable extent, as the pharmaceutical standard of the country; but its many defects and errors, such as are incident to a new undertaking, and especially to one in which numerous irresponsible hands are engaged, prevented its universal acceptance. Provision, however, had been made for the supply of these deficiencies by a revision at the end of ten years. Accordingly, in January, 1830, a second convention met at Washington, by whose authority a revised and very much amended edition was published. This has been subsequently admitted by the country in general as an authoritative pharmaceutical code, though in the absence of any legal sanction, it has not been altogether sufficient to restrain propensities to independent action on the part of individuals. In order to render the work still more worthy of the place which it claims to occupy, as well as to bring it up to the present level of our knowledge, a third convention, which met at the commencement of the present year in Washington, provided for another revision, to the aid of which the colleges of pharmacy were invited, so that the practical and peculiar skill of the apothecary might be brought into co-operation with the knowledge of the physician. This aid has been secured; and the pharmacopœia has been submitted to a thorough examination, which it is hoped will end in such an improvement as to render it generally if not universally acceptable.*

* The revised pharmacopœia was published in 1842; and another revision, under the auspices of a convention which met at Washington in 1850, issued from the press in 1851. A fifth convention is to meet at the same place in May next, which will submit the work to another decennial revision.* By the careful scrutiny to which the pharmacopœia is ex-

* This revision was followed by another and very thorough one in 1860; and, at the usual decennial convention in 1870, provision was made for still another; and the revised work is now ready for the press.—*Note to the second edition*, Jan. 1872.

I have alluded to the pharmaceutical colleges. It is not inappropriate to the occasion to state, that these institutions—of which one has been in efficient operation in Philadelphia since the year 1822, and another, subsequently founded, is now in operation in New York—have contributed very greatly to improve the art of preparing medicines in this country, and, by elevating the profession of pharmacy, have rendered it a much more efficient auxiliary to ours. The late convention at Washington has, I think, merited well of the country in inviting the co-operation of these colleges in an important national work, in which both professions are equally interested, and which can scarcely be satisfactorily completed unless by their joint labours.*

And now, gentlemen, having conveyed you through a brief history of the materia medica in this country, will you allow me to urge upon you the application of your own efforts to the improvement of this branch of medicine, and especially of that portion of it which concerns our indigenous products? I know no fairer field for you than this, in which to gain a name for yourselves, or accomplish something useful to your profession. Success would be doubly grateful to a patriotic spirit; for, while your country would share in the honour which might accrue to one of her sons, she would enjoy the advantage also of a cultivation of her own peculiar resources. Can I not paint to your

posed at this regular interval of ten years, the opportunity is afforded of correcting its errors, and supplying its deficiencies; so that it is rendered a just expression of the knowledge of the times, and has come to be almost universally acknowledged as a legitimate standard for the country.—*Note to the first edition*, Dec. 1859.

* Besides the Philadelphia and New York Colleges, referred to in the text, another has been since established, and is in full operation in Baltimore; and, as I have been informed, a third has been organized in Chicago.—*Note to the first edition*, Dec. 1859.

fancy a prospect which will rouse all your energies to realize it? Suppose that, by a careful and laborious investigation, by a long course of varied experiment and accurate observation, you have arrived at the discovery of some valuable medicine hitherto concealed in the wilds of our country, or of some yet unknown peculiarities and powers of a medicine already recognized. Your name is at once honourably known in connection with your discovery; through life you will have the consciousness that you at least are not among those who pass undistinguished along their destined course, and leave no trace behind them; your children and your children's children will inherit the imperishable treasure of your reputation. In the pages upon which succeeding generations of students will dwell, your name will be connected with the record of the good that you have accomplished; in the lectures to which future aspirants for medical honours will listen, your claims will not be forgotten when your discovery is alluded to; perhaps from this very spot, some future professor, giving, as I have done to-day, a history of the materia medica of our country, may cite your example as an honour to the institution, and a powerful incentive to his pupils. It is something also to possess the consciousness that you have added to the credit of your profession, and have been a benefactor to your country and to mankind. These, it is true, are motives of action common to every honourable field of exertion; the peculiar inducements in that now offered to you are the deficiency of present culture, and the greater probability of a rich return for all the labour expended. Our native materia medica may be said to have lain fallow for several years. Pathology has by its fruitful yield drawn almost all floating labour to itself; and fashion has invested it with additional attractions. Our comparatively neglected science has, in the mean time, through the progress of general discovery, been accumulating renewed fertility, and will yield abundantly to properly directed culture.

May I not hope that some of you, under the inducements which I have presented, or others which your own minds may suggest, will engage heartily in this work of investigation, in the pursuit of the high prize of honour for yourselves, your school, your profession, and your country ?

But you must remember that such a prize is not easily won. We cannot guess ourselves, nor dream ourselves into honourable distinction. The pursuit of a creditable name is no lottery, in which the highest prize may be drawn by careless indolence, or self-satisfied ignorance. You must work, if you would gain the wages of labour.

Having thus called you to exertion, I may very properly be required by you to point out the best plan of beginning and conducting your investigations. Your first object will be to select some particular subject of inquiry. You may choose some indigenous plant, whose medicinal properties have already attracted the notice of the profession, but have not been thoroughly studied ; or you may search amidst the rubbish of popular and domestic practice, and find something perhaps of value which has hitherto lain concealed ; or, finally, you may examine the plants of our woods and meadows, and, guided by the odour, taste, or other obvious property indicating some power of affecting the human system, may perchance be led to the discovery of a useful and hitherto unknown medicine. I would recommend the first course ; as the catalogue of officinal or semi-officinal plants is already numerous, and it is desirable to sift this thoroughly before attempting to augment it.

In the very beginning, you must take care to avoid the too common error of explorers, of determining at all events to find something new—a determination which is apt to deceive the fancy into the belief that it has discovered what it has in fact only invented. Let your search be after truth, and nothing but truth. It may be as important to deprive a counterfeit medicine

of its false credit, as to add a new one, though genuine, to the mass of circulation. You will perform an important service, if you can prove satisfactorily that one of the received medicines is quite valueless.

Having selected the subject of experiment, you are first to ascertain its effects upon the human system in health. Try it upon yourselves, upon your friends, upon persons of different sex, age, and temperament, beginning with doses which you know to be safe, and gradually increasing till its activity or inertness is evinced. Ascertain its influence upon the brain and nervous system, upon the stomach and bowels, upon the heart as indicated by the pulse, upon the temperature of the body, upon the secretions, and in fine upon all the healthy functions. Note all these effects carefully as you observe them; but at the same time be very cautious not to confound those changes in the system which may result from mental influence, or from the operation of ordinary or accidental causes, with those which are the genuine product of the medicine. Do not be satisfied with a single trial in each case, but repeat it, with varying circumstances, till there can no longer be a doubt of the actual effect produced.

When you have sufficiently convinced yourselves of the efficiency of the medicine, and ascertained its peculiar physiological action, you are next to apply it to the treatment of disease; and here the same caution is requisite not to allow yourselves to be misguided by the influence of various disturbing agencies, nor to make hasty conclusions from one or a few trials. There is nothing in relation to which we are more apt to draw false inferences than the action of medicine in disease. Most complaints have a tendency to spontaneous cure, and will in general go on sooner or later to recovery, without the use, and often notwithstanding the use of medicine. In such cases, the last drug administered is apt to have the credit of the cure,

though all its operation may have been to protract this result. There are numerous causes which operate on the system in disease, giving rise to changes not anticipated, which, without due caution, may be ascribed to the remedies employed. Against all these sources of error you must be on your guard, and above all against your own hopes, which will act powerfully in causing you to see things as you wish them.

Other points which will require investigation are the part or parts of the plant most effective, its relations to the usual menstrua employed in pharmacy, as water and alcohol, the best mode of administration, and the dose. Its composition and general chemical relations are also important objects of inquiry; but few medical men, and none who have not devoted a special attention to practical chemistry, are capable of conducting successfully those complex and delicate processes which are essential to accurate analysis, especially of organic products. This part of the investigation may, therefore, with propriety, be left to the pharmaceutical chemist, within whose province it strictly falls.

To complete your work, it will now only remain to record the results of your investigations. In doing this, your rule should be to put down everything exactly, plainly, and in as few words as possible consistently with perfect clearness. Your object will not be to produce an impression by means of rhetoric, but to establish facts in science; and these are always most striking in their native simplicity. We suspect the purity of truth herself, when she is disguised in meretricious ornament. You should endeavour in your narrative to present to the reader, in their proper order, all the materials for forming a judgment of which you may be yourselves in possession, and thus enable him to come to the conclusion you desire, perfectly satisfied of its correctness. No matter whether your inquiries have ended in the discovery of some new fact, or the refutation of some old error; in either case the result is truth, and the process by which it was

attained is equally deserving of record. But be not in haste to publish your essay after you have prepared it. An author is seldom a good judge of his own productions when immediately from his pen. He views his offspring with a paternal, I might, perhaps, be allowed to say, with a maternal eye, which can see no defects, and often finds beauties when indifference would discover only deformity. Lay aside your manuscript for a time; let the ardour of composition cool, the pains of your mental labour be forgotten; you will then be able to judge of your own production more as a critic than as an author; and you may depend upon it that you will find much to amend, and rejoice that you have yet the power.

I have thus, gentlemen, accomplished the object which I proposed at the beginning of the lecture. Much more might have been said on almost every point, and perhaps not unprofitably, had time and space permitted; but in this world of limited power and limited opportunities, one great secret of doing well is to take a just view of the power and opportunity we actually possess, and adapt our aims and efforts accurately to them. This at least I endeavour to make a rule of action for myself; and you will find me governed by that rule in the subsequent course of lectures. We have only a certain amount of time allotted to materia medica. In arranging my course, I have endeavoured to find the just proportion between the importance of the several topics and the whole time, and to devote to each topic its due share of consideration, so that none may be entirely neglected. If I am thus induced to say less than lecturers often do upon certain prominent subjects, I have at least the advantage of giving some attention to others, which, though severally less important, are much more so in the aggregate. My great object is to give the pupil opportunities for acquiring such a knowledge of principles and facts, as may serve for a basis to his own future labours. To render these opportunities available, your zealous

co-operation will be requisite. Judging from the experience of the past, I have no doubt of such co-operation. I have not yet had occasion to complain of the want of due attention on the part of a class, and entertain no apprehension that, at the termination of the present course, I shall have cause to express a different sentiment. Should my efforts equally content your reasonable wishes, my ambition will be satisfied.

LECTURE III.

DELIVERED NOVEMBER 5TH, 1844.

Importance of Materia Medica.

AMONG those now present are many to whom everything around them is familiar. There are also many to whom the occasion, the place, and the speaker, are equally new. The former I count as friends already, and welcome them cordially and affectionately back to our old relations. The latter I hope to rank among my friends, when a short intercourse shall have made us mutually acquainted; and, in the mean time, would extend to them my kindest greetings, with the assurance that I have sincerely at heart their best welfare in all respects.

My present duty is to introduce, and recommend to your favourable attention, the study of materia medica. This department of medicine has been somewhat undervalued in later times. Pathology, in itself so copious, has been forced by peculiarly fostering influences into a luxuriance of growth, which has somewhat overshadowed the other branches of our science. Policy, moreover, has led to the representation of materia medica as inferior in practical importance, and scarcely worthy of any peculiar diligence either in teaching or learning it. This policy has, no doubt, coincided with honest convictions; for the objects of our own individual pursuit swell, almost unavoidably, into a magnitude which throws all others into the shade. In

asserting and maintaining an opposite view, I may be accused of acting under similar influence. I admit the charge to a certain extent; but there is this obvious difference, that, whatever may be my regard for the science which has constituted one of the chief objects of my life-long labour, I arrogate for it no superiority; I claim for it only equality with its sister sciences. Upon this footing, gentlemen, I wish to place it in your estimation; in order that your dispositions towards it may not be rendered lukewarm, nor your exertions in its cultivation slacken, under any false views which may have been, or may still be presented to you, of its inferior relative value.

The great object of the physician is to restore health to the sick. Everything is important to him which contributes to that object; and, of two things both of which are essential, it can scarcely be said that one is more important than the other. If it be necessary to understand disease, it is no less necessary to be acquainted with the means of cure. This would seem to be a self-evident proposition. The question, then, to be decided is simply this; are medicines, which, viewed in the aggregate, and in all their different relations, constitute the *materia medica*, necessary to the cure of disease? I know that some are, or profess to be, skeptical on this point. They have more confidence in the regulation of the diet and modes of living; in the diversified application of temperature, moisture, and air; in mental influences; in depletion by leeches or the lancet; and in other remedial means of a similar nature. Now, admitting the importance of these means, and disregarding the consideration that, in its amplest sense, the science of *materia medica* may be said to embrace them, are you prepared to reject medicines, strictly so called, as essential in the treatment of disease? Is it probable that the experience of forty centuries is utterly deceptive; that all the labour, skill, and science, which have been expended in collecting, investigating, preparing, and applying

medicines, have been quite thrown away; that, at the present time, almost the whole body of our profession, certainly not behind the highest in native talent, acquired knowledge, and sound judgment, are idly wasting their time in the pursuit of a mere *ignis fatuus*? Would it not imply an impertinent self-conceit to set up one's own single opinion, without the support of fact or reason, against this experience of all past time, this world-full of present conviction? But let us turn to individual instances; for single examples sometimes outweigh all general influence in their impression on our faith; and one solitary case, brought before the mind's eye, gains for a truth a more ready acceptance by the understanding, and a firmer seat in the memory, than a thousand arguments addressed only to the reason.

Enter with me into an infirmary, and examine a few of the cases which offer themselves to the spectator. On that bed sits a man, who, less than a week ago, came into the ward pale, sallow, and emaciated, worn out in health and spirits, with a disease which had been hanging about him for weeks, perhaps for months, incapacitating him for labour, and rendering his life wretched. His complaint was a protracted intermittent. From twelve to twenty-four grains of sulphate of quinia cut it short in one day; and he is now a well man, eager to enter once more upon the duties and enjoyments of life.

In this other bed lies a patient, recently from the Southern coast of our own country. He is in the second paroxysm of a pernicious intermittent. His pulse is beating with great rapidity; his extremities are cold, while he complains of intense heat and thirst; his countenance is sunken, anxious, almost haggard; the hand of death is apparently upon him; but he has one chance of life. The period for the spontaneous subsidence of his paroxysm is at hand; and the probability is that he will survive it. But the third paroxysm, should it seize him, will prove inevitably fatal. A leap into the Falls of Niagara would not be more so.

What, then, is to save him? Will the lancet? Will regimen? Will heat or cold? Will any form of application into which water can be tortured save him? No, gentlemen, not one, nor all together. No earthly power can check his headlong descent to the grave, except only one, and that, the power of a medicine. Let sulphate of quinia be given to him freely, and it will almost certainly rescue him. I can promise you this with the confidence of repeated experience.

Passing onward in our round, we come to a patient universally swollen with dropsy. Scarcely a trait of his countenance, or a line of his form remains. Unless relieved, he must speedily go to his long home. But he has been taken digitalis for several days. It has begun to exhibit its effects upon his kidneys. In a short time, this bloated mass of disease will have melted away before its influence, like snow before the sun. The patient will have been saved by a medicine.

Here is a case of bilious remittent cut short by an emetic; there, another of chronic bronchitis getting well under seneka. Proceed, and you will see cases of syphilitic rheumatism, scrofulous ulcers, and anomalous cachectic eruptions, yielding to iodine; inveterate and most offensive diseases of the skin, to arsenic; and chronic inflammations of all kinds, to mercury.

I might thus conduct you through every ward in the hospital; not, indeed, with the same uniformly favourable results, but still, with illustrations all around us of the palliative or curative power of medicines. In our ordinary, every-day practice, how often do we see croup yield instantaneously to an emetic; violent stomachic spasm to an antacid and carminative; colic and diarrhoea to a cathartic; pain, restlessness, and want of sleep to opium; and spasmodic cough to assafetida; not to mention any of those almost innumerable instances, in which, by skilful combination and diversity in the application of medicines, the most hazardous and threatening diseases are triumphantly conducted

to a favourable issue. I could easily occupy the whole lecture with such an enumeration. Believe me, gentlemen, there are substances in the catalogue of the *materia medica*, essential not to our comfort only, but also to our safety, and the loss of which would be wholly irreparable for humanity.

You are, I think, prepared to admit the indispensable necessity of medicines in the treatment of disease, and, consequently, the indispensable necessity of understanding them. No man can be other than a bungling practitioner of medicine, without an acquaintance with the science of *materia medica*.

But it may be said that, admitting the importance of certain prominent medicines, the number of those really valuable is very few; and that the study of the remainder is merely a waste of time. Ignorance and idleness are, for the most part, the parents of this very convenient notion. For one unacquainted with medicines, and too indolent to acquire a knowledge of them, it serves as an easy refuge from the inflictions of his own conscience, and the evil opinion of his fellow-men. False hypothesis comes happily to his aid, and may even generate an enthusiastic devotion to what was originally the mere creature of sloth. Sangrados have existed in every age. "Give me opium and the brandy-bottle," says one enthusiast; "give me calomel and the lancet," says another; "and I will fearlessly encounter disease." But, gentlemen, disease listens to the vain boast, and laughs in his sleeve. He knows well that a wind-mill, or a flock of sheep, may suffer in an encounter with such Quixotes in medicine; but that he himself has little to fear.

But men of a higher grade of character, honest searchers after truth, have been led into a similar error. The human mind, in its vain aspirations after universality of knowledge, struggling to embrace the infinite within its finite capacity, seizes eagerly upon grand generalities, which may serve to involve a host of

individual facts, and thus immeasurably to extend its powers of acquisition and retention. This is, no doubt, the correct course, if followed with due caution; with the utmost care to admit no general truth, until firmly established by a due series of inductions from admitted facts. But our impatience is constantly overleaping this barrier; and, to avoid the labours of research, we have recourse to inspiration. A bright thought flits across the fancy of some man of genius. He seizes the unfledged idea, cherishes it with solicitous care, and, when sufficiently amplified and adorned, with brilliant plumage and expanded wings, exposes it to the astonished gaze of the multitude, and claims for it their homage, as for a messenger from on high.

Hypotheses of this sort we have had in medicine, and, among them, one which had for a time great influence in the spread of the very error we are now combating. Vital power is a unit; vital action, being nothing more nor less than the exercise of this power, is also a unit; derangement of this action, possible only in grade, is another unit; and the measures of relief, being merely such as lower the action when elevated, and raise it when depressed, must have the same unity of character. A scanty materia medica is the necessary pendent to this chain of argumentation. Born with Brown, adopted and amplified by Rush, and appropriated with modifications by Broussais, this hypothesis, in one shape or another, long exercised a powerful influence in the medical world. It was set up, like another golden image, by the despotic French reformer, who issued his edict that all the world should fall down and worship it, under the penalty, if disobedient, of being cast into "the burning fiery furnace" of his indignation. And great multitudes did fall down and worship. Neither were Shadrachs, Meshachs, and Abed-negos wanting, who refused obedience to the decree, and yet escaped unhurt the flames of the seven-times heated furnace. But Nebuchadnezzar has fallen; and the image is broken; and the worshippers are

reduced to a few, who, dwelling in the outskirts of the medical world, are scarcely yet aware that the great chief is gone, after surviving the revolt of almost all his partisans, and the demolition of his strongholds. Yet the hypothesis has left behind it, in the minds of many who no longer recognize its truth, vestiges of its sway, which are observable in their modes of practice, and their estimate of our particular branch of medicine. Wanting, as they supposed at the outset of their professional voyage of life, but few remedial means, and those of the simplest kind, they neglected to provide themselves with a knowledge of many usually deemed important; and now, when, perhaps, experience has thrown some doubt over their previous opinions, they find it inconvenient if not impossible to check their onward course, and turn their sails backward for a more ample supply. They must content themselves with their poverty; while, before the multitude, they conceal it under the cloak of philosophy. Unable fully to avail themselves of the riches clustering about the materia medica, they find the grapes sour, and make faces before the inexperienced as if their teeth were on edge.

Now, gentlemen, I would put you on your guard against such representations. I would prove to you that not only are medicines, speaking in general terms, essential, but that it is important to be provided with numbers of them, possessing various powers and properties, in order to meet the diversified calls of disease. In the first place, I would tell you that experience has sufficiently established the fact. The present treasures of our materia medica have, for the most part, undergone the careful scrutiny of ages. Medicines are often hastily introduced into notice upon insufficient grounds, and attain, for a considerable time, an undeserved popularity. But at length they are sure to find their proper level, and, indeed, not unfrequently sink below it. If altogether worthless, they are rejected, and at length forgotten; or, at best, retain a place in the collections of the curious,

as memorials of the past. It may, therefore, be taken for granted, that those which hold their position in our officinal catalogues, after having passed the ordeal of time, are deserving of that position. There may be some, of recent origin, which are admitted in reference to their present popularity, and which may hereafter be excluded; there may, moreover, be preparations, which will hereafter be superseded by others better calculated to answer the same end; but even these are not exceptions to the general value of the catalogue for the learner; for every physician should know something not only of medicines which he values himself, but of those also which are valued and used by those about him; and preparations which may some time be improved, are essential to us until the period of that improvement shall arrive.

But let us reason a little upon the point. We know that medicines not only differ in their effects upon the system at large, but that they also have peculiar tendencies to particular parts or organs. A medicine which acts on one organ, may produce no effect on another; and there is scarcely an organ in our constitution, for which there is not this special affinity on the part of some one or more medicinal substances. Need I refer you to particular instances? Need I tell you that, while quinia, and mercury, and iron, and iodine, all act, to a certain extent, upon the whole system, and in modes peculiar to each, ipecacuanha will act upon the stomach, castor oil on the bowels, squill upon the kidneys, citrate of potassa upon the skin, cantharides upon the generative organs, opium upon the brain, digitalis upon the heart, and so on through nearly the whole series of medicines and of organs? Now, diseases seated in these different parts are sometimes to be reached only by the remedies acting on these parts specially; and there is, besides, not an organ which may not occasionally be beneficially called into action, in order to remove disease seated in another organ, or

occupying the whole system. Here, then, is one ground for the use of numerous medicines of diversified relations.

Different medicines, moreover, affect differently the same part or system of parts; some exalting, others depressing, and others, again, in some unknown way, modifying its actions. Diseases having the same diversity, in the same positions, must consequently call for these diversified powers in medicines. When the heart is excited, it requires to be depressed; when depressed, to be exalted; when irritated, to be soothed; when enlarged, to be contracted; and there are substances capable, to a certain extent, of meeting these several requisitions. The same remark may be extended to all the vital organs; and thus another ground is offered for the multiplication of medicines.

Remedial substances of the same general mode of action possess very different degrees of power, adapting them to various grades of severity in disease. To use only the most powerful, in all cases, would be like employing a wood-chopper's axe, or the scythe of a mower, to shave with; like shooting a squirrel with a twenty-four pounder. It may be said that every desirable grade of activity can be obtained by duly proportioning the dose. But this is a mistake. The stomach would not hold enough of some of the milder medicines to produce the effects of the strongest; and, in relation to some of the more powerful, though you may quite annihilate their action by a sufficient reduction of the dose, you cannot subdue their violent nature. The hyena and tiger may be confined or prostrated by superior power; but you cannot tame them. So long as they can act at all, they will act according to their savage instincts. Who would think of administering croton oil, or elaterium, to accomplish what might be readily effected by a Seidlitz powder, or a dose of magnesia? The necessity, then, of having medicines graduated, on the scale of activity, to the severity of the disease, or the degree of effect required, must lead to a great extension of the catalogue.

Nor is this all. There are peculiarities in the constitution of certain individuals, called technically idiosyncrasies, which render them wholly rebellious to means that may be admirably adapted to ordinary cases. The vulgar proverb, that "what is one man's meat is another man's poison," is expressive of a sober truth in medicine. To meet such idiosyncrasies, it is highly important to have different medicines of analogous remedial powers; so that, if one should disagree with a patient, we may have recourse to another.

Again, there are peculiar tastes, likes and dislikes, and even prejudices, which it is necessary to consult, if we desire to accomplish the greatest good. Some persons, for example, prefer Glauber's to Epsom salt; others, who dislike both these medicines, even to nausea, are unaccountably fond of castor oil; and, strange as it may seem, there are not a few individuals who have an exceeding relish for those most nauseating drugs, rum and tobacco. Now, though I would not so far gratify this peculiarity of taste, as to allow of the habitual use of these favourite substances in health, yet, in disease, they might constitute a valuable resource, when others of analogous powers might happen to be offensive. The young practitioner, in his pride of science and profession, is apt to be a little despotic, and inclined to force medicines on his patients against the stomach of their sense; not to speak of their morbid squeamishness and their prejudices, which frequently rise up against his prescriptions. When his end can be attained by no other means, it is quite proper that he should be thus firm; but when, by the number of medicines at his command, he has it in his power to accomplish the same object by means equally efficient, and more acceptable to the patient, it becomes his duty, as it undoubtedly is his interest, to avail himself of them, and thus avoid the disturbance of system which is so apt to result, in the sick, from a contravention of their feelings and wishes. The more ample his list of medicines

of real efficiency, the better able will he be to meet this demand upon his resources.

Besides medicines in their simple or crude state, there are numerous preparations which serve to swell the catalogue for the learner. By various modes of chemical or pharmaceutical treatment, changes are effected in the remedial qualities, strength, durability, or convenience for administration of medicines, which are in the highest degree important, and cannot be neglected by the practitioner with impunity. Substances are thus rendered mild or energetic, at the discretion of the operator; acceptable to the palate and stomach, when they might otherwise be offensive to both; capable of being preserved without change indefinitely, instead of undergoing speedy decay; and, finally, remedial in modes altogether unknown to them in their native state. Need I mention, as illustrations, quinia from Peruvian bark; morphia from opium; calomel, corrosive sublimate, and the blue mass, from mercury; tartar emetic from antimony; and the various compounds of iron, and of iodine? It is sufficient to say that the number of medicines is much more than doubled in this way.

If, then, medicines are essential to the practitioner, and at the same time numerous; and if they require to be understood in order to be duly employed; how can materia medica, which teaches their properties and powers, and the modes of applying them, be otherwise than an important science? How can it be postponed, with impunity, to the other branches, in a course of medical instruction?

But you may be told that the knowledge of medicines may be easily acquired; that nothing more is requisite than a moderate exercise of the organs of smell, taste, and vision; and that lectures are scarcely wanted upon so simple a subject, an acquaintance with which may be taken, almost in the natural way, by a short exposure to the odours of an apothecary's shop, or the office of a country physician, like the measles or small-pox in

the sick chamber, or the wards of a hospital. This, gentlemen, would be the language of imbecility, infatuation, or fraud. Let us inquire briefly what it is necessary to know of medicines, and then decide whether the knowledge is likely to come easily and without aid.

In the first place, what preliminary knowledge is necessary? In answer to this question it may be stated, that, independently of the ordinary information which should serve as the basis of all professional studies, the learner in materia medica should have acquired a considerable proficiency in chemistry, and a general acquaintance with anatomy and physiology. The former is necessary to enable him to understand the nature and mutual relations of medicines, the principles upon which they are prepared, and, to some extent, their modes of acting in disease. Chemistry is, indeed, chiefly useful in our profession as the handmaiden of materia medica. Without anatomical and physiological knowledge, the student could not understand the all-important relations of medicines to the system; for how could he appreciate the changes produced by them in the organs and functions of the body—changes which constitute almost exclusively their remedial influence—if ignorant alike of these organs and functions? You perceive, then, that no little expenditure of time and labour is necessary in laying even the foundation of materia medica. Is it reasonable to suppose that a superstructure, requiring so broad a basis, can itself be of trifling magnitude; that, founded so laboriously, it can be built up without rule and without effort?

We have seen what preliminary knowledge is necessary. Now, let us see what should be known of medicines themselves. To begin at the beginning, we should not be ignorant of their origin, the places where they are produced, the modes in which they are fitted for the market, the routes by which they reach us, and the state in which they are obtained from the merchant,

before being prepared for the office of the practitioner, or the shop of the apothecary. All this knowledge is not absolutely necessary to the physician, but it is highly useful in various ways. It enables him to appear advantageously, in many instances, before the world; to avoid the imputation of ignorance in essentials, which might be cast upon him by persons capable of appreciating any failure in these minor points; to escape frequent impositions in the purchase of drugs, should this enter, as it often may do, into his professional avocations; and, finally, to enjoy that internal satisfaction which accompanies the possession of all kinds of useful knowledge, and especially of that which is in harmony with his every-day pursuits.

Even the names of medicines will be found by the student to be some burden upon his industry; and yet, with the knowledge of these he cannot possibly dispense. It is not only one name for each medicine that he is under the necessity of learning. He must know also the most common synonymes; for how otherwise could he understand the works in which they are employed, or even the conversation of a medical brother, who might happen to use a different name from the one most familiar to himself? What would you think of a physician, who should not be aware that sulphate of magnesia is only another name for Epsom salt, mild or protochloride of mercury for calomel, nitrate of silver for lunar caustic, and so on through a long list of medicines; not to speak of the Latin synonymes, which are so much employed in published treatises, and so constantly the language of prescriptions, that a physician ignorant of them would be liable to the most ludicrous, as well as to the most serious blunders?

It is scarcely necessary for me to say that the student should make himself familiar with the sensible properties of medicines, such as their general appearance, colour, taste, smell, and consistence; as it is only thus that he can recognize them when brought to his notice. The most dangerous mistakes might

arise from the want of this knowledge. One of an unpleasant, and yet ludicrous character, fell under my own observation. A physician was consulted as to the nature of a liquid, of which a gentleman had swallowed largely, supposing it at the time to be a solution of Epsom salt, though afterwards led, by what cause I do not recollect, to entertain some doubts upon the subject. After having tasted it, the physician pronounced it to be a solution of nitre. Great consternation was, of course, created; as sufficient had been taken to prove fatal, should this opinion be correct. The patient experienced an alarming coldness at his stomach, with other disagreeable abdominal symptoms, and no little disturbance of his nervous system. An emetic, however, of ipecacuanha, by evacuating the stomach of the offending cause, gave speedy relief; and perfect recovery was quickly established. Next day, the messenger who had procured the poison was taken to the apothecary's shop where it had been purchased, and, having had his attention directed to two parcels of medicine, one consisting of Epsom salt, and the other of nitre, was told to point to the one most nearly resembling that from which so much mischief might have resulted. Without hesitation he designated the former; and thus it appeared that an innocent dose of salts had been mistaken for a substance of dangerous activity, and a gentleman been put into the awkward position of exhibiting various imaginary symptoms of poison, with the anxiety and perturbation incident to such an occasion, and afterwards learning that all this, as well as the nauseous dose of medicine he had taken, might have been spared, had the physician possessed a more discriminating taste.

It is not, however, sufficient to be acquainted with the sensible properties of medicines. Those having reference to their chemical relations are not less important. Without a knowledge of these, medicines of the most incongruous character might be administered together, with the effect of diminishing, increasing,

or altering their activity, so as, in either case, to disappoint the expectations of the practitioner, and sometimes to lead to the most disastrous results. No longer ago than last winter, a young member of the class inquired of me, what would be the effect of mixing together calomel and nitromuriatic acid. I told him probably to form corrosive sublimate. "Then," said he, "I can account for the result of a terrible case, in which considerable quantities of these two medicines were given simultaneously, and the patient died with symptoms of violent gastroenteritis." This case is not solitary. Many similar results of incompatible prescription are undoubtedly covered over by the cold sod; not even the practitioner himself being aware of the mischief he has done. The preparation of medicines for use demands the same knowledge of their chemical relations; the effects upon them, for example, of heat, air, and moisture, of the implements employed in operations upon them, of the liquid or other vehicles with which they may be mingled, of the various circumstances, in fine, which attend their administration. Then, some medicines lose their efficacy when heated, others when exposed to air and dampness; some are injured by contact with metals which are not affected by glass or earthenware; and those which may be safely and conveniently prepared with one liquid or powder are often wholly incompatible with another. You must readily perceive how numerous may be the errors on these various points, and how great the inconvenience, not to say mischief, resulting from ignorance.

But there is another set of relations still more important; those, namely, which medicines bear to the system in health and disease. Upon these is based their whole therapeutical application; and, without a knowledge of them, so far as they have been investigated and established, no man can have a claim to be considered a rational practitioner. It is not sufficient to have learned that one medicine is adapted to one disease, another to

another, a third to a third, and so on. This sort of knowledge would lead to a purely empirical practice, in which the physician is only a sort of machine for executing certain prescribed movements; a hearing and seeing automaton, which, at the name of bile, picks up calomel, and at the sight of fever or inflammation or hemorrhage, seizes the lancet. Most medicines have modes of affecting the system more or less peculiar to themselves; and diseases, as they are presented to our notice, consist usually of a combination of various functional or organic derangements, to each of which some one of the medicinal actions may be especially adapted. Now, you must be sensible that, in order to a rational application of the medicine, both its own proper action, and the derangement of system for the cure of which this is suited, must be well understood. The former knowledge belongs to the department of materia medica, the latter to that of pathology. Here, then, is a wide field for the learner, in which he must labour much before he can master what is known, and in which, after all, there is yet a vast deal to be discovered in the progress of time and research.

Besides all the knowledge in relation to medicines which has been already indicated, there yet remains that of the art of preparing them. This belongs strictly to the pharmacist; but no physician can be safely altogether ignorant of the principles of the art; and, as medicine is practised through the greater portion of our country, not only the principles, but the actual processes and manipulations should be familiar to the practitioner. What would be thought of a country physician, who could not prepare a tincture, or infusion, or mixture, or pill, who should not even understand how to weigh out a dose of medicine, or to apportion liquids by proper measures? and yet all these acts require considerable knowledge and skill for their due performance.

You see then, gentlemen, that the science of materia medica

is of no trifling importance, of no inconsiderable extent, of no easy and unlaboured acquisition. He who tells you differently deceives you; and should you now listen to his seductive voice, the time of repentance will assuredly come. When involved in the serious responsibilities of your profession, with the sick and the dying around you imploring for relief and safety; how will you feel, if, in the anxieties, the agitations, the eager and trembling wishes and fears of the moment, you see the danger, and know that means of salvation exist, but cannot tell where to find them; if, standing on the tempestuous shore, and beholding the fellow-beings you are bound to protect, tossed about and vainly struggling in the terrible flood, you are compelled to look idly on, because unprovided with the life-boat which might save them?

There yet remains one point of our subject to be disposed of. Admitting all that I have said to be true, you may ask, and the question has been asked, is the aid of a lecturer necessary to guide and facilitate your studies? I will not say that such aid is absolutely indispensable. On the contrary, I know that, by a due preparatory course of study, by the industrious perusal of works upon materia medica and pharmacy, by a diligent attendance in the shop of an apothecary, and, after all this, by a course of practical experience in the treatment of diseases, sufficient to assure you of the relative value of the different precepts you may have found in the books, you may at last come out accomplished scholars in this branch of medicine, without the assistance of those who have trod the same path before you. But, in the pursuit, you will have suffered many perplexities, have applied much painful labour, and expended much valuable time, which might have been spared, had the hand of experience been present to guide you. In regular treatises upon this, as upon all other sciences, there is much that is of comparatively little value to the learner; much that is introduced merely to complete the

system, or to serve as matter of reference when required for any special purpose, whether of curiosity or usefulness. The whole is too great a burden for any memory; and, even if the memory were capacious enough to receive and retain it, mischief would ensue from the necessary exclusion of more important facts, belonging to other departments of knowledge; for all human capacity is finite. But how is the learner to know which are the important points unless informed? How will he be able to select the wheat and leave the chaff, unless he can distinguish between them? We have no winnowing machines which will perform this duty for him. He must either devour the whole, with the danger of nausea and repletion, or must select a part, with the risk of choosing the least valuable, and neglecting what is most important. A lecturer will perform this office of selection for him much better and more effectually than he could perform it for himself. The remark, it is true, applies to the mode of instruction in most of the sciences; but it is especially applicable to ours; for in scarcely any are the isolated facts, out of which a selection must be made, so exceedingly numerous.

Another advantage of lectures is to serve as a sort of arbitration between conflicting statements or opinions, which equally press upon the notice of the learner, and claim the right to be adopted. One author says one thing, another says another, and the two are often conflicting. How is the student to make a choice between the two bundles of hay, each one of which seems equally attractive? His best plan is to put himself under the direction of a more experienced individual, in whom circumstances may have induced him to place confidence; and to follow his lead, until sufficiently advanced to be able to form a judicious opinion for himself. He may sometimes, possibly, be led into error; but this he can afterwards correct, when his opportunities extend, and his judgment becomes matured; and, at any rate, it is better to be mistaken in some points, than to be constantly

floundering about in uncertainty, with anxious but vain efforts to attain some fixed ground upon which to stand.

Another strong reason for lectures on materia medica, is that it is strictly a demonstrative branch of knowledge. At least, as such I have always taught, and still continue to teach it. There is scarcely one of its departments, excepting that of therapeutical application, which does not admit of practical illustration in a course of lectures. It may, in this respect, almost take a position by the side of anatomy and chemistry, which, you are aware, are pre-eminently the demonstrative branches of medical science.

I appeal to you now, gentlemen, if I have not established the propositions, in relation to our science, which were the starting-points of this lecture. Are you not convinced, not only that materia medica is important, extensive, and worthy of your best efforts to master it; but that lectures upon the subject may be of great, almost indispensable value to the learner? But I do not wish you to be alarmed. There are no difficulties about it which are insuperable, none which diligence may not overcome if properly guided and supported. I am entirely sure that I can make it much easier for you than you would find it without aid. Nor do I expect impossibilities from the student. I know his limited time; in many instances, his limited opportunities; and can make the requisite allowances. All that I ask from him is an earnest effort to master the subject, and a disposition to make the most of the opportunities offered him. I promise you my best aid; and I do so, not merely in the cold formality of official duty, but with the most friendly dispositions, with the anxious desire to facilitate your labours, and to witness your success.

LECTURE IV.

DELIVERED NOVEMBER 6TH, 1837.

Abuses to which the Materia Medica is liable in Practice.

GENTLEMEN:—

I SHOULD be doing injustice to my feelings, were I to enter at once upon the business for which we are met together, without a kindly greeting to the many old friends whom I recognize among you, and a hearty welcome to those yet unknown to me, whom I hope to see no less my friends before we part.

You are about to enter on a toilsome pursuit, and have applied to our greater experience for aid and counsel. These it is our duty to afford you; and it becomes us to consider in what way they may be imparted most effectually for your good. It is not sufficient to lay before you the bare materials of knowledge, to be connected and fashioned as your own taste and judgment may dictate. Nature, whether moral or physical, seldom presents her elements in an isolated state. She variously combines them, arranges the results of her grand chemistry in numberless shapes of use or ornament, invests each individual existence with infinitely diversified relations, and, by an invisible cord of union, binds all her vast materials, however apparently discordant, in one great and harmonious whole. Science is nothing more than the interpretation of nature. Each department of knowledge, or of art, is but one of the sections of her boundless

dominion. Instruction, to be perfect, must be a copy of her works. The branches of study which are to engage your attention are all shoots of the same great trunk, and obedient to the same laws. In our endeavours, therefore, to teach you, we should aim always at an approach to nature. We should present you with the elements of knowledge; but we should also make you familiar, so far as our own short-sightedness can penetrate, with all their combinations and relations having any bearing upon your pursuit. Such is the principle which will guide me in teaching materia medica. My intention is not only to introduce to your notice individual medicines; but also to treat of them in all their bearings; to give you at least a sketch of all those various courses of action and opinion in which they constitute essential objects. With these intentions, I cannot pass over unnoticed the abuses to which medicines are liable.

It is the tendency of addiction to any one pursuit, to magnify its advantages, and, in an equal degree, to underrate its attendant evils. There is little danger that a teacher of materia medica will fail sufficiently to impress upon the student the importance of medicines; there may be some, that he will turn to his audience exclusively the bright side which he loves to contemplate himself, and neglect to put them upon their guard against the perils to which they are exposed. I shall endeavour to avoid this error; and, though unwilling to damp your ardour by instilling unnecessary or fanciful apprehensions, shall not shrink from the duty of pointing out dangers, whenever I may myself be aware of their existence. Much that has relation to the misuse and abuse of medicines may be most advantageously reserved for the occasion when each medicine is to be individually considered; but I do not know that I can do better than avail myself of the present opportunity, to offer some views of a general nature, which may possibly be found useful, at the same time, in guarding you against errors yourselves, and in enabling you

to counteract, in some measure, the mischief resulting from the errors of others. In order to render the subject clearer and more impressive, I shall endeavour to arrange, in a regular series, the various sources of error in the employment of medicines, so far as I have been able to discover them, giving precedence to the least copious, and reserving for the close such as send forth their flood of evil most abundantly.

Physicians, even though well instructed, particularly those young in the profession, are apt to attach undue importance to the influence of medicines, not sufficiently considering the character of the pathological condition, nor how impossible it often is to effect salutary changes in this condition by other means than the slow operations of nature. Administering a remedy in some complaint in which it may appear to be indicated, and not finding a degree of amendment equal to their impatience, they are tempted either to increase the dose too rapidly, and thereby incur the risk of seriously complicating the disease, or to resort prematurely to other really less eligible means. They are, moreover, under the constant inducement to prescribe medicines, where patience and the careful avoidance of perturbing agencies are all that is necessary to the cure; and there can be no doubt, that the thread of life has often been snapped by the officious hand of the physician, rashly thrust into the deranged vital process, which required only time for a favourable issue. I believe, however, that this source of evil is daily diminishing, under the brighter light which multiplied observation is pouring upon the field of pathological medicine. The age of heroic doses, like that of heroic deeds, is retreating before the march of sound reason and common sense. It is chiefly in the outskirts of the profession that the attempt is now made to take disease by storm. The number is comparatively few, who would choose to beat down defences by a shattering cannonade of calomel, which are ready to surrender on demand, or to yield uninjured

to a gentle siege of starvation. Against the risk of a too frequent or too abundant recourse to medicines, there is no better safeguard than a diligent study of pathology in its present improved and improving condition; and this study, therefore, I urge upon you, with the caution, however, that you guard against its seductions, and remember that, though it is highly desirable to understand the nature of disease, it is still more so to be able to cure it.

A disposition to employ medicines too profusely may sometimes have its origin in another source. Over a large portion of our country, the physician supplies his patients with medicine as well as advice, and receives compensation for both. It thus becomes his interest, in a pecuniary point of view, to leave no opportunity for the insertion of a dose unimproved; and, though the great majority of practitioners are of a grade of morals above such an influence, it is yet not altogether unfelt, and probably, in many instances, operates insensibly in giving a bias to the judgment. In England, where much of the medical practice is in the hands of the apothecaries, who until recently were allowed to charge only for medicines, and could demand no compensation for advice, the influence of this principle of self-interest over the consumption of drugs has been enormous. Imagine a case of disease, such as frequently occurs, requiring only a watchful guard against injurious influences; represent to yourselves the practitioner making his daily visit, and each time retiring with the consciousness that his services must remain unrequited, unless he can find occasion for the employment of medicine; is it in human nature to resist the tendency of such a position? Even where conscience is firm, will not the judgment almost inevitably yield to the constant solicitation of interest? Will not the almost certain result be the discovery of latent indications for some pill or potion, which, by going down the throat of the patient, may allow a fee to enter the pocket of his attendant?

I have understood that it was formerly no uncommon practice with the apothecary in England, when occasion was supposed to exist for some mild medicine, such, for example, as a dose of salts, to send it in half a dozen potions, to be taken at intervals, at the cost to the patient of one or two shillings for each dose. The system which led to such abuses was in the highest degree absurd, and has been so far modified as to allow the apothecary to make a charge for his advice; but the customs of prescribing to which it gave rise are still in existence; and the English continue to deserve the credit, which they have long enjoyed beyond all other nations of Europe, of being a drug-consuming people. In consequence of this tendency to abuse, as well as for other very important reasons, it is highly desirable that the prescribing and dispensing of medicines should be in different hands. In Philadelphia and some other of our larger towns, the separation has already been effected; and a movement towards the same result is observable in most parts of our country, where the population is so distributed as to admit of it. I would strongly press on you the propriety of contributing your own efforts in forwarding this movement, when you shall have entered that practical career, to which most of you are now looking forward.

If the physician, in early life, is in danger of overvaluing medicines, and consequently of prescribing them too profusely, he is no less in danger, as he grows older in practice, of restricting the number employed within too narrow limits. Disease often runs for a long time in particular channels, and requires particular courses of treatment. Medicines not calculated to answer the indications most frequently presented, are apt to escape the recollection of the practitioner, or leave but faint and ineffectual traces in his memory. He finds it irksome to maintain, by constant study, a knowledge which is but of occasional application. The heavy armour with which he was loaded in the outset becomes fatiguing in the progress of his march, and,

finding portions of it of no use upon ordinary occasions, he indolently throws them away, and thus leaves himself destitute of the requisite means of offence against disease, presenting itself in new and unexpected forms. He acquires a routine habit of prescribing certain medicines, which thus assume an undue prominence in his estimation, and present themselves on every occasion of emergency, to the exclusion of others better adapted to the novel circumstances. A similar result frequently grows out of an indolent mental habit, which shuns on every occasion all labour of thought that is not absolutely essential. To consult, in the choice of medicines, the caprices of the palate or stomach, the prejudices of opinion, and the various contrarieties of a nervous or irritable temperament, though not unfrequently of great importance to the successful treatment of disease, requires an effort of memory and judgment which is too often avoided by practitioners, not conscientiously alive to all the duties of their station. Numerous remedial substances, which may be considered as light troops to be employed in our skirmishes with disease, or as a reserve against sudden emergencies and peculiar danger, are thus entirely neglected, and become useless in the conflict. You will agree with me in the opinion, that he who wishes to qualify himself best for the practical duties of our profession, should sedulously guard against these sources of error. For this purpose, he should not only as a student form an intimate acquaintance with the materia medica, but afterwards, on entering into practice, should resolutely determine to maintain and improve this acquaintance by a frequent reference to works upon the subject, even when no immediate call may exist for the practical application of the knowledge thus acquired.

The influence of fashion and that of novelty are often felt in the use of medicines. A new remedy, or some new modification or application, or the simple revival of one before known, comes

accidentally to the notice, or suggests itself to the researches of an ardent practitioner, who is willing to believe what he hopes, and, in his experimental investigations, can see nothing but confirmation of his belief. The world soon receives the benefit of his observations, which a sense of duty may have brought forth, but which lose none of their attractiveness in passing through the nursing hands of self-interest and love of distinction. The journals glow with the rapture of a new discovery. Excitable imaginations catch the sparks which scintillate from their pages, and kindle into enthusiasm. The flame spreads rapidly, till at length even sluggish natures are warmed into action; and the whole profession turns from its accustomed course to luxuriate in the new hopes which are opened before it. The medicine thus brought into vogue receives the stamp of fashion, which continues to give it general currency, till some other novelty is struck off, and by its bright freshness puts to shame the tarnished and worn-out attractions of its predecessor. Thus, in the practice of our profession, as in everything else connected with the feelings and thoughts of men, one wave incessantly follows another; and the general welfare, instead of advancing smoothly upon an unruffled tide, is tossed about and retarded, and sometimes almost wrecked in the surges of unstable opinion. It becomes every practitioner to contribute all in his power towards a more equal and consistent progress. He should strengthen himself, by the influence of judgment and discretion, against the paroxysms of excitement to which we are all more or less exposed. Without absolutely rejecting every novelty which may float along the current of events, he should be careful not to endanger his balance by reaching out too far to seize it, and should never allow himself to be carried away by the flood of fashion from any well-established and advantageous position. In this spirit, he should coolly examine the claims of alleged discoveries, trusting nothing to partial testimony, which in medi-

cine is excessively deceptive, and, having sifted out the truth by careful trial, should give it an appropriate place in his storehouse of practical knowledge, without allowing it to disturb unnecessarily the general arrangement, or to displace any important fact or principle.

More injurious than either of the preceding sources of mischief, is the influence of false theory upon the employment of medicines. Almost from her birth, materia medica has been the sport of hypothesis. Tossed about from one medical creed to another, and sometimes almost torn asunder by the struggles of opposing parties, she has survived to the present time, to be still exposed to buffetings on the one hand, and injudicious fondling on the other, from which all the efforts of sound judgment and common sense are requisite to save her unhurt. You may receive it as an indisputable truth, that any claim to your guidance in the use of medicines, founded upon an hypothesis assuming to be of universal or even general application, is wholly groundless and futile. The facts of our science are yet far too limited to enable us to form a general theory of medicine upon the only true foundation, that of strict induction. How is it possible for us to draw from our knowledge of the human system a doctrine explanatory of all its morbid actions, when we are almost wholly in the dark as to the nervous functions, and of the principle of life itself know scarcely more than its existence? We might as well attempt to form an accurate map of a country from our knowledge of a few of its prominent points, while ignorant alike of its boundaries and its interior. Yet so presumptuous is man, that he frequently undertakes the impossible task. With intellectual powers, which, in comparison with the object, are infinitely feeble, he strives to penetrate the secret counsels of Almighty wisdom. Like the giants of old, he heaps up his mountain upon mountain, and with audacious vanity hopes to seize upon heaven itself by violence. There is only one path to

truth in science, and that is the straight but narrow and laborious path of observation and experience. It is true that false theories, if without practical bearing, may sometimes be useful as aids to the memory; but, when they have relation to human life and happiness, they become engines of incalculable mischief. Systems of medicine, therefore, claiming to be universal in their scope, as they are necessarily false, must be of the most injurious practical influence, and, though often attractive to the inexperienced by their apparent beauty and labour-saving promises, should be discarded as sweetened poisons poured into the very fountain of life. It is a most grateful reflection, that the present tendency of the enlightened part of the profession is in an opposite direction. Medical men have at length begun to enter the Baconian path. It is now becoming the fashion to observe accurately and extensively, to collect facts abundantly, to sift these facts by a most rigid scrutiny, to compare them with the greatest care, and to draw no inference which is not so hedged round by various defences as to be almost unassailable. Though this system has had numerous advocates, no one has done more towards rendering it popular, and bringing it into extensive practical operation, than M. Louis, of Paris, whose works are models of scientific exploration applied to medicine, and whose pupils, both in France and this country, inspired by a zeal little inferior to his own, are labouring successfully in the same great cause. At present, therefore, we have, as a profession, less to fear from false theory than at any former period.

It is true that the homœopathists, or disciples of Hahnemann, are said to be making considerable impression on the community, and some practitioners of that school are supposed to be reaping largely the fruits of public credulity; but the profession itself has not become contaminated, and none but a few of peculiarly excitable imaginations are ever likely to yield up their judgments to its monstrous absurdities. I feel that it is wholly unnecessary

for me to guard you against a doctrine which prescribes, for the cure of each particular disease, the medicine most closely imitative of the disease in its effects upon the system, and recognizes the greatest curative efficiency in doses, no matter of what medicine, varying from the millionth to the decillionth of a grain. Luckily for the dupes of this imposture, the enormity of the first branch of the hypothesis is neutralized by the almost inconceivable folly of the second. Thus, upon the homœopathic doctrine, you ought to cure apoplexy by a blow upon the head; but the blow must be of no greater force than the millionth part of the weight of a feather: in other words, you do not kill your patient because the means you employ are wholly inert. The fact is, that homœopathy is nothing more than a childish hallucination, which shakes its little fist at the giant of disease, and attributes the overthrow occasioned by the mighty hand of nature to its own Lilliputian blows. But, though it does little positive harm, it is the indirect cause of much evil by preventing positive good. It is desirable, therefore, that the community should be protected against its impositions; and it becomes the duty of the physician, to do what lies in his power to disabuse those who may have been captivated by its pretensions.

The only hold of homœopathy upon public favour is its apparent success. You may uncover its absurdities to the understanding, and most persons of good sense will join with you in condemning it; but others will answer that they do not pretend to be capable of estimating medical theories, that they judge by the result, and that, in relation to the system in question, this is often favourable. Patients treated by the homœopaths get well; and sometimes they are asserted to have got well after the usual medical treatment had been fruitlessly exhausted. This is the stronghold of all irregular practice; and, unless you can conquer it, argument and ridicule will equally fail to produce an impression on the minds of many, whose imagination and

capacity of belief are stronger than their judgment. Indeed, the minds of some persons are so constituted as to find attractions in moral extravagance and absurdity; and, if they have the least apparent basis of fact to stand upon, will exhibit a faith equal to any possible emergency. In the absence, however, of even this slight footing, nothing short of insanity could withstand the assault of reason and ridicule combined; and homœopathy must fall into immediate disgrace, if its claims to great practical success can be upset.

It would be folly to deny that patients recover in the hands of the homœopathsists; and I believe that a much larger proportion recover than under the treatment of irregular practitioners in general. Nay, I will go further and admit, that a disciple of Hahnemann may be more successful than a very ignorant and unskilful physician, even though the latter may take rank in the regular corps. But what is the real cause of this apparent success? I have too good an opinion of your common sense to suppose, that you can for a moment be disposed to ascribe it to the infinitesimal doses administered to the patient. Can any one of you possibly believe, that the decillionth of a grain of any medicine kept in the shops, a portion far too minute to be visible to the naked eye, and which the most powerfully magnifying microscope would be insufficient to detect, is capable of producing the slightest impression on the system? The truth is, that the success of the homœopathsists is almost exclusively negative. If their doses are too feeble to do good, they are equally incapable of doing harm; and the patient gets well in the natural progress of the complaint. The tendencies of the great majority of diseases are towards health; and, if no disturbing cause be allowed to interfere, they will sooner or later terminate in recovery. This fact cannot be too strongly impressed upon medical men, or upon the community at large. It is a common notion, that every complaint which ends favourably is cured by the means

employed in its treatment. Physicians themselves often act as if they were under this impression, and, even when they know better, do not always take due pains to enlighten their patients on the subject. They are willing to reap the advantages of the credit ascribed to them, without duly considering that, by their acquiescence, they are playing into the hands of irregular practitioners. If every case which gets well under the care of a physician is a cure, so is every case which terminates similarly in the management of a homœopathist or a Thompsonian. Thus must the public reason; and, as great efforts are made by every irregular aspirant to their favour to parade these cures before them, it is not at all surprising that they are frequently deceived, and yield their support where it is not deserved. Let people be taught the simple truth in relation to the natural progress of most diseases; let the physician always be satisfied with the amount of credit really due to him, and take care that nature is not defrauded of hers; and it is scarcely doubtful that the common sense of the community will be able to estimate irregular pretensions at their real value. They, like ourselves, will see in the supposed cures of the homœopathist the real triumphs of nature, and in those of the more venturesome empiric, either the lucky blunders of ignorance, or the successful struggles of a good constitution alike against the disease and the medicine. Nor need we apprehend that they will not duly appreciate our own services. Though nature may cure most attacks of disease, yet there are many which are beyond her unassisted powers; and there are still more in which her efforts may be materially aided, and the amount of suffering to the patient vastly diminished by judicious medical interference. Let us rid ourselves of all false pretensions; let it be seen that we stand on the firm foundation of common sense, that our time and efforts have been directed to the search of truth, and that, having no interest distinct from that of the community, we can have no object in

deceiving them; and there can be no doubt that we shall be consulted in disease, whenever there is pain to be relieved, or supposed danger to be averted.

But the apparent success of the homœopathists is not ascribable, in all cases, to the natural progress of disease towards health. Much may also be attributed to the influence of new and strange processes upon the mind of the patient. In all purely nervous complaints, and in many others of a more complicated nature, the production of some profound impression on the feelings or imagination will often occasion a temporary, if not a perfect cure. There is no difficulty in understanding this fact. The brain, which is the centre of all sensation, is also the seat of the intellect and passions. When the latter are excited into powerful action, the brain is necessarily affected; and we can easily conceive that it may be rendered incapable, by the new condition in which it is placed, of perceiving those derangements which before occasioned pain, or gave rise to some irregular action. They who have suffered with toothache well know how often the pain entirely vanishes, under the immediate expectation of the interference of the dentist. When the complaint is a mere functional derangement, a permanent cure may often be effected by a repetition of impressions, producing a continued revulsion to the brain. Now, with the homœopathists, as with others of the same group of practitioners, it is customary to employ measures calculated to make a strong impression on patients of an excitable temperament. Their close examination into the condition of every function and every organ; their numerous inquiries as to the past history, sentiments, passions, and habits of the patient; the commission, in many instances, of all the information thus derived to paper, in order that it may be scrupulously examined; and then the solemn earnestness with which they advise the very careful smelling of an empty bottle, or prescribe one of their almost preternaturally small doses; all this

excites and occupies the attention, calls the passions and imagination into play, and involves the mind in a kind of wondering awe, admirably calculated to revolutionize the condition of the nervous system. That real cures are sometimes thus effected, and temporary alleviations still more frequently, cannot be doubted; but means of a similar tendency have produced the same results in all times and countries; and homœopathy, in this respect, may rank with the touch of a dead man's hand, the pow-wowing of the Indian doctor, and the more refined charlatany of animal magnetism.

Still another cause of the occasional triumphs of the homœopathist is the remaining influence of previous regular treatment. The remedies employed before the commencement of his attendance sometimes continue their favourable operation, or begin to operate, after the patient has fallen into his hands; and the credit thus accrues to him which belongs properly to another. An instance has been related to me, in which a patient with amenorrhœa, who had been for some time under regular treatment, without apparent advantage, resorted to the advice of a homœopathist, and in less than twenty-four hours was gratified by a restoration of the suspended function; but the credit which the new attendant might have derived from this accident was prevented by an unfortunate declaration which he had made, on his first visit, that no good could be expected until the remedies of his predecessor should have been removed from the system, and that for two weeks at least his efforts would be directed to that end exclusively.

Upon all these points it is important that the public should be enlightened. Let them understand the true ground of those successes which are so diligently paraded before them, and their minds, extricated from the web of false inference in which they had been entangled, will judge correctly of the relative value of pretensions to their approval and support. They will recognize,

in the elaborate preliminary examination of the homœopathic physician, the mountain in labour, and in his infinitesimal doses, the ridiculous mouse. The whole system, which, viewed through the distorting medium of false assertion, seemed to be a real though mysterious and wonderful fabric, will to their unperverted vision appear what it actually is, the phantasm of an excited imagination, a mere intellectual illusion, better adapted to the sphere of a lunatic asylum than to the purposes of common life.

The last and most prolific source of the abuse of medicines is the ignorance of those who undertake to employ them. Even within the limits of what is usually considered the regular profession, there is unfortunately much presumptuous incompetence. The best informed physicians often have occasion to regret the inadequacy of their knowledge; how woful, then, must be the blunders of those who enter into the practice of medicine almost without preparation, who have merely gone through the initiatory forms requisite for admission into our ranks, with as little previous expenditure as possible of time and study! The number, however, of badly instructed, or wholly uninstructed physicians, in this country, is an evil incident to its comparative youth, and is daily diminishing with its increasing age. The establishment of medical schools, at various remote points, has tended to elevate the standard of attainment, by bringing instruction within the reach of many who would otherwise have been content without it. The leaven of improvement has entered the profession, and will not cease to work till the whole mass is leavened. The time, I have little doubt, will come, when no one will undertake the practice of medicine without having availed himself of the advantages of the schools; and a degree will be as necessary a prerequisite in all parts of the country as it now is in our larger cities. The question will then be in medicine, as it must be in everythin connected with humanity, not

between skill and utter incompetency, but between different degrees of knowledge; and the lowest grade will still be far above that of absolute ignorance.

But it is in quackery that the source of abuse of which we are now speaking exhibits its most deleterious influence. This is an evil to which, in some of its various forms, every nation, however well guarded by laws, is in a greater or less degree exposed; but in a country like ours, where liberty is almost riotous, and individual will is constantly pressing upon the public good, it is scarcely possible to fix restraints upon a practice, which appeals so strongly to the hopes and fears of the ignorant multitude. As in our spiritual affairs, each claims the right of walking in his own path, his own interest only being concerned; so, in the care of our bodily health, we are unwilling to relinquish a similar privilege, even though, in the opinion of those best informed, our course may lead to destruction. Hence empiricism broods almost undisturbed, and her venomous offspring swarms in every corner of the land. It is not my intention to describe the various forms of her evil progeny. Even were the object worthy of the labour, time is not allowed me to enter into the disgusting detail; and I am entirely confident that not one of my auditors needs any warning, to keep his own skirts clear from the contamination. The relation which every high principled medical man must bear to quackery is that of uncompromising hostility; and the considerations in regard to it which have the most interest for him are such as concern the defence of the public against its seductions. A few general observations on this point, which, if time permitted, might be greatly extended, will close the present lecture.

One of the most efficient means of successfully combating empiricism, is to elevate the standard of attainment in the medical profession. Where this is low, it is not easy for the public to distinguish between the pretensions of the regular, and those of

the irregular practitioner. Quackery triumphs when she sees herself reflected in the practice of physicians. Let the student leave no opportunity unimproved of qualifying himself for the discharge of his future duties; let the practitioner, so far from being content with the attainments of his youth, cherish studious habits, and aim at constantly increasing knowledge and skill; let all who have at heart the honour of the profession, encourage those only to enter it who are suitably gifted with talent and industry, and urge upon these the importance of ample preparation; and we shall soon establish so strong a line of distinction between regular practice and empiricism, that the dullest eye will scarcely fail to recognize it, and the dullest intellect to perceive on which side of it will be the greatest security.

But, above all other things, it is important that the physician should not in any way countenance quackery, or encourage it even in its least pretending forms. If, from facility of disposition, distrust of our own qualifications, interested views, or from any other cause, we afford the slightest opening for the insertion of its roots, it is sure to fix its parasitic growth upon us, and to flourish at our expense. Touch not, taste not, handle not—should be our motto in relation to this great evil. Is a secret remedy offered for our trial or approval—we should firmly decline the insulting offer, and let it be clearly understood that we recognize no secrets in medicine. Does a patient ask our permission for the use of some nostrum whose character is unknown to us—we should resolutely resist the solicitation, and yield up the case altogether rather than retreat from our position. It is not the mischief which might result, in any particular instance, that should influence us, so much as the danger of sanctioning a deleterious principle. Should we incautiously recognize the efficacy of some empirical remedy in a single case, our stamp will be immediately placed upon it; and, in spite of subsequent remonstrances, it will be made to pass current for

whatever value its unprincipled circulator may find his interest in attaching to it. Should one of these nostrums be employed under our observation, and the patient recover in spite of it, the cure will be ascribed to the medicine, and serve as the foundation of its less innocent use in other cases of supposed analogous character. There is no end to the mischief which may thus grow out of an inconsiderate act, on the part of an influential physician. But, if prohibited from giving our sanction, in the remotest degree, to the empiricism of others, how careful should we be to keep our own hands clean! To put forth a secret remedy ourselves, or to permit our name to be attached to such a remedy, is to afford the strongest possible support of example to the cause of quackery. There are other practices which, though not strictly empirical in themselves, have acquired a suspicious character from association, and should therefore be carefully eschewed by the physician. To bring our successes or supposed successes in every possible way before the public, to support our own doubtful statements by the auxiliary certificates of volunteer or recruited witnesses, to proclaim our superiority over our fellow-practitioners in some branch of the healing art, to which we wish to have it believed that we have devoted particular attention; these and other analogous modes of proceeding are so often put in practice by notorious quacks, that the physician who resorts to them cannot escape the imputation of countenancing these impostors, and must be content, while he aids their cause with the public, to take rank with them in the thoughts of his professional brethren.

It is not by openly attacking empiricism before the public, that we can hope to overthrow it. Our arguments make little impression, as they are supposed to proceed from interest; and the sympathies of the multitude are drawn to the party assaulted, by the cry of persecution. The privilege of reply is, moreover, made available for the purpose of puffing; the attention of the

public is roused by the controversy; and great numbers become familiar with the wonders of the panacea, who might otherwise have never heard of its existence. Besides, in disputes of this kind, the party which has most self-respect is usually in the most disadvantageous position; as he feels under restraints in relation to the truth of assertion, and the proprieties of language, which are scorned by his opponents. The profession scarcely commits a greater error in originally yielding countenance to empirical pretensions, than in subsequently assaulting these pretensions through the public press. The flame which might have expired without the first favouring breath, is increased into a conflagration by the blast intended to extinguish it. All that we can do with advantage is to bring occasionally before the public the adverse incidents in which empirical practice is exceedingly fruitful, and, placing them in their true light, without attempt at false colouring or exaggeration, to leave them to their legitimate operation upon the common sense of the community.

But the same caution is not necessary in our private communications. Every physician has a certain circle within which he moves, and in which his professional opinions, duly expressed, cannot but have considerable weight. As circles of this kind make up, in the aggregate, almost the whole community, it follows that medical men, acting in unison, must have it in their power to produce a strong impression upon public sentiment in relation to all the concerns of health. Let us reason in the following manner with our friends and patients. You will admit that in any common art, they only are to be trusted who have made this art the object of especial culture. You would not go to a painter for instruction in music, nor to a musician for your portrait. In what does the art of medicine, in this respect, differ from others? Who are most to be trusted, they who have endeavoured to make themselves acquainted by laborious study with all that has been learned in relation to disease and its treat-

ment, or they whose only title to notice consists in their own assertions? Is not some knowledge of the human system, in its healthy state, requisite for those who attempt to remedy its derangements? and yet what empiric will you find impudent enough to claim an acquaintance with anatomy? If these men have the skill they profess to have, it must have come by inspiration. Are they usually such, in their lives and characters, as to render it probable that they would be selected as recipients of so high a favour? Empirical medicines are often proclaimed to be infallible, and especially in diseases commonly deemed incurable. How does it happen, that the stigma of incurability still adheres to these diseases, notwithstanding the facility of resort to the remedy afforded by the philanthropy of its discoverer? The very essence of quackery is the ascription to particular medicines of a sovereign power over particular maladies. Now, no disease is the same under all circumstances. It differs in its degree of violence, in its stages, in the constitution of the patient, in its complication with other affections; so that the medicine which may prove remedial at one time, may act as a poison at another; and substances possessed of any power whatever can never be empirically employed without risk of mischief. Besides, admitting for a moment the applicability of a particular medicine to the same disease under all circumstances, how is a correct decision to be obtained in relation to the disease itself? The most experienced physicians often find great difficulty in ascertaining the precise character of cases which come under their notice: will not a person wholly uninformed be almost sure to err, and thus to use the medicine even where it may not be intended? The aid of the regular practitioner cannot be sought for in forming the diagnosis, while the treatment is confided to the empiric. He knows too well what is due to himself, to the profession, and to the patient, to countenance in any way such vile impositions. It is true that quack remedies do not always

destroy the patient; but should they therefore obtain the credit of the cure? If I knock a sick man down with a club, and nature is still powerful enough to restore him, is the result ascribable to the blow? The medicine may even accidentally do good. So will any drug on the shelves of the apothecary, if employed in all cases of disease. If every man who is unwell should take a dose of calomel, benefit would result in some instances; but is that a sufficient reason for the indiscriminate use of calomel? The cures, therefore, so abundantly paraded by the empiric, are false colours, stolen from nature or accident, and intended as lures to draw victims within his reach. The mischief which he does is left to the discovery of others, and is often concealed by the grave.

These considerations, and many others which will readily suggest themselves to the physician, may be urged upon the good sense of those with whom he is socially or professionally connected, and will not be thrown away. Under such a course of proceeding, systematically and generally pursued, quackery would soon find itself excluded from the respectable walks of life. To eradicate the evil entirely will never be in our power. Its affinity for ignorance and folly is too strong to be overcome by any available force; and until human nature is regenerated, ignorance and folly will not become extinct.

I have thus endeavoured to conduct you through the round of abuses to which medicines are liable. There may be some which have escaped my attention, and much more might be said on many points which I have been compelled to touch upon but lightly. You have, however, heard enough to satisfy you of the importance of attending to the subject. My design has been to point out the means not only of properly regulating your own habits of prescription, but also of correcting, so far as the circumstances of the several cases will admit of correction, those numerous abuses on the part of irregular and empirical prac-

tioners to which the public is exposed. In the Course which is about to commence, I shall have abundant opportunities of satisfying you, that medicines, properly employed, are of indispensable necessity to the best management of disease ; and I apprehend, therefore, little danger, from the somewhat gloomy picture presented to you, of any permanently injurious impressions on your minds in relation to the value of the materia medica.

LECTURE V.

DELIVERED NOVEMBER 8TH, 1838.

Mental Agency in the Treatment of Disease.

I CONFESS to you, gentlemen, that, often as I have stood before meetings like the present, I never address a newly assembled class unmoved. At the sight of so many familiar faces, seen after a long interval, and all beaming with kindly recognition, I cannot repress the gush of feeling that springs from the recollection of the past. But the future also has its share in the excitement of the moment. On the good-will and kindness—may I not say on the friendship of those who have so often before listened to me from these seats, I rely with confidence; but there are many here for the first time, who come with unbiased feelings and judgment, and look to the future solely for their sentiments in relation to those under whose instruction they have enlisted. To these I cannot but turn with some solicitude. I know that a strict discharge of official duty will command their respect; for the young heart is just. But their respect is not all that I desire. I wish also to possess their friendship. Between teacher and pupil a closer bond is requisite than that of mere duty or interest. I need not tell you how much better all work is done when the heart is in it. I need not tell you how much more lively and vigorous are the masculine faculties of the in-

tellect, how much brisker is memory, attention, judgment, reason, imagination, when cheered and inspirited by the lovely companionship of the affections. Let the teacher act under the cold dictates of duty alone; he may detail facts correctly, may collect all the essential materials, arrange them in due order, and lay them clearly before the student; but how lifeless and unimpressive his manner! How irksome alike to himself and his hearers the performance of his task! But let the heart lend its impulses; let the affections awaken in the breast of the speaker; let him be animated by zeal for his subject, and a warm desire to please as well as instruct; and then, how the eye brightens, how the whole countenance is lighted up, what life and soul breathe in the before languid utterance! Words acquire new force when thus clothed in the tone and emphasis of feeling. Memory rouses up from her slumbers, and pours forth her stores of corroborative fact and incident. Imagination is stimulated to exertion, and gathers ornament and illustration from every field of nature. The contagion of enthusiasm spreads from the speaker to those around him; the attention of the audience becomes absorbed; every word is understood and appreciated; and a deep, accurate, and permanent impression is produced, instead of those vague and fugitive shadows of truth, which are often the only traces left in the memory by an uninteresting lecture. But there is nothing which contributes so much to animate the zeal of the teacher as the confidence that he enjoys the kind consideration, the good-will, the affection of his pupils. You will not, therefore, think me unreasonable in asking for the favourable sentiments of those among you to whom I am yet unknown; in expressing my fervent wish that we may commence our labours as friends together, disposed to cheer and assist each other in our progress, and to yield an affectionate sympathy under all circumstances.

My business in this school is to teach *materia medica* and

pharmacy. On an occasion like the present, great latitude is usually allowed to the lecturer in the choice of his subject; but there seems to be a propriety in maintaining a degree of consistency with the general tenor of his lectures; and it may be expected, therefore, that the remarks which I am about to make shall bear some relation to the branches of medicine just alluded to. In the most extensive application of the term *materia medica*, it may be said to embrace all the means, of whatever nature, employed in the cure of diseases. A course of lectures, however, which should attempt to exhaust the whole subject, in this ample sense, would occupy much more time than can be allotted to it in the arrangements of our school. The lecturer is necessarily confined, in the body of his course, to the consideration of medicines strictly so called; and I always find that my limits are strongly pressed upon by the abundance of material even thus restricted. But, as some of the remedial means not included within these limits are highly important, it becomes proper in the teacher to avail himself of every opportunity, out of the ordinary course of his duties, to enforce their claims, and, so far as lies in his power, to make them familiar to his pupils. It is in accordance with this conviction, that I propose, in the present lecture, to occupy your attention with some remarks on *mental agency in the treatment of disease*.

Of the existence of an immaterial principle distinct from the frame which it inhabits, I presume that few if any of you entertain a doubt. That mere brute matter, by any possible arrangement of its particles, should acquire the power of thinking and feeling, is a supposition so abhorrent to the common sense of mankind, that none but those who have become bewildered in the labyrinths of a false philosophy are likely to adopt or support it. The belief of a soul within us, like that of a divinity above us, is the spontaneous result of the mental organization of our species, and, if it does not rank with our confidence in

self-evident truths, is at least deduced from what we see and feel by a process of reasoning so short and simple as not to escape the feeblest intellect, and yet so strong as to resist, with the majority of minds, the most ingenious and forcible attacks of sophistry.

How this immaterial principle is connected with the machinery which it keeps in motion, we know not, and, on this side of the grave, shall in all probability never know. That it is capable, by an excessive, deficient, or deranged influence, of throwing the machinery itself into disorder, might be inferred a priori, and is abundantly proved by experience. Accordingly, in every treatise on practical medicine, we find moral causes enumerated among those most fruitful in the production of disease. To instance only a few examples; what physician is ignorant that violent anger may give rise to apoplexy? that sudden emotions, whether of joy or grief, may suspend for a time, if not altogether arrest, the motions of the heart? that continued mental excitement is a not unfrequent cause of inflammation of the brain; and mental depression, of dyspepsia, chronic hepatitis, and various other forms of visceral derangement? that, finally, in the delicate female, the sensitive nerves often respond in hysteria and convulsions to the rude touches of anxiety or vexation, while even the iron cords of man's constitution sometimes melt before the flames of love?

But from a fountain thus overflowing with evil, may we not also draw something that is good? If mental influence is often found among the causes of disease, may it not also be sometimes used as an instrument of cure? To think otherwise would be doing injustice to that kind order of Providence, which has instilled something that is sweet into every cup of evil, which has ever made those roses the most fragrant that are accompanied with thorns. There can be no doubt that a skilful physician may often very advantageously enlist the aid of the mind against the bodily ailments of his patients.

To give a complete view of all those therapeutical means which might rank under the head of moral remedies, and an exact detail of the best modes of applying them, even were time allowed me, would greatly exceed any ability which I may possess; for the nature of mental action is often so subtle as to defy scrutiny, and its varieties so infinitely numerous that no patience could record them; and yet, there is scarce one of these flitting movements which, if seized at the proper moment, may not be made available in the cure of disease. The cultivated and observant physician, who is ever on the watch for assistance, and has his mind turned as well to the moral as the physical agencies within his reach, will constantly find opportunity in his path; and common sense will teach him how best to use it. All that I can at present do, is to endeavour to render you duly sensible of the importance of this kind of aid, and to bring before your notice a few facts and considerations, as points about which your own reflections may cluster. Every mind sends out its crowd of thoughts in all directions; what it most needs is a spot in which the swarm may gather, and thence proceed to labour in the great task of collecting riches and sweets from the flowery world around them.

The feelings, emotions, and passions are perhaps those parts of our mental constitution which are most available for remedial purposes. It should always be borne in mind by the physician, that of these some have an excitant and others a depressing influence, and, when brought into play therapeutically, must be made to bear upon opposite states or tendencies of the system. Thus, all the modifications of joy, hope, anger, and the feeling of the ludicrous, are more or less stimulant, and, in their various grades of intensity, produce every degree of excitement, from the gentle glow of self-complacence, up, through the fever of succeeding or successful enterprise, to the delirium of rapturous enjoyment, or the overwhelming tumult of fierce and sudden

wrath. Grief and fear, on the contrary, in their almost infinitely diversified grades and forms, diminish the energies and depress the actions of the system, and are even capable, in their excess of despair and terror, of producing fatal prostration.

These different effects, in their relation to disease, we sometimes see exemplified, on a large scale, in the extraordinary prevalence of health during the invigorating influence of national prosperity, and in the low typhoid epidemics which are so apt to march in the rear of national distress. The resistance which that condition of the system, resulting from a cheerful and confident state of mind, affords to the assault of prevalent maladies, and the contrary effects of a fearful and gloomily foreboding temper, are familiar to all who have lived through a season of pestilence. The terror, which goes forth before the deadly epidemic, prepares the way for its devastating march. Why does pestilence so often respect the physician, but that it quails, like the tiger, before a cool and undaunted eye?

There are certain passions of a complicated nature, which produce different and even opposite effects on the system, according as one or the other of their phases is presented. Thus, we have love with its joys and its hopes on the one hand, its sorrows, fears, anxieties, and disappointments on the other; jealousy and revenge, now pining with their griefs, and now intoxicated by their hateful anticipations or accomplished wishes; ambition with its fiercely exciting triumphs, its prostrating failures, and its anxious, harassing uncertainties; and so with numerous other modes of feeling, which, if not essentially complex, are necessarily associated with varying emotions, through which they variously affect the state of health. Their effects, however, may in general be resolved into those of excitement and depression, such as result from the simpler feelings of pure joy and grief.

The wise physician will have regard to all these influences in the cure of disease. It is true that he cannot always command

them at will. He cannot prescribe them as he would a dose of medicine, or the loss of blood. They are, for the most part, the creatures of opportunity, and he must be ready to seize them as they appear. Often do they fly up suddenly and unexpectedly before his steps; and, like a good sportsman, he must be prepared to take them on the wing.

Of the more violent forms of feeling, the chances of a beneficial application are comparatively rare. They cannot usually be long maintained; and, in most diseases to which they would otherwise be applicable, whether of an elevated or feeble character, injury instead of benefit might result from their transitory stimulation or depression. There are, however, occasions in which we may advantageously call in their aid. When the disease itself is of a quick onset and fugitive nature, the violent shock of passion will sometimes roll back its surges, and leave the patient safe. In instances of high nervous excitement, threatening convulsions perhaps or mania, a strong impression of terror or of grief will sometimes quell the agitated nerves, and compel them to peace. The paroxysms of hysteria may often be turned aside by preoccupying the mind with the fear of some approaching evil. The excitement of some strong emotion may also be advantageously resorted to, in certain cases of morbid apathy which bid defiance to medicines. In such cases, the physician may sometimes lay the foundation of lasting gratitude from the patient, by purposely rendering himself for a time the subject of his anger.

But much more useful results can be obtained from the milder emotions, which are more at our command, may be applied with less hazard to the patient, and can be much longer sustained. The supporting and even remedial influence of a cheerful, confident, hopeful state of mind, in low and protracted diseases, must be familiar to every observer. Hence, in our profession, the importance of manner to success, not only in the attainment of

business, but also in the discharge of duty. The medical practitioner who, considering his patient as a mere piece of deranged machinery, enters the sick room as he would a work-shop, and hammers away at the disease like a blacksmith or a carpenter; who, taking no account of mental influence, talks by the bedside as he would elsewhere, and blurts out views and anticipations without reference to the anxieties, the wishes, or fears of the invalid, must frequently find himself at fault in his calculations, must constantly witness injurious interferences in his plans which he cannot explain, and encounter results contrary to his hopes and predictions, and strongly adverse to his reputation. A cheerful mien, an affectionate deportment displaying and at the same time inspiring interest, a kind and studious attention as well to the wishes and even caprices of disease as to its claims, a mild forbearance in cases of irritability, peevishness, or fretfulness, with a disposition rather to soothe into quietness than forcibly to repress these morbid nervous irregularities; such are the means which the physician should apply, in order to produce and sustain in his patient that trusting, grateful, satisfied state of mind, so powerfully auxiliary to a course of medical treatment. He should also, whenever he can do so conscientiously, bring in to his aid the cheering influence of hope, and, if suitably gifted by nature, may superadd the gentle excitement of humorous and entertaining conversation, kept within the bounds of discretion. He should, moreover, endeavour so to regulate the circumstances in which the patient may be placed, in the intervals of his visits, as to maintain steadily this pleasing current of thought and feeling. In chronic cases of disease, especially those in which the digestive organs are materially interested, the aid of such mental influence is peculiarly requisite. Hence in part it is, that a patient long confined to his chamber, or to the narrow walks of a crowded city, often throws off at once the load of disease, when permitted to breathe the free air of the country, to drink in the

delicious yet calm enjoyments of rural beauty, and to allow his mind, released from the anxieties of business, or the turbulence of ambition, to wander at will wherever fancy may conduct it, and gather in joy, and admiration, and gratitude, and a host of other agreeable or profitable emotions from the rich abundance of nature. Rural sports, the easy and unrestrained intercourse and the quiet amusements of our watering places, the various adventure and diversified scenes of travel, by the agreeable excitement which they sustain in the mind of the invalid, contribute scarcely less than exercise and pure air, and much more, I believe, than the vaunted virtues of the waters, to those striking cases of amendment or cure which result from a journey to the different mineral springs of our country, so much the resort of fashion, debility, and disease.

In relation to the beneficial influence of hope, and the prostrating effects of anxiety and fear upon the health of patients, especially in chronic disorders, or in the declining stages of such as are acute, it often becomes a question for the conscience of the physician to determine, how far he may be justified in deceiving the patient, in cases of danger, as to his real condition, and thus turning off his mind from that preparation which it becomes every one to make for the awful future that awaits him. There are not wanting individuals who rank it among the duties of medical men, to assume the charge of the spiritual as well as bodily interests of their patients, and like faithful watchmen to warn them of the approach of danger. Such a course would, I honestly believe, frequently realize a danger which might otherwise exist only in apprehension; and the physician, who should thus step out of the path of his own peculiar duties, ought not to be held guiltless of the very serious results which might ensue. I have always deemed it my duty, when the symptoms of a disease have taken on an alarming character, to make the relatives or near friends of the patient aware of his real condition,

in order that they may have an opportunity for taking such steps as they may deem proper; but, even in such cases, when asked my opinion as to the propriety of informing the patient himself, I have had no hesitation in advising silence, whenever it has appeared to me that the alarm and agitation, consequent upon a contrary course, might greatly increase the hazard of an unfavourable issue. If they who are so fearful lest an individual may go out of the world ignorant of his condition, and with all his unrepented sins upon him, would consider that, in severe and acute disease, the mind is seldom in such a state as to be capable of the great work of reformation, and that, in attempting to do a very doubtful good, they incur the hazard of producing a fatal result, otherwise perhaps avoidable, and thus precipitating the patient into the very danger which they were most anxious to shun, they would be more cautious of interfering themselves, and less urgent upon the physician to assume so tremendous a responsibility. When the disease is necessarily fatal, and no management of the hopes and fears of the patient can materially affect the issue, the case assumes an exclusively moral character, and the physician should never stand in the way of such a course of proceeding as may seem best to those most nearly interested, nor, from a weak fear of giving pain, withhold that knowledge to which they have an undoubted right. There are, moreover, occasional cases, in which the probability of injury to the patient may be so far overbalanced by the probability of good from his knowledge of his exact position, that the physician cannot properly become instrumental in giving or encouraging a false impression; and there are others, in which he may well hesitate as to the proper course: but, as a general rule, the plan of cheering and encouraging the patient, of turning his attention to the bright side of his prospect, of soothing his anxieties and fears, and removing as far as possible every agitating reflection, is as much the duty of the medical attendant, in doubtful cases

of illness, as to keep away every noxious physical agent, and to apply every suitable physical remedy.

Our attention has hitherto been directed to those states of the mind in which it is usually considered passive, and under the influence of which the corporeal functions are either stimulated or depressed. There is another mental condition, which, as it is the result of causes usually not under the direction of the will, may also be considered passive, and which, though neither essentially stimulating nor depressing, exerts, however, a powerful influence for good or ill over the health; I allude to the feeling of belief or faith, which you will all recognize as one of the most energetic principles of human action. That the simple existence of a firm belief is sufficient to bring about, in many instances, the event or condition of things believed, is among the best established truths in the history of the mind. Most of you must have heard of the familiar fact, that our native Indians, under the fatal prophecies of their priests or sorcerers, sometimes pine away and die; and dreams and visions foreboding misfortune or death have realized themselves through the credulity of their subject. It is true that belief operates, in general, not by an immediate influence on the system, but through the instrumentality of other principles which it brings into action. Thus, when the object of belief is of a pleasing or fearful nature, joy in the one case, and terror in the other, become the immediate agents of the result; and in both cases, as well as where the object is quite indifferent, the imagination is often called powerfully into play; and awe, wonder, the vague feeling of the mysterious, and various other emotions lend an effective aid. Still, faith is at the foundation of the whole; and it is to this principle that the physician is to direct his efforts. Hence the importance of inspiring our patients with confidence in our skill, and wish to serve them. Thus aided, our prognostications will often fulfil themselves, and our prescriptions will operate with a double

force. Most medicines will produce their peculiar effects with greater certainty, if the patient be previously made acquainted with these effects; and it sometimes happens that, through the agency of faith alone, the operation of medicines may be imitated, even though not a particle may have been swallowed. It is thus that we may explain many of the phenomena which attend the homœopathic practice. I have heard of profuse salivation induced by a dose of mercury, so small as to be invisible to the naked eye. Mercury has been sometimes called the Samson of the materia medica; but I have no doubt that faith was in this instance much the stronger of the two. An anecdote was not long since related in my presence, somewhat illustrative of the principle under discussion. A nervous female, having been attended for a considerable time, with less benefit than she expected, by a young physician, became at length impatient, and proposed to her attendant that he should give place to a homœopathic practitioner. The physician acknowledged the inefficacy of the means hitherto employed, but spoke of a new remedy which had been sometimes attended with very beneficial results, and advised a trial of it in the present instance. It was to be introduced into a glass bottle, and the patient was to smell of it very cautiously a given number of times for nine successive days, taking care to observe, with rigid accuracy, various directions of a trivial nature which were given at the same time. On certain days it was to produce certain effects, among which, I recollect, was a diarrhœa; and on the ninth day the cure was to be accomplished. The patient seized on the idea with avidity; and the medicine was accordingly soon provided. I hardly need inform you that the bottle, though well stopped, contained in fact nothing but atmospheric air. The directions were strictly complied with; and, at the expiration of nine days, the physician called to learn the result of his new practice. He was happy to be informed that his patient was quite well, that his

medicine had operated charmingly, and that the effects had taken place in their due succession, exactly as he had foretold them, diarrhœa and all. On the influence of faith, therefore, gentlemen, I would advise you to calculate largely, and never to lose a fair opportunity of securing its co-operation, when you can do so with a due regard to the feelings and character of the patient, to truth, and to your own reputation.

The intellectual faculties, with the single exception of the imagination, as they less observably affect, in their exercise, the functions of the system, are less available remedially than the mental conditions already alluded to; but the physician cannot safely leave them out of his estimate, either in weighing the causes of disease, or in considering the means of its cure. It is a well-known fact, that a too vigorous or protracted exertion of the intellect is attended with the danger, first, of over-exciting and inflaming the brain, and, secondly, of abstracting the due supply of nervous influence from the digestive organs, and thus giving rise to dyspepsia and all its train of evils. When such effects come under the notice of the physician, or good reason exists to apprehend them, he will of course recommend a temporary relaxation, or total abstinence, according to the degree of the injury or danger.

But there are also cases in which he may advantageously resort to the active faculties of the mind as positive aids. In many instances, the suspension of mental effort, after one has been long accustomed to it, leaves an individual languid, uneasy, restless. He feels the absence of a wonted excitement, takes no interest in the objects around him, becomes depressed in spirits and often a prey to hypochondriacal feelings and notions; and at last, under the influence partly of mental dejection, partly of those habits to which it is apt to lead, his bodily health gives way, and the physician is called in to correct the evil. Such is very commonly the case with men, who,

having spent a great portion of their lives in a constant and laborious pursuit of fortune, of fame, or of both, and, having at length succeeded, determine to retire, and devote the remainder of their days to quiet enjoyment. The only effectual remedy, in such cases, is to bring the intellect again into action, either in the original pursuit, or, if that has lost its charms, in some other adapted to the tastes and talents of the individual.

Of the intellectual faculties, the imagination is, beyond comparison, that with which the physician is most concerned, which he can wield most effectively against disease. In saying this much, I do not by any means assent to that very common error of language, which ascribes to this faculty all the extraordinary pathological results which occur through mental agency. If an individual faints at some painful intelligence, or sinks into a wasting disease under the influence of misfortune, or goes distracted with joy, or falls into hysterical convulsions when vexed or irritated, it is assuredly not the imagination which is to blame; nor does this principle deserve the credit of the cure, when a neuralgic pain ceases through the operation of a well-founded fear, or an intermittent is suspended, as it sometimes is, by the mere agency of a rational faith. By the imagination we mean that faculty of the mind which brings before it images of things past or absent, or without prototype in nature, throws simple ideas into every variety of association not sanctioned by reason and judgment, discovers analogies and relations between objects which have no actual connection, and gives at the same time the force of truth to its unreal fancies. Scarcely any bounds can be assigned to the influence of such a faculty for good or for evil. There is not an emotion of the human breast which it may not call into action; for it may place before the mind the pictures of things calculated to impress it in any way in which it is impressible, and may then impart to these pictures all the characters of reality. It is capable, therefore, of pro-

ducing on the health, indirectly, whatever effects can flow directly from other mental sources. It is the great instrument by which empiricism, at all times and in all places, among the savage and the civilized, has operated upon the credulity of mankind.

The regular physician, however, is much more limited than the empiric in the use which he can make of this principle. Regard to his own reputation and to the credit of his calling, as well as to the general claims of truth, forbid fraudulent deception; and the convenient cloak of ignorance is wanting, under which he could conscientiously spread false impressions, because himself deceived. But it naturally happens, that a patient imagines more virtue in a medicine, or more efficacy in a course of treatment, or more skill in his attendant than the reality would warrant; and the physician would do wrong in depriving him of the advantages of this impression, from an abstract regard for truth. He may, I think, often go further than this, and stimulate somewhat the patient's imagination when it flags, without any compromise of the great interests of morality; and, in cases where nervous derangement has impaired or destroyed the power of correct judgment, he may take the reins wholly into his own hands, and guide the thoughts and feelings of the invalid into whatever channels he may deem most conducive to good.

In an account of the mental influences capable of remedial application, we should not omit the fact, that any strong impression on the mind, of whatever nature, will often suspend or entirely remove disease. This is particularly the case, when the complaint is purely nervous, or, if attended with inflammatory symptoms, is of that volatile character which prevents it from fixing firmly on any one part of the frame. Intermittent diseases are also peculiarly submissive to this mode of cure. The chain of concealed morbid action which, probably, in these cases, runs through the intermission, is broken by any powerful impression on the system, whether made through the agency of

the mind or otherwise; and the paroxysm which hangs upon it consequently falls. Sudden surprise, intense wonder, a feeling of the mysterious and awful, any of the stronger passions called into quick and powerful exercise, high excitement of the imagination, a very close and absorbing application of the attention or reasoning powers; any one of these causes, and still more certainly a number of them combined, is capable of so impressing the brain and nervous system generally, as to displace disorders having their root in this system, by substituting a new and incompatible action.

Instances are scarcely necessary to illustrate this truth. You have all read of the dumb, who, under the influence of some irresistible call for the exercise of their lost faculty, have suddenly been restored to speech. The gouty man has found the use of his inflamed feet, and the paralytic of his palsied limbs, when their aid has been necessary to remove their possessor from some immediate and fearful danger. Who has not seen hiccough vanish before a sudden access of terror or surprise? Neuralgia has yielded a thousand times to the complicated emotions, attendant upon certain empirical and highly pretending processes of cure. A *seventh son*, who, as is well known, has a divinely derived power of healing, prescribes for an obstinate ague; and the sense of the supernatural, which spreads through the mind of the patient, proves more than a match for the disease. A *natural bonesetter* stands by the bedside of a nervous female, long confined by a sprained and neuralgic ankle; he declares the existence of a dislocation, and performs some trifling manipulation about the part; the pain vanishes before his mysterious touch; the patient rises at his bidding, and finds to her astonishment that she can walk. The wonderful cure goes forth to swell the fame of the inspired operator, and adds to his power over succeeding cases. An *Indian doctor*, redolent of whisky, regards with solemn stolidity some superstitious subject of the colic, and

mutters his supernatural charms. The disorder passes from the weak bowels of the patient to his weaker brain; and a cure is effected. The *homœopathist* visits some recent martyr to palpitation of the heart; he looks wisely, scrutinizes closely, questions minutely about all manner of things, and, having put the mind into a delirium of various agitation, prescribes the millionth of a millionth of a grain of some medicine which he deems appropriate, and departs. At his next visit he finds his patient well, and gives glory to Hahnemann. I might go on multiplying instances indefinitely; for they are as numerous as the diversities of credulous ignorance and folly on the one hand, and of knavish cunning, superstitious self-conceit, and intellectual hallucination on the other. The physician, it is true, can seldom condescend to these doubtful methods of cure; and yet there may be occasions in which he may, with propriety, take advantage of the principle, and endeavour to control or subdue the disease by the excitement of some strong but short-lived mental disturbance.

It remains only that we should inquire, whether there are not certain mental states or actions which may be employed remedially in reference to their secondary effects. At the present moment, nothing of the kind occurs to me, unless we may rank under this head those psychological phenomena which have recently attracted so much notice, as the result of the so-called animal magnetism. I am not among those who are disposed to throw unmitigated ridicule upon this much-agitated subject. In the supernatural aspect which has at various times been given to it by the ill-regulated imagination of some of its warmer votaries, it merits only silent contempt. When miracles are urged upon our belief, we may, with great propriety, decline listening even to offered proof, unless there be presented, at the same time, an end sufficiently important to justify their performance. We may rest assured that the great physical laws of nature are never violated, in order to give notoriety to a few hysterical females

and their managers, or amusement to a few idle lookers-on. But, while we utterly refuse credence to all that is miraculous in animal magnetism, let us not go to the opposite extreme, and reject, without examination, all within the bounds of possibility that is asserted of its powers. That many individuals, particularly those of excitable nerves, are thrown into a peculiar deranged condition of the system, under the influence of processes brought to bear upon them by the magnetizers, is a fact at present, I think, too well established to admit of reasonable denial. This deranged condition is usually spoken of as sleep; but it differs from ordinary sleep in some important particulars, and approaches more nearly to that state of the nervous system, which has been known under the name of somnambulism. The hands are generally cool and moist, the face more or less flushed, and the pulse increased in frequency. The senses are variously affected; but in general the susceptibility to painful impressions is greatly diminished; while the hearing, sight, and touch, especially the latter, are often unimpaired, and sometimes rendered even more acute than in the waking state. I do not pretend to give a full description of this disordered condition, and have alluded to the few points just mentioned only in order to show that it is not identical with natural sleep. The question at present is, whether its phenomena are induced merely through the influence of the mind of the individual affected acting on his nervous system, or whether, as the advocates of animal magnetism considered as a distinct branch of science suppose, the effect results from the physical agency of the nervous system of the operator upon that of the subject of the operation, as a magnet, or an excited electric, affects other bodies in its neighbourhood. The latter mode of action is certainly not without the limits of possibility, that is, involves no possible contradiction of established laws of nature; and they who, in a philosophical spirit, investigate the subject with a view to the discovery of truth, so

far from meriting ridicule or censure, are entitled to our respect, if not commendation. But, in the present state of the question, I am decidedly inclined to the opinion, that all the phenomena of animal magnetism are best explained upon the exclusive ground of the mental agency of the individual affected. My reasons for this opinion are chiefly, first, that it is unphilosophical to seek for a new power to explain phenomena, which are at all explicable upon well-known and established principles; and, secondly, that, taking all the well-ascertained facts into consideration, they accord better with what we already know of the influence of the mind over the corporeal actions, than with any hitherto discovered physical influence, or even with any which has been invented by the fruitful imagination of Mesmer and his followers.

It is impossible for me, in the very few minutes which remain, to develop fully my ideas upon this subject. I will only, for a moment, call your attention to the circumstances under which the peculiar phenomena of animal magnetism are usually produced, and thereby afford you some slight ground for a judgment in relation to the question at issue. The individuals susceptible of the influence are usually persons of a weak or excitable nervous system, such as children or delicate females, whose cerebral functions may be thrown into disorder by slight causes, and whose minds are not strengthened by matured reason or judgment against strange, extravagant, or superstitious fancies. The operator is in general a man, often of fine physical developments, and almost always of a decidedly superior cast, either mentally, bodily, or by station, to the person upon whom he operates. Conceive now a subject such as I have described, a hysterical woman, or a delicate little girl, for example, placed before an individual of the opposite sex, of a vigorous frame and expressive features, who regards her with a serious, fixed, and to her inexplicable air, as if looking into her most secret thoughts, and con-

fidest of a commanding power over her feeble spirit, placing his hand mysteriously upon her head or brow, putting his thumbs into a still more mysterious contact with hers, and making certain magical movements about her, as if to bring her system within the circle of some supernatural influence;—what condition of things could be conceived more likely to put the nervous system into disorder, and to produce some of those strange phenomena of which such disorder is the fruitful root? A highly excited curiosity, an almost fearful wonder, a feeling of awe as in the presence of some mysterious power, an imagination thrown into the wildest confusion, and yet repressed by the stronger emotions of the moment—these, with perhaps other vague and undefinable agitations, interrupt the regular functions of the brain; and, by a wise provision of nature, the individual, by becoming insensible of her condition, and of the circumstances around her, is released from a disturbance which might otherwise, perhaps, result in unpleasant effects upon the health. There is certainly nothing more wonderful in this than in the fainting which so often supervenes upon any sudden and very important intelligence, or the hysterical convulsions resulting from any disagreeable excitement. The latter phenomena are more familiar, because their causes are more frequently brought into operation. The magnetic sleep, as it has been called, would not seem more strange, were the circumstances that induce the peculiar complex state of mind in which it originates, of ordinary occurrence.*

* I would here refer to an essay, by the late John K. Mitchell, M.D., professor of the practice of medicine in the Jefferson College, of Philadelphia, giving the results of his investigations and experiments in reference to animal magnetism, as containing much interesting information on this subject. The essay has been published since his death (Philadelphia, A.D. 1859) by his son, S. Weir Mitchell, M.D., with several other essays, constituting a valuable collection of the more important contributions of the author to general and medical science.

You perceive that, viewing animal magnetism as I do, it would not have been proper for me to omit noticing it in an account of mental agency in relation to therapeutics. There can be no doubt, that a condition of system of so decided a character as that which has been engaging our attention, and capable of being induced, in many instances, with great certainty and precision, may be occasionally resorted to with advantage in the treatment of disease. The fact is, I think, beyond question, that the sensibility to painful impressions is sometimes greatly diminished during this state, so that surgical operations may be performed without rousing the patient. Many of you have heard of Cloquet's famous case, in which a cancerous breast was amputated, without the consciousness of the patient operated upon; and in many instances teeth have been extracted without apparent pain. The advantage thus afforded to surgery is obvious; as the very persons most easily brought into the condition of diminished sensibility to pain, are those in whom such a condition would be most desirable in anticipation of an operation. Another beneficial application of this indirect mental agency is to the relief of morbid vigilance, and of various distressing nervous disturbances, in which it may possibly produce at least temporary good. But we are yet in want of sufficient precision in our knowledge of the phenomena of animal magnetism, to enable us to employ them therapeutically with the requisite confidence. Truth is so mixed up with error in the reports upon the subject; an almost delirious wildness of imagination, and a very discreditable charlatanry, have so much sophisticated the sober researches of philosophy, that it is utterly impossible, in the present state of the subject, to deduce any precise and satisfactory conclusions from the mass of materials presented to us. It may be that precision is unattainable; but at least the pursuit of it ought not to be deemed visionary or absurd; and should any plain and satisfactory results flow from the researches of

individuals engaged in this pursuit, whatever may be the issue in relation to practical good, they will merit and obtain the lasting applause of the scientific world.

With these remarks I close a slight sketch of a very ample subject. It was not originally my intention to occupy so much of your time; but the few points which presented themselves at the first glance, and seemed scarcely susceptible of sufficient extension to fill even the small space of a single lecture, spread themselves out under examination; so that my only difficulty has been to repress them within due limits. Should I have transgressed as much on your patience as your time, I have reason to be gratified by a forbearance, which I sincerely hope will be continued to me throughout the arduous duties of the coming winter. In the discharge of these duties I engage to you the best of my abilities; and I repeat, in conclusion, a wish expressed in the commencement of the lecture, and which is seldom absent from my thoughts, that we may go on harmoniously together, yielding mutual countenance and aid, and disposed to extend to each other a friendly partiality, when the claims of rigid justice may be silent.

LECTURE VI.

DELIVERED NOVEMBER 2ND, 1842.

On the Choice of Medicines.

WE are assembled, gentlemen, to enter upon a course of arduous labour. Those of you to whom the occasion is quite new, scarcely stand in need of encouragement. The ardour of a commencing enterprise is glowing in your breast; and the prospect of difficulties but animates you, as it offers scope to energies which are panting for action. But there is almost always something distasteful in renewed exertion, after a period of temporary rest. They, who have once or oftener struggled through the torrent of various labour that now crosses your path, may well be excused if they experience a slight shudder upon again approaching its brink. But it is only the first plunge which you have to dread. It is true that, if alarmed, like a child on his first attempt at bathing, you enter hesitatingly into the chilling wave, first introducing one foot and then the other, and cautiously increasing your depth as you advance step by step, you may become benumbed and disheartened before you have had the opportunity for exertion; but leap at once into the midst of your duties, strike out energetically with all the vigour you possess, and the first shock will soon be followed by an agreeable glow of reaction; the consciousness of faculties exercised, and

useful ends fulfilled, will spread a grateful satisfaction throughout your mental frame; and you will experimentally feel the truth, that, though man has been condemned to earn his bread by the sweat of his brow, yet a kind Providence has lightened the infliction, by inseparably attaching a feeling of pleasure to every act of profitable labour. I may, therefore, congratulate you, gentlemen, as well as cordially welcome you on this occasion. I need scarcely say, that it will be both my duty and pleasure to facilitate your labours, and increase their productiveness by all the means in my power. Even in the present address I shall keep this object in view, and, while introducing the general subject of my course to your notice, shall endeavour to give you certain views which may be of some practical utility.

You are aware that my department in this school is that of *materia medica*, or the science which treats of medicines. The time allotted, in the arrangements of the school, to the course of lectures on this subject is so completely filled up by practical details, that little or none is left for considerations of a general nature, for which, therefore, I am compelled to seek opportunity in my introductory addresses. Through these, accordingly, I have endeavoured to present to the notice, and press upon the adoption of the student, various facts, sentiments, and principles, having a more or less close relation to *materia medica*, and a more or less important bearing upon its successful application to practice; yet not exactly suited to the body of the course. I have thus, in different lectures, given sketches of the general history of *materia medica*, and of its particular history in the United States; observations upon the relative importance of the science, and its claims on the attention of the student; an account of the more frequent sources of error and abuse in its practical application; and a dissertation upon the advantages of a therapeutical recourse to moral influences as auxiliary to the physical. In continuation of the same plan, I propose at present to offer

to the class some considerations upon the proper choice of medicines.

The fact which, perhaps, strikes most strongly the commencing student of *materia medica*, is the great number of substances which, either as crude medicines or pharmaceutical preparations, swell the catalogues of authors, and load the shelves of the apothecary. From the first experience of pain and sickness, mankind probably began to look around into nature for sources of relief, and to accumulate substances of real or supposed curative efficacy. The continuance of the evil has ever since sustained the search; and an almost uninterrupted stream of contributions has been and continues to be poured into the mighty reservoir of therapeutics. In the earlier ages, substances deemed inefficacious, after a sufficient trial, were probably consigned to entire oblivion; but those which the physician now rejects or abandons are received and preserved in the records of the press, ready to meet the researches of some future explorer, and again to run a brief course of popularity, as newly discovered remedies. The love of distinction, the hope of profit, and the necessities of an over-crowded competition, are constantly co-operating with the laudable desire of doing good, to bring forth new medicines, or new modifications of old ones; and invention is tortured, not more in the production of the novelty, than in the collection or creation of plausible evidence in its favour. Though happily but a few centuries distant from the commencement of this more rapid course of accumulation, we have already, as may be seen by consulting the index of the *Pharmacopœia Universalis*, a list of something like twenty thousand medicines and preparations, more or less different from each other, recognized by the collective modern standards. What is to be done, a few centuries hence, if this respectable list shall go on increasing in the same ratio, we must be content to leave, together with many other equally puzzling questions, to the decision of posterity, whom

they especially concern. For us it is sufficient to bear our own burden, and to take care that its magnitude do not overwhelm us. It must be obvious to you that, after having thrown nineteen parts out of twenty of this enormous mass away as utterly useless, it will still be necessary to make a cautious selection out of the remainder, in order to bring it within a manageable compass. The young practitioner, who has as yet had little experience of his own, will necessarily be guided, to a great extent, by the recommendation or practice of his preceptors, or by the dicta of the medical author in whom he may happen most to confide; but it is desirable that every one should, in some measure, be enabled to form a judgment of his own, and not surrender himself to an exclusive dependence, which may have a favourable or unfavourable issue, as accident may determine the character of the authority upon which the dependence is placed. Perhaps I may be able to supply a few hints which may be of some service to the student, in the exercise of a suitable degree of independence in his choice of medicines.

Most of you are probably aware that, in every country or community in which the profession of medicine is properly regulated, there is a standard, in a greater or less degree authoritative, which determines the particular medicines to be used, and the modes of preparing them. Such a standard is denominated a pharmacopœia. The one recognized in the United States, was prepared under the authority of conventions, which have, at certain intervals, met at Washington, and may be considered as having represented the medical interests of the whole country. Our pharmacopœia professes to give a list of all the substances, whether in their crude or prepared state, which are necessary to the practitioner of medicine in this country. As this list was originally prepared, after a due comparison of sentiment, by eminent physicians from various parts of the United States, and

has since, on two occasions,* undergone a most careful revisal, in which reference was had to prevalent medical and pharmaceutical opinion and practice throughout the country, it is, to say the least of it, much more likely to afford a just rule for the guidance of the young practitioner, than the decisions of any single individual, however prominent. I would not wish absolutely to restrict you to the use of medicines recognized by our national standard. This would be to demand a subserviency, incompatible with that freedom of thought and action which is essential to any improvement of our therapeutics, and even to the most efficient exercise of known methods of cure. But, as a general rule, you will be most safe in not going beyond the limits of the officinal catalogue, until a judgment, matured by experience, shall enable you to estimate duly the character of newly asserted, or revived pretensions. You will assuredly find, in this catalogue, abundant materials wherewith to operate in your first practical attempts. Its copiousness, indeed, is much beyond the necessities of ordinary practice; and you will by no means be exempt from the duty of a careful selection, even should your field of choice be strictly limited by its authority.

It is advisable always to seek, in the medicines you select, an energy proportionate to the character of the disease; and especially to avoid the habit into which too many fall, of resorting to the most powerful on every occasion. There is a class of practitioners who seem to look upon diseases as the Stoics did upon sins, as all equally heinous. No sooner do they catch a glimpse of something suspicious in the distance, than they conclude at once that it is an enemy, and, without estimating his strength, prepare to crush him by the most energetic measures. In every low black schooner they discover a pirate, and direct their paixhan

* At the present date, January, 1872, five occasions; viz., A. D. 1830, 1840, 1850, 1860, and 1870; though the revised copy of the last-mentioned year has not yet been published.—*Note to the second edition.*

guns indiscriminately against the ship-of-the-line and the cock-boat. Happily, this disposition is less prevalent than formerly, and, in our parts, has in great measure left the regular profession to seek a refuge among empirics. In the West, however, we are led to suppose that it still prevails with many practitioners. In that section of our country, they are accustomed to everything on a grand scale, from their magnificent streams and prairies, their gigantic trees and great men, intellectually as well as physically, to their drachm doses of calomel. Perhaps the diseases, as they assert, may partake of the same gigantic character, and require corresponding treatment. Let us hope that they will hereafter participate in our experience, and, whether from a change in the character of the disease, or in the estimate of its force, learn, as we have done, the sufficiency, in most cases, of milder measures.* I would not, however, be considered as advocating an inert treatment of disease. I am in favour neither of the ptisan practice of the older French physicians, nor of the mere moonshine of the homœopathists. All I mean is, that the character of the medicine and its dose should be regulated by the nature of the disease; that we should treat mild cases by lenient and persuasive measures, and launch our thunders only at the refractory and the violent.

Another error, analogous to the preceding, is the habitual use of numerous medicines, without a precise knowledge of their powers. This is one of the characteristics of a semi-barbarous state of medical science; of an age which has not yet risen out of empiricism. The physician expects to overcome disease by

* I am happy to say that, in relation to the excessive use of calomel, a great change for the better has taken place among practitioners in the Western and South-western parts of our country; though, if I have been rightly informed, the same tendency to the magnificent still occasionally shows itself in the use of very large doses of sulphate of quinia.

brute force. Out of his magazine of medicines, he hurls against it one after another, with little discrimination, until either the disease or the patient sinks. Or he mingles numerous and wholly discordant substances into one huge prescription, and throws it like a bomb into the hostile garrison, in the hope that the scattering missiles may together overwhelm the enemy, or that some one at least among them may do fatal execution. The latter was a favourite proceeding with the ancient physicians, was handed down by them to the middle ages, and began to decline only with that brighter light which broke upon the profession in the last century. Some of the ancient formulas which have been preserved are very curious, from the number and heterogeneous character of the ingredients, and the utter want of any rational principle of association between them. Yet such is the influence of authority and habit, that one of these mixtures, called the *theriac of Andromachus*, which has about seventy constituents, was retained by the London pharmacopœia of 1746, and still holds a place in the French codex, with its agaric, and asphaltum, and Lemnian earth, and dried vipers, and its fifty other absurdities. I presume, however, that its retention, in the recent revision of the French national standard, was rather a concession of the majority to the strong prejudices of the few, than the result of the general professional feeling. It is certainly less in accordance with the present intellectual illumination of Europe and civilized America, than with the twilight condition of Eastern Asia, where the medical superstitions and absurdities of former ages flourish in a congenial soil. Dr. Parker, the medical missionary who has acquired so much deserved credit by his surgical labours in China, and whom many of you may remember as an attendant upon our lectures last winter, informed me that he was once applied to, by a dignitary of the Chinese Empire, for a remedy which would counteract the effects of opium upon the system, and, upon replying that there was no such

remedy, was asked if he could not mix together a great number of medicines, some one of which might perhaps have the desired effect; the very idea, probably, which led to that famous jumble of a multitude of incongruous substances, supposed to have been contrived as a counter-poison by king Mithridates, and hence called the *mithridate*. But this addiction to polypharmacy, though characteristic of a rude state of medicine, and certainly not the predominant fault of the profession at present, is nevertheless still found with some imperfectly educated physicians, and with a few, who, from their peculiar position, have inherited the views and practices of former ages, without participating in the movements of the present. It is a fault, too, into which a young practitioner, not upon his guard, may readily fall, as it naturally arises from an undue confidence in medicines, derived from books, and not yet corrected by observation. It may be avoided by establishing the rule, not to prescribe a medicine, without a definite idea of its powers and the effects expected from it, and never to mingle substances in prescription, without having carefully considered their mutual relations, as well chemical as physiological, and found them compatible in both. In short, the practitioner should look to the state of system, and the therapeutical indications which it presents, and then search, in his catalogue of medicines, for that one, or that combination of them, which is best calculated to meet these indications.

There is a fault opposite to that just mentioned, into which, I think, there is at present greater danger of falling; that is, too limited an employment of medicines, and too great a simplicity in prescription. It was formerly the custom to dress up medicine in magnificent robes, and to load her with all sorts of gew-gaw ornaments, calculated to meet a savage or semi-barbarous taste. The maxim of a higher refinement, that "beauty when unadorned is adorned the most," appears to have recently led, in certain schools, to the opposite extreme of an excessive sim-

plicity, which leaves the science with scarcely a garment to cover its nakedness. The theory of the unity of disease, originating with the famous Brown, and since supported, with various modifications, by much greater names both in Europe and this country, a theory which, in every deviation from health, recognizes nothing but a simple difference in the grade of action, very naturally led its advocates to the adoption of an almost equal unity in therapeutics; remedies being employed only in reference to their power of increasing or diminishing the depressed or exalted actions. Thus Brown, who saw debility everywhere, considered himself sufficiently armed against disease when provided with the laudanum and brandy bottles; and Broussais, who could see little besides over-excitement, found in the lancet, leeches, and demulcents, the chief therapeutical resources of our art.

The temptation to this extreme simplicity in the view and treatment of disease is very great; as it saves much labour of thought and study, and almost relieves the memory from the burden usually imposed upon it. Unfortunately, what it most wants is truth; and, though very pretty in theory, it has been found not to answer in practice; at least, after a fair trial, it has been generally abandoned, even where formerly in the highest vogue. The student will, therefore, do well to guard against its seductions. If induced by its plausible fallacies to neglect the acquisition of an ample knowledge of medicines, he will find, after engaging in practice, that he has yet that knowledge to acquire, and had merely postponed his labour to a less convenient period.

Even when provided with a sufficient knowledge of medicines, the practitioner is in some danger of falling into a parsimonious use of them. Indolence sometimes leads us into a mere routine habit of prescribing. We get into the way of using some particular medicine or combination of medicines for each particular

indication, and finding them generally to answer our purposes, are apt not to be sufficiently careful to watch for modifications of the disease, or of the constitution, habits, or tastes of the patient, requiring corresponding changes in the medicine or the formula. The remark is peculiarly applicable to the country practitioner, who, as he is generally under the necessity of preparing his own medicines, and often of carrying them about with him, perhaps on horseback, finds the tendencies to curtailment, arising from a routine practice, powerfully seconded by his personal convenience.

The fact is, that a physician can hardly be furnished with a too copious list of medicines, provided that there is some real difference in their remedial properties, that they are all in a greater or less degree efficacious, and that their effects have been so well studied that he can rationally prescribe them to meet peculiar demands of disease. It is even desirable to be in possession of several, having a similar or identical therapeutical operation, but differing in sensible properties, so as to render them acceptable to different tastes, habits, or idiosyncrasies of the patient. The stomach will sometimes receive a medicine when acceptable to the palate, which it would reject if disagreeable or disgusting; and such are occasionally the squeamishness and whimsical changefulness of a nervous temperament in disease, that the practitioner is compelled to task his memory and exercise his ingenuity to the utmost, to find the means of answering the variable calls of the system. Under these circumstances, he is best off who is possessed of the greatest variety of material out of which to choose.

From all that has been said, then, you will infer that while, on the one hand, I would avoid the untimely use of powerful medicines or of exaggerated doses, would reject everything not possessed of certain well-ascertained powers or useful properties, and would above all things eschew the practice of heaping to-

gether discordant or ill understood materials in one empirical recipe, I would, on the other hand, strenuously advise the student to make himself acquainted with as many efficacious medicines, of diversified properties, as he has the opportunity to study, and the capacity to store away in his memory.

In their choice of medicines, some persons are much influenced by reverence for what is ancient. When the world was making less rapid advances than at present, and at a period in reviving civilization when it had obviously not yet regained the standard of Greece and Rome, this was a very natural and an almost universal feeling. But now that, in almost all respects, we are quite on a par with the ancients, and in many vastly in advance of their proudest attainments, the feeling is much less common, and, where it exists, may be considered as almost indicative of eccentricity of character. Yet, to a certain extent, it does exist, and individuals are still to be found whose estimate of value is based on remoteness of origin. The rust of antiquity is in their eyes the philosopher's stone, which converts whatever it rests upon into gold. A scroll of parchment which, when written, would scarcely have purchased a dinner for its owner, acquires, by the compound interest of fifteen or eighteen centuries, a value exceeding that of a whole modern library. A piece of sculpture of some Athenian artist outweighs a modern banking-house, with all the paper of the bank in the same scale. To be able to trace his origin up to some successful robber of the dark ages, enables an aristocratic fopling of the old continent to outshine a Webster or an Irving. In the same eyes, a paring from the toe-nail of Galen is worth the whole brains of any score of modern doctors. So, a medicine consecrated by the praises of one of the old fathers of our art, possesses an energy not less miraculous than that of the decillionth of a grain of sand, which has undergone the due number of shakes, according to the rules of Hahnemann. But, as I have before said, this folly is not common, and it is

scarcely necessary to put you on your guard against it. The tendency of our age, and more especially of our country, and still more especially of the youth of our country, is exactly the reverse. We are much fonder now-a-days of the fresh rosy cheek and dimpled smiles of novelty, than of the stern brow and gray beard of antiquity. That is the syren which is constantly luring us from the path of truth and sound judgment, and against whose deceitful charms I would now warn you. The subject is practically so important that it will bear, and, indeed, requires some amplification.

There is a strong leaning in human nature towards what is new. This is peculiar to no age, country, or condition. The Philadelphian who joins the eager throng around a newspaper extra posted up before some publication office, may claim a prototype in the Athenian who sought similar information from those he encountered in the streets. The swarms of South Sea Islanders, who gathered around Captain Cook and his fellow-voyagers, were actuated by the same feeling as the crowd of Americans, who follow at the heels of a foreign lord, or greet with their huzzas a foreign writer of novels. But strong as is, and has been, and ever will be the love of novelty everywhere, it is a feeling which finds a peculiarly congenial soil in the American bosom. We are essentially a restless people. Placed in a new country, working our way onward by new paths, and governed by institutions which, if not entirely new, are greatly different from all that has preceded them, and withal, finding ourselves, upon a comparison with others, gaining upon them in the race of wealth and power, we have lost our respect for experience and authority, and for everything that bears upon it the stamp of the past, and are accustomed to look towards the hitherto unknown and the untried for the means of further advancement. Let a new scheme of physical improvement be proposed: we seize the idea with eagerness, and dash headlong

on with it, taking the bit between our teeth, and utterly disregarding the guidance and the restraints of prudence. Fulton proved the practicability of navigation by steam; and, in a few years, there was scarcely a stream or lake in the country which was not covered with steamboats. A few canals had been made in England and France, and were the admiration of the world. The novelty was transplanted to America; and the astonished nations, who had deemed our country yet a wilderness, and its people savages, heard that their boasted works had sunk into insignificance by the side of ours. Railroads and locomotives were started in England. A congenial chord was touched among us; and scarcely had the countryman ceased to be startled from his work by the puffing monster, with his huge train behind him, when the whole country, from one end to the other, and through all its recesses, appeared to be whirling along in every direction, as if motion were its proper element, and dwelling-houses but places of temporary rest. Nor are such results confined to mere matters of physics. Let a novelty in philosophy, or science, or religion, or medicine be started, and, true or false, we swallow it with avidity, allow it, half digested, to enter the vital current, and then, by the force of our thousand hearts, send it circulating through every portion of the system, either to be thrown off by our healthy energies, or to become incorporated in our very structure, and henceforth to form, as the case may be, a wholesome or noxious part of the constitution. You cannot look around you for a moment without being made sensible of this fact. It would scarcely answer to cite many instances. But, without going further, I may point to the exaggerations of mesmerism and phrenology in philosophy and science, to Mormonism in religion, and to Thompsonism and homœopathy in medicine; not to speak of that tornado of pills and potions which is raging at this moment, with an almost unexampled fury, through the whole land.

It must be clear to you that this restless love of what is new, while it is producing much good, is working also no inconsiderable amount of evil. It is true that we have canals and railroads in abundance, thus vastly facilitating our means of communication, and the interchange of visits and commodities. But have we not, as a set-off, loads of debt, which are pressing us to the earth, an exhausted credit, a reputation suffering abroad, and a universal stagnation or collapse of business, following the excessive excitement? It is true, that we are reaping the intellectual and physical advantages of a quick reception and rapid circulation of moral and scientific truth, wherever it may first come to light. But have we not also circulated the poison with the nutriment? and are not our judgments weakened, our morals tainted, and our mental habits vitiated by familiarity with the outpourings of European folly and vice, not to speak of the corruption which is generated in our own moral body, and circulated with the rest? It is true, that we have become familiar, in medicine, with the numerous and most valuable truths which the last half century has developed; have learned to see the secret workings of disease within the recesses of the breast and heart, and have received the inestimable gifts of quinia, and morphia, and iodine. But have we not also received error along with truth? Have we not felt the influence of false doctrine in every vein and fibre, and do we not still feel it counteracting the wholesome workings of the efficient and the true? And do we not behold every day patient after patient, dropping out of the hands of regular practitioners into those of mere pretenders?

It may be asked, are we therefore to reject all that is new? Are we in all instances to decline the good, lest we receive evil along with it? Certainly not. But we should endeavour to control this inordinate love, and eager search of mere novelty. Instead of taking a thing to our bosom because it is new, we should receive it at first with suspicion, and should make its novelty a

reason for a close and sifting examination of its character. When a stranger presents himself to us, do we receive him at once with open arms, introduce him into the midst of our families, give him access to our dearest treasures, and thus open, perhaps to fraud and villany, the path to their evil ends? Do we not rather ask for his credentials, and then afford him a fair opportunity for proving his worth, before bestowing upon him our whole confidence? So should it be in our art. So should it be in our choice of medicines.

At this very moment, in the rage for novelty, we are threatened with an innovation in chemistry, which promises to subvert some of the facts of the science previously thought to be among those best settled, and to work an almost complete revolution in its nomenclature. The salts are no longer to be compounds of acids and metallic oxides, but of certain complex radicals with the metals themselves. Glauber's salt has usually been thought to consist of sulphuric acid and soda. Henceforth, according to the new theory, we are to look upon it as a compound of sodium, and an imaginary body, consisting of sulphur and four equivalents of oxygen. Its name of course must be changed with the view of its nature, and, instead of sulphate of soda, we are to call it, according to one chemist, *sulphatoxide*, and according to another, *oxysulphion* of sodium. Now, if all this were anything more than mere supposition; if the new compound radical, which they propose to call sulphatoxygen or oxysulphion, or any one of its congeners, had ever been obtained in a separate state, or had been positively proved to exist by a demonstrative course of inductive reasoning, however we might regret this rooting up of our deeply seated notions, and however inconvenient some of us rather advanced in life might find it to impose so many new and hard names upon our already overburdened memory, we should be compelled to submit, and at least to assume the appearance of rejoicing at the progress of science. But to be put to all this in-

convenience merely for the gratification of a speculative disposition in others; to be compelled to go back to the learning of words and definitions, merely that certain scientific writers may have the opportunity to display a peculiar skill in conjecture; I submit it to you, gentlemen, if this is not rather hard; and, when I tell you that, in addition to the two names for almost every salt which you at present learn, you will have to commit a third to memory, should the new notions prevail, I am sure that, fond as from your time of life you may be of novelty, you will agree with me in wishing, that this theory of mushroom growth may prove also to have a mushroom duration. Luckily, the strength of our chemical Samson is enlisted against it; and, if it do not fall under his sturdy blows, it must be much more deeply rooted than, both for your sakes and my own, I hope it may prove to be.*

Botany, another of the auxiliary sciences of *materia medica*, is subject to the same vexatious inconvenience. This, too, is made an arena upon which the lovers of notoriety, and the lovers of change, may perform their feats before the public. One can scarcely open a new book upon the subject, without finding new divisions and subdivisions of genera, translations of plants from their old snug site in the arrangement to another deemed more appropriate, and, as a necessary tail to these innovations, a long list of new and barbarous names to be committed to memory. As if this were not sufficient, each succeeding writer thinks he has as good a right to make a name as his predecessor, and the propriety of change being once admitted, proposes a designation of his own, and thus occasions to the learner, not only the labour of committing two new words to memory, but also the embarrassment of a choice between them. They who have been under

* Dr. Robert Hare was at that time professor of chemistry in the University of Pennsylvania.

the necessity of studying the botanical history of cardamom, know, to their cost, how numerous have been the changes of opinion as to the character and proper designation of the plant producing it. After various fluctuations of sentiment, and the adoption successively of the generic names of *Amomum*, *Elettaria*, *Matonia*, and *Alpinia*, botanists seemed at length to settle down upon the last, and it was hoped that the learner might now be left at rest. You will be sorry, however, to hear that the end has not yet come; for the Edinburgh College, in the last edition of their pharmacopœia, style the plant after Roscoe, *Renealmia*, and it is highly probable that other changes are in store.

But to relinquish the sportive tone, I must say to you, gentlemen, in sad seriousness, that I consider this disposition to change a great evil. Independently of the loss of time and labour in learning new names and new forms of things when the essence remains the same, we are thrown by it into a state of never-ceasing unsettlement, and come at length into the danger of feeling that there is nothing stable under our feet; that all which we have taken for truth may be nothing but false observation, or ingeniously devised hypothesis; that, in fine, neither in physics nor morals is there any principle on which we can repose in undoubting and unwavering reliance. Scarcely any tone of feeling, whether in relation to the general interests of science, or to our own individual interests now and hereafter, can be worse than this. Without the restraint of firm principles, we become the sport of our fancy and passions; and it seems to me that, in the course of affairs in this country, such an undercurrent may be perceived, through all the stillness upon the surface, setting strongly towards some great, though unknown catastrophe. To counteract this current should be the business of every well-meaning man, and every patriotic citizen; and in no way, I think, can we so effectually attain this end as by deter-

mining to hold fast to tried maxims and principles; to resist firmly the seductions offered, both from without and in our own hearts, to the excitements of novelty and change; and, when something new, of whatever nature, or in whatever relation, is offered for our adoption, to consider it most carefully in all its bearings, and to submit it cautiously to the test of experience, before heartily adopting it, and especially before allowing it to displace an old principle from our respect or affection.

You will perceive the bearing of these remarks upon the subject immediately before us. There are few things in which we are more apt to be led astray by the love of novelty than in the choice of medicines. All the most valuable and best tried instruments of our art are but too apt to fail in obstinate cases of disease; and, even where success is probable or certain in the end, it is too often slow. In our extreme anxiety and impatience, we are ready to catch at any aid that is confidently held out to us; and, as most new medicines or preparations come recommended by a never-failing success in the hands of their introducers, we are not without seemingly reasonable hope of advantage from them. In addition to the mere inducement of novelty, we have the uneasiness under a heavy responsibility, and the fear that we may leave some possible means untried of acquitting ourselves well in the almost fearful charge entrusted to us. Many yield to these influences, and make an eager trial of the new remedy. Perhaps accident, and those various circumstances which very frequently conspire to produce a false conclusion as to the efficacy of a particular treatment, may work in its favour; and we may thus, from a partial experience, acquire a confidence which may lead to its further and more extensive employment, until the tide of fortune changes, and repeated failures at length conduct us back to a just estimate of its value. The continuance of the same causes leads subsequently to similar results. With each newly proposed remedy, we run the same round of

promising trial, partial success, and ultimate disappointment; and the consequence sometimes is, that, drawn off from established methods of cure in pursuit of these *ignes fatui*, we find ourselves at last unsettled in practice and opinion, distrustful of the old without having acquired confidence in the new, and almost ready to surrender in despair all reliance upon the efficacy of medicine. Of newly proposed remedies, many are mere revivals of those once employed, but afterwards neglected or forgotten; while, of the remainder, the great majority are wholly incapable of maintaining the place into which they have been temporarily elevated. Since the period at which I commenced the practice of medicine, iodine and its compounds are almost the only really new remedies which have come into general use; for morphia, quinia, strychnia, creasote, etc., are merely the isolated active principles of medicines before well known; while numerous substances, original or revived, for which high claims were asserted, are either altogether forgotten, or treated as objects rather of curiosity than real service. Let me, therefore, strongly urge you always, in your choice of medicines, to lean decidedly towards those of established reputation. Do not neglect the old tried servants of your professional fathers, for the crowd of younger applicants for your favour, whose only claims are a new face, a good deal of pretension, and a list of recommendations from persons you do not know. But, at the same time, I am far from wishing to confine you to the paths before trodden, and to close the access to something higher than we have yet attained. Well regulated efforts to widen the circle of the useful are highly laudable. What I wish to impress on you is, that you should not adopt a medicine because it is new; that you should, in fact, consider its novelty as a ground of suspicion, and should admit it into your confidence, only upon strong and trustworthy recommendation, and after a strict examination into its merits.

I have only one other limitation to propose to you, in your selection of medicines. Never, under any circumstances, employ those of which the composition is kept secret. Such medicines will be constantly urged upon your notice with the highest pretensions. The preparer will offer them to your acceptance, and humbly beg for a trial, either in the hope of subsequently obtaining your recommendation, or at least with the intention of making use of your name. Your patients, yielding to the solicitations of friends, or prompted by their own secret hopes, will press you to permit or authorize their use. But steel yourselves against all such solicitations, and resolve that your hand, at least, shall not be the one to fix a stain upon the fair fame of your profession. You may justly ask the reasons for such a positive rejection of remedies of asserted value. Is it not obvious that, so long as their nature and preparation are concealed, you can have no such certain knowledge of their mode of action as to justify you in their employment to meet any given indication? It may be argued, on the opposite side, that we are equally ignorant of the precise composition of many other well-known remedies as they come from the laboratory of nature; that the secret medicine in question may have been so frequently tried, under every variety of circumstance, that, in relation to its physiological and therapeutical effects, it is as well known as those of a more legitimate character; and that we have no right to reject offered means of relief to our patient, however irregular these means may be. But the answer is clear; that a substance produced by nature, even though its composition may not be known, can always be relied on as identical, if obtained under similar circumstances, and treated in the same manner; while, in relation to the secret medicine, you can have no such confidence, as its mode of preparation depends on the caprice or varying views of an individual, not always of the best character; and, even though one parcel of it may have been profitably employed under

certain circumstances, you can have no satisfactory proof that another parcel will have the same effect. But there are other and higher grounds for your utter rejection of such medicines. By allowing yourselves to be drawn into their use, you would give to unprincipled men the opportunity of citing your example as a rule for others. No matter how careful you may be, in employing the nostrum, to confine it within perfectly safe limits; no sooner will you have touched the vile thing, than the fact will be proclaimed wherever your name has influence, you will be emblazoned in advertisements, and heralded in placards as its indiscriminate patron, and will thus, even against your wishes, be made an instrument for extending its general reputation, and establishing it in the public confidence. After this, it will be in vain that you may disclaim your asserted favour. You cannot but acknowledge that you have used it; and all else that you may say will be ascribed to professional or personal jealousy, and will tend still further to benefit the empiric, by the opportunity it will afford him of exhibiting himself to the public as a persecuted man.

Under these circumstances, would not your first inconsiderate step be answerable for a proportion of all the mischief which may arise from the misapplication of the medicine? Would you not, moreover, be lending your countenance to the general cause of empiricism? Would not the whole rabble of quacks shout out your name as one of their supporters? And would not your profession itself be in some measure degraded by this association of one of its members with such a cause? It is highly important, therefore, to keep yourselves strictly within the regular limits. Exceed these, even though in a slight degree, and you lose all control over the result. You cannot calculate the evils which may flow from one false step. What is any possible advantage which may accrue, in a single case in which you might be disposed to employ the nostrum, compared with all

this general evil? I do not speak thus as a mere matter of course, but with a strong sense of the duties of our high calling, and of the imperative obligation of every member of the profession to avoid doing anything which might degrade its character, and limit its sphere of usefulness. I beseech you, gentlemen, as you regard this character, as you value your own reputation and future comfort, to keep yourselves clean from every taint of empiricism. Of what consequence is a little pecuniary profit? nay, of what consequence are heaps of gold acquired by such imposture? Does not a feeling of disgrace cleave to their possessor through his whole future life? Does not the finger of scorn point to him while he lives? and, at his death, does he not leave an inheritance of shame to his descendants, so that his son and his son's son must blush at the mention of his occupation? I presume, gentlemen, there is not one among you who would not rather be the offspring of the humblest wood-chopper or sweeper of the streets, if an honest man, than of the most prosperous quack who ever revelled in wealth, purchased by a base course of deception, and at the cost of injury to thousands. You would shrink, of course, from leaving to those who may come after you a legacy, which you would look upon as a disgrace from one of your own predecessors. But I have been led away from the point to which I wished especially to direct your attention. There is no danger of your becoming quacks; there may be some, that, unless carefully on your guard, you may afford that degree of countenance to quackery which is implied in the occasional employment of secret nostrums. Let me again urge upon you, even at the possible chance of losing a temporary advantage, to shun them altogether, and, so far as your influence may extend, to discourage their use by others of your professional brethren.

I have now brought to a close those general observations which I had to lay before you in relation to your choice of

medicines. To sum them up in a few words ; I would advise that you should especially avoid the harsher remedies where the occasion demands only the milder, and should give none in excessive quantities ; that, while aiming, on the one hand, at a rational simplicity in the succession and association of medicines, you should take care, on the other, not to fall into an extreme penuriousness in their use ; that you should exhibit an undue addiction neither to what is old nor what is new merely as such, but firmly hold on to the tried, until you can substitute something proved to be better ; that you should never, under any circumstances, permit a secret nostrum to enter into your medicinal catalogue ; and, finally, that you should receive as a general guide the national pharmacopœia, without, however, a slavish confinement within the precise limits which it indicates.

Having thus intimated, in general terms, what you ought to do, and what leave undone in the selection of your therapeutical instruments, I have only further to recommend that you should make yourselves thoroughly acquainted with these instruments, especially in all their practical bearings. To obtain such knowledge it is, in part, that you are here assembled ; and to facilitate your acquisition of it is the agreeable duty which will bring me before you this winter. Permit me once more to welcome you heartily to our joint labours.

LECTURES,
INTRODUCTORY
TO THE COURSE ON THE
THEORY AND PRACTICE OF MEDICINE,
IN THE
UNIVERSITY OF PENNSYLVANIA.

THE UNIVERSITY OF CHICAGO

PHILOSOPHY DEPARTMENT

LECTURE NOTES

BY

ROBERT M. MERZEN

PHILOSOPHY DEPARTMENT

UNIVERSITY OF CHICAGO

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INTRODUCTORY LECTURES

ON THE

THEORY AND PRACTICE OF MEDICINE.

Preliminary Remarks.

THE four following lectures were delivered, between the years 1850 and 1860, as introductory to my course upon the Theory and Practice of Medicine in the University of Pennsylvania. Their object was to point out to the pupil the spirit and method in which his studies should be conducted, and to put him in possession of such views, as to the nature, extent, and objects of this department of medicine, as might inspire him with zeal in its pursuit, and generate in him sound principles to govern him in its practice. Though there is almost necessarily some repetition in the lectures, yet each will be found to have its own scope; and, together, they constitute a system in which, I venture to hope, the student will find principles and motives sufficient, if allowed their due influence, to insure his entrance into the profession, not only qualified for its duties, but fitted also to dignify and adorn it by his demeanour and conduct.

LECTURE I.

DELIVERED OCTOBER 11TH, 1850.

The Theory and Practice of Medicine.

ALLOW me, gentlemen, to offer you a cordial greeting, on this occasion of our first meeting in the new relation in which I stand to the medical class. Hitherto you have known me as a teacher of materia medica. It has pleased the authorities of this school to transfer me from that position to the chair of the theory and practice of medicine. I ask of your indulgence a few minutes of attention, while I refer to my own part in this change, and endeavour to deduce reasons, which may render your judgment upon my future efforts more lenient than if based solely upon their merits.

You are aware that the professorship I now fill became vacant, soon after the close of the last session, by the resignation of Dr. Chapman, whose failing strength induced him to withdraw from its onerous duties, after a career of honour and usefulness, never surpassed in the medical history of this country. In the movements which afterwards took place, in reference to the filling of the vacancy, I was quite passive. An honourable ambition might suggest that the professorship of the practice, occupied as it had been by men so illustrious, held a somewhat more elevated place in public estimation than that of materia medica ;

and the consideration was not without weight, that in the former a new field was opened, calculated to stimulate energies and industry, which, without some fresh excitement, might perhaps slumber in the hebetude of increasing age. On the other hand, however, were the reflections, that with my existing duties I was quite familiar; that to fulfil them it was only necessary to keep up with the advancing tide of knowledge; that rest rather than increased labour was suited to my time of life, or at least soon would be; and that, in making a change, I might be abandoning a position to which sufficient trial had shown me to be in some degree adequate, for another in which I might not prove equally useful, or give equal satisfaction. The motives for a change were insufficient to outweigh those of a contrary character; and having, therefore, no personal ends to answer, I had no other wish, in reference to the future arrangements, than that they might be such as would conduce to the advantage of the school.

To my colleagues and to all others concerned, when interrogated on the subject, I freely made known these sentiments; declaring truly that I was personally indifferent whether, in the approaching election, another or myself should be chosen, that I was desirous only that the true interests of the school should be consulted, and that, not being the best judge of my own qualifications, I should take no step in the matter, but leave it altogether to the wisdom of those in whose charge the institution was placed. Should they believe that I could best serve the school in the department of materia medica, I would cheerfully persevere in my former path of labour, and cordially greet any new colleague whom the trustees might elect to the vacant professorship. Should it, on the contrary, be thought that I could do better service in the practical chair, I would acquiesce in the decision, and exert myself, to the extent of my capacity, to fulfil its various and burdensome requisitions.

Under these circumstances, the choice, as you are aware, fell on myself; and I should not be doing justice to my feelings on the occasion, if I did not confess to you that this mark of confidence was in the highest degree gratifying to me, though involving much of labour, of sacrifice, and of misgiving on my part.

And now, gentlemen, you will, I hope, be disposed to judge me leniently in my new sphere of duty, and, should the result of my efforts fall short of your expectations, or of the just demands of the position, will at least acquit me of undue presumption.

There is another consideration, which, in justice to myself, I must beg of you to bear in mind, in forming your estimate of the ensuing course of lectures. You will necessarily compare them with the past. Even those of you who have not enjoyed the opportunity of listening to my predecessors, have yet heard, and still hear the prolonged echo of their praises, and have in your own mind formed a standard of excellence, in connection with this chair, by which you will naturally be disposed to judge its present occupant. But remember, gentlemen, that these were men the most eminent in their profession whom this country has produced, whose names are set like priceless gems in our history, and who, standing in the morning light of medical teaching on this continent, loom in magnificent hues on your admiring vision. Drs. Morgan, Kuhn, Rush, Barton, and Chapman, have successively held the professorship of the theory and practice of medicine in this school. Here, in this very spot, is enthroned the reputation of these distinguished men. A successor approaches the place illuminated by such recollections, and is for the moment invested, in the imagination of the spectator, with the lingering effulgence. You will admit with me, gentlemen, that this is a most trying position. In the cold presence of reality, the unsubstantial glory soon fades away, and the newcomer stands in the severe outlines of truth, with no colouring from the pencil of fancy; nay, dimmed and beclouded to eyes

which have been dazzled by the previous brightness. This trial I am now to undergo. May I not ask of you, gentlemen, to close your eyes firmly on the past; and, in judging of my efforts, if indisposed to a partial indulgence, at least to view them in their own true light, and not through the medium of an impairing contrast?

With these preliminary observations, the personal nature of which may perhaps be excused in consideration of the novelty of my position, I will proceed at once to the proper object of this address; the introduction, namely, to the notice of the class, of the course of instruction which it has become my duty to deliver.

The subject of that course is, as you know, the *Theory and Practice of Medicine*. Under this comprehensive title is properly included all that relates directly to the cause, symptoms and signs, nature, effects, treatment, and prevention of internal diseases. External diseases are considered as belonging in general to surgery. Custom has somewhat curtailed the limits of the theory and practice as just defined, by separating the affections peculiar to the female sex and to early infancy, and also those connected with syphilitic contamination, giving the former to the obstetrical teacher, and the latter to the surgeon. But, even with this limitation, the subject is of vast extent and importance, requiring the devotion of time, labour, and zeal for its mastery, and imperiously demanding such devotion, on the part both of those who teach and those who learn, under the highest sanctions of duty.

Conscientious convictions on these points, in the outset, are essential to you and to myself, in our respective capacities of pupil and teacher. Should we enter upon our approaching duties with narrow views either of their extent or their obligation, what is to compel us into the exercise of that patient industry, that painful self-denial, that devotion of our whole thoughts and

faculties, which are essential to the right end? What is to guard us against the ever-present seductions of indolence and of pleasure? I would imbue you, therefore, gentlemen, and I would most earnestly myself desire to be imbued, with a full sense of the vast extent of our field of labour, and of the great, I might almost say the awful responsibility connected with its cultivation. Let me endeavour, in a very few words, to set these points before you in somewhat of their intensity of truth.

When I tell you that there is scarcely anything in nature, having relation with our bodies for good or for evil, whether a substance, a process, a mental act or emotion, or even the negation of a positive agency, which may not become a *cause* of disease; that, in reference to the *nature* of disease, the most numerous, intricate, and subtle experiments have but opened a prospect here and there into its great mysteries, which have occupied the most profound minds for ages, and given rise to countless disquisitions; that the *symptoms* and *signs* of disease embrace every variety of external aspect and movement exhibited by the sick, every indication offered to the ear, the touch, or the eye, of internal change, and every deduction of the judgment from whatever source as to the existing condition of the deranged system; that the *effects* of disease are almost as numerous and diversified as the morbid state or processes to which the body is liable, these being very often only the results of antecedent morbid states or processes; that, in the *treatment* of disease, agencies of the most varied character, including not only all the bodies usually called medicines, but all the influences capable of favourably modifying the systemic actions, are to be employed with variations in degree, mode of preparation, application, and association, as numerous as the diversities of the human constitution in the healthy and morbid state; that, finally, in the *prevention* of disease, it is necessary to bring a knowledge of its causes, and of the influences capable of removing, neutral-

izing, or resisting their operation, to bear upon our decisions in the different cases presented;—when all these facts are considered, you will, I am sure, agree with me, that the subject of the theory and practice of medicine offers scope for all the time, energy, industry, and talent that you can possibly devote to it.

But is its importance commensurate with its mass? May it not be that all this vast amount of knowledge is mere useless lore; the accumulation of rubbish from times past, which a more enlightened intelligence rejects as useless; an Augean pile from the crude digestion of ages, which, instead of being laboriously stored in the memory of the student, rather needs the power of some Herculean genius to wash it away into oblivion? The empirical pretender to a miraculous knowledge and command of nature would probably answer this question in the affirmative; the man of sense and honesty would emphatically answer, no! Of the immense value of medical knowledge, if it is what it purports to be, there can be but one opinion. To relieve pain, to save life, to preserve health; these are aims, the importance of which can scarcely be overstated. The simplest terms in which they can be expressed convey at once and irresistibly to the judgment, the full sense of their inestimable value. No exaggerations of language, no ornaments of rhetoric, can render them more impressive. The question, then, is, does a knowledge of medicine, as at present taught, really contribute toward those great results, which are its professed aim and end?

To answer this question rationally we must have recourse to the two great principles by which truth is tested; to the judgment, namely, and to experience. In the first place, what is the conclusion of the judgment? From the beginning of history, in all ages and in all civilized countries, men, among the first certainly in mental powers and attainments, have devoted themselves to the observation of disease, and to the recording of the facts observed. While the process of collection has thus been

going on, the accumulated material has been from time to time subjected to a careful scrutiny, and the false and useless, which must ever, while human judgment is fallible, and human passions have their ordinary influence, mingle in greater or less proportion with the true, have been, in a considerable degree, separated, thrown aside, and forgotten. The medical knowledge of the present times is thus the slow growth of centuries, I might say of thousands of years, during which, as in the growth of living bodies, an intellectual digestion and nutrition have been going on; the useless and effete being thrown off, at the same time that the useful and efficient has been assimilated; the latter, however, constantly increasing in amount, and destined to increase hereafter, until our science shall become mature, and nature have yielded to human investigation all that she possesses of the preservative and remedial.

Now, I would ask any reasonable man, if the results of these ages of the industrious working of intellect is likely to have been in vain? if the best talent of all time and all countries can have been employed in heaping together an empty pile of nothingness, to be puffed away by the breath of ignorant enthusiasm, or charlatan pretension? Is it possible that the two hundred thousand physicians, who now have under their charge the health of the civilized world, men of the best education and highest intellect, many of whom are the glory of the country, and the ornament of the age in which they live, should be so far mistaken as to yield their undoubting confidence to a huge mass of error; that they should have devoted their lives to the prosecution of vain shadows; or that they should recklessly sport with the lives of others, under a false pretence of knowledge?

It may be said that medicine, like certain false religions, is a great system of fraud, got up by the self-interest of shrewd but unprincipled men, believed in by the multitude of uninitiated disciples, and used by the few wiser heads intrusted with its mys-

teries, for the purposes of their own lust of wealth or power. But only stupidity or malignity could bring such a charge against it. Where are the mysteries of our profession? Are not the magazines of knowledge open to all who choose to enter? Instead of concealment or mystification, are there not interpreters ever ready to make clear and easy whatever may seem obscure or difficult, so far at least as discovery has yet advanced? Do we profess to have secret depths which ordinary intellect cannot fathom? Do we claim certainty or universality of knowledge, or infallibility of judgment? Or, rather, do we not profess openly that our science is yet imperfect; that, though much has been learned, yet much still remains to be learned; that, though we can do much good, we cannot do all good? Do we not proclaim that we seek only for truth; that we are open to its reception from whatever source it may come; and that our greatest zeal is to enlarge the boundaries of our knowledge, and the extent of our capacity of usefulness?

Ours is no special theory originating in the excitement of an insane imagination, the suggestions of an extravagant vanity, or the promptings of interested ambition or covetousness. It is the interest, and has been the trickery of charlatanism in all its branches, to represent the genuine practice of medicine as a peculiar system, old, worn out, effete, good perhaps in its day, but in all respects inferior to the new system of some inspired founder, some new medical dispensation, which is to supersede all former modes of practice, and to continue unimpaired until the latest time. You know, gentlemen, that we acknowledge no special system. Imaginative minds in our profession have from time to time put forth hypotheses; many of them, it is true, futile; many with but partial glimpses into yet undiscovered truths: but these are received for what they are worth, examined, sifted, and partially or wholly rejected, as they prove to be more or less founded in truth, or altogether baseless. It

has been the war cry of homœopathy to call us allopathists; and some physicians have been weak enough to recognize the name. But we are not allopathists. We proclaim entire freedom from the bonds of all narrowing hypothesis. We are, as I have already asserted, honest seekers after truth, willing to take it wherever it can be found; to pick it up even from the kennel or the common sewer of quackery, if it happen to be seen sparkling amidst the filth.

Our profession, therefore, is not a pretence. We are all firm and honest believers in it. Is not this obvious to the most cursory inspection, if but impartial? Look abroad among the practitioners of medicine. Do you not find many of them among the most respected and honoured; joining in all liberal and benevolent schemes to the extent of their means; living consistently with their profession; subjecting their dearest friends, their own families, themselves, to the same treatment which they apply to their patients generally? And then, inquire into their secret walks. Where are they but among the poor and wretched? How many instances are of daily occurrence in which wants are relieved, suffering alleviated, and life saved, by their unpaid and even unknown ministrations! No, gentlemen, we are not deceivers. We are, as a body, not likely to be deceived. If these are facts, then is there reality and truth in medicine.

What has been hitherto said refers rather to authority and opinion than to positive proof. I have asked your belief in our science from your confidence in those who have preceded you. I have appealed to your judgment, upon the basis of faith in the existence of common sense, honour, and virtue among men. But the evidence of experience may also be adduced.

To the practitioner himself the proofs of the efficacy of his measures are too frequently offered to admit of doubt. Every day he witnesses cases of suffering, in which relief follows almost immediately the use of appropriate remedies. Chronic affections

frequently come under his notice, which, after a long course of steady deterioration, with no hope of spontaneous amendment, commence a course of amelioration from the moment that the influence of treatment is felt; and it often happens that the period at which benefit will accrue may be confidently predicted. It is his great happiness to believe that, in not a few instances, fatal results are averted through his instrumentality.

It is true that most diseases, if left to themselves, and sometimes even under positively injurious treatment, will sooner or later terminate favourably, through the inherent powers of the system. Hence the frequent apparent success of irregular and unskilful practitioners. It is in fact on this basis, and on the prevalent ignorance of the truth just stated, that the whole edifice of quackery, in all its forms, mainly rests. The spontaneous curability of most diseases is to the medical charlatan, what the regular and calculable, but generally unlooked for recurrence of certain natural phenomena is to the juggler and mountebank. A traveller from civilized life, thrown among savages, predicts an eclipse of the sun or moon as the result of his own command over nature, and gains credit for what he claims by the fulfilment of his prediction. The empiric knows that a disease will in all probability end favourably within a certain time, and, administering his nostrum, claims the result as a proof of his own skill. Sometimes, no doubt, he is himself deceived, and has a real faith in the efficacy of the means employed. But, even in these spontaneously curable cases, where, as a general rule, the ignorant practitioner does nothing, or does only harm, the well-instructed physician often finds that he can lessen the degree, and shorten the period of suffering. He too often witnesses the miserable leavings of quackery, the sufferings unnecessarily severe, the disease unnecessarily protracted through the want of proper and efficient means, to be able to hesitate in his own opinions. But this experience of his own cannot be made also the experi-

ence of others ; the quack claims equal credence for his assertions ; and unfortunately the gullible public have no other means to judge between them than the too often wanting quality of common sense. Our individual testimony might not, therefore, be received, and it is necessary to have recourse to results which are obvious to multitudes.

For yourselves, my young friends, nothing more would be wanting to conviction than a close attendance, for a single season, upon the wards of our hospitals. You there have the opportunity of seeing patients, who had been gradually becoming worse and worse for weeks or months, or who, it may be, had been suffering for years, beginning to improve under the means employed, and regularly going on to health, often at the very time, and in the very manner predicted by the prescriber. The bloodless young woman, with her palpitating heart, her embarrassed breathing, and nervous symptoms of extreme violence, is put on the use of the preparations of iron, and, in from three to six weeks, leaves the hospital, rosy, cheerful, and in full health. The bloated, dropsical patient, whose disease had been slowly advancing for months, takes his fox-glove, or cream of tartar, or some other equivalent remedy, and rapidly recovers under its influence. Every variety of chronic inflammation you behold yielding to the careful administration of mercury. Skin diseases, which have been the misery of their victim for years, perhaps rendering life itself burdensome, vanish before your eyes under the use of arsenical preparations. I might go on multiplying such cases, and might confidently appeal, for the accuracy of my statements, to those of you who have enjoyed the requisite opportunities.

But evidence still more general is not wanting. Every one knows that intermittent fever and scurvy, which were of old most formidable and destructive diseases, are completely under the control of remedies ; and that cholera, so tremendously fatal

if neglected, may almost always be cured if subjected to proper treatment in its earliest stage. The records of history are full of the devastations of small-pox, which has now been stripped of its terrors through the instrumentality of the physician; and a scourge of the vicious, at one period scarcely less fatal than that terrible disease, acknowledges in almost every instance the efficacy of medicine.

The grand truth, however, that speaks more strongly than any other to the public ear, is the well-known fact, that the rate of mortality has greatly diminished, and the general duration of human life greatly increased, within the period of time that has witnessed the most rapid advance of medical science. Something of this, it is true, may be due to the general progress of civilization, to the wide diffusion of the comforts of life among the poorer classes, to the better knowledge of the principles of hygiene, and the consequent removal or correction of many of those causes of disease which were once so prevalent; to cleanliness, for example, in living, to an improved diet, to better ventilation, and to the prevention of morbid effluvia, whether from crowded human beings or from paludal sources. But these ameliorations are in great measure owing to the influence of enlightened medical opinion; and, even setting the results of this aside, enough remains of the direct effect of our art, in the more certain cure and prevention of disease, to give it, in every impartial mind, the credit of great efficiency.

With these truths, then, young gentlemen, before you—that the theory and practice of medicine embraces a vast amount of knowledge, and that this knowledge is available for the most important practical purposes—you will confess yourselves bound, by every principle that can influence a rational and responsible being, to use your utmost endeavours to qualify yourselves for its proper application; and will not fail to co-operate with me, during the coming session, in earnest efforts for this end.

But I would not have you to be discouraged by the amount of various knowledge that claims your attention. It is not to deter, but to stimulate and inspirit you, that I have portrayed in somewhat vivid colours the difficulties before you. More is not required of us than we can perform by a reasonable exertion of our faculties, and a fair use of our opportunities. Impossibilities, or results attainable only by the sacrifice of comfort and health, are required of no man. Besides, our attainments are often necessarily limited by circumstances quite beyond our control. In this country the habits of business permit only the devotion of a certain limited time, as a general rule, to preparation for active life. Our whole system of education is based on this fact. This is true of medicine, as of every other branch of professional knowledge. A certain period is fixed for study; not so long as our best interests would demand, but as long, it is thought, as can be spared from practical pursuits. If, during this period, you devote a faithful attention to the acquisition of knowledge and skill, you will be justified to your consciences, though still more or less deficient. No man is in this respect perfect. All have deficiencies; and, through life, no matter how long it may last, our constant endeavour should be directed to their correction. You will learn, before many years, that your graduation in medicine is simply the era, at which you are to begin your own self-guidance in the pursuit of professional knowledge, and by no means the evidence of your having attained sufficient knowledge already. Be not alarmed, then, by the apparent difficulties of your path. Let not the fear of being unable to acquit yourselves creditably, discourage you from availing yourselves of the best advantages in your power. We do not ask of you what you cannot well perform, what cannot be readily accomplished by ordinary abilities and a willing spirit, in the time allotted for preparation.

In order that the young men attending our school may have

the largest practicable opportunities for learning, we have lengthened that portion of the period of study, during which you have the aid of a regular system of teaching. In other words, the courses of lectures in this school have been gradually prolonged of late years; and, instead of being confined to four months as originally, are now extended to six. This was, in fact, nothing more than was necessary to keep us from retrograding from that position, which, as a school, it has been our ambition to maintain. The science of medicine has been greatly enlarged within the last fifty years; and to teach it as thoroughly as it was taught before that period requires a longer time. If four months were but sufficient then, six months are certainly requisite now. It is vain to say that the former period is amply sufficient; that, by crowding much upon the student, he is compelled to exert himself more; and that he will learn as much in the shorter as the longer term. The judgment refuses to listen to such puerile sophistry. You might, on the same principle, lessen the period to three months, two months, or even a single month; and at last it would be reduced to a vanishing quantity, equivalent to the homœopathic dose, and just about as effectual. There would be some consistency in such diminution by the disciples of Hahnemann; but it would not do for those who profess to be guided by reason and common sense.

It may be said that the six months' system, though required by the interests of the profession, is unsuited to the condition of the country. Whether this is so or not can be ascertained only by trial. So far as the experience of this school has hitherto gone, it has been in favour of the extension of the term. We have never been so prosperous as on the average of the last few years.*

* Though this statement was true at the time it was made, yet it soon became obvious, after the first enthusiasm of the profession, under the

That it is beneficial to the student, we have not only the inference of the judgment, but the positive results of our own observation. Assuredly, our classes of graduates have never been so competent as since the extension of the courses.

There is some honour, too, gentlemen, in graduating where the requisitions are high. I have never heard one of our alumni say that he repented having attended during the prolonged session.

But I would repeat again, that, while we are unwilling to prostitute the honours of this school to wilful ignorance and notorious incompetence, we have no wish to be severe with the pupil; but, on the contrary, feel a parental interest in his success, and expect nothing from him which is in any degree beyond his power. You will, therefore, so far from being discouraged by the picture presented to you, but feel yourselves inspired with greater zeal and energy, and will enter on your winter's course, determined to exert yourselves faithfully, not for your own good only, but for the honour of the school of your choice, and, may I not add, for that of your teachers also.

It will be proper for me, before closing this address, to make you acquainted with the outlines of the plan upon which the ensuing course of lectures is to be conducted.

The main objects will be to present to the student the prominent and most important points of the subjects to be treated of, to render these perfectly clear to his understanding, and to impress them as forcibly as possible upon his memory by suit-

influence which gave rise to the American Medical Association, had subsided, that our school would be unable to sustain itself in the degree of expansion which it first attempted, and that the six months' course must be abandoned. In contracting the course, however, the University retained five months of instruction, and has continued to do so to the present time. This period exceeds the old length of session by about one month.

able illustrations whenever practicable. My wish is to go over the whole ground of the theory and practice during the session. This is a vast region, with subdivisions having innumerable diversities of boundary and of surface, and presenting objects of more or less utility at almost every step. To survey the whole minutely, in one session, is obviously quite impracticable. No human power would be adequate to the task of description in the space of time allotted; and, even were the task possible, no human intellect would be capacious and retentive enough to receive and hold all the objects presented. There is, then, but one alternative. Either the lecturer must content himself with going over the ground in a more or less general manner; or, if he wish to consider the subject in detail, and thus completely to exhaust it, he must take it up in sections, and treat of these severally in different sessions.

The latter method is objectionable on more than one account. It destroys all unity of instruction. The student receives information in parcels, at distant periods, and is thus in some degree disabled from forming those general conceptions applicable to the whole subject, which are of great use in giving consistency, and the most efficient practical applicability to his knowledge. In the intervals he is apt to forget much that he had learned, and cannot, therefore, upon resuming his attendance, justly appreciate the bearings of the past upon the present instruction, nor enjoy fully those advantages, which, in the ascent to knowledge, are always gained by mounting regularly and continuously, making each step the means of gaining the one immediately above it.

But a more serious objection arises from the regulation of our school, which permits students who have attended one full course elsewhere to graduate after a single course with us. Many young men avail themselves of this regulation, and for these the instruction would be but half, or perhaps less than half completed. Com-

ing hither with the expectation of being fully taught, they would leave us with their education unfinished, and of course, so far as this chair is concerned, but half prepared for the fearful encounter with disease to follow.

In order that justice may be done equally to all who favour us with their attendance, it is necessary that the whole circle of instruction should be completed in a single session. This can be accomplished only by adopting the former of the two plans referred to; that, namely, which selects the most characteristic and most important points of each subject, and places them with due prominence before the learner, referring him for minute details to published treatises and private study. This is the plan, as you are aware, which I propose to follow. It is, I believe, in itself the most appropriate for oral teaching, even if the period allowed for instruction were much longer than it is. Were the lecturer to attempt an elaborate picture of every disease in all its relations, he would necessarily introduce numerous details of little importance, which would fatigue the attention and memory, and, like the prospect from the window of a railroad car, would leave but imperfect and shadowy impressions in the mind. His object should, on the contrary, be, to strike off accurate and vivid sketches, like those made by the painter with a few touches of his pencil, which often convey to the observer a stronger impression of the real than much more elaborate pictures.

Along with the prominent and peculiar features of the several diseases, in all their different relations, I propose to give you the results of my own personal observation, reflection, and experience, so as to render the course in some degree characteristic. Another object will be to make the lectures as demonstrative as possible by introducing illustrative representations, such as morbid preparations, drawings, models, etc.; in this way appealing to the eye as well as the ear, and seeking an entrance into the understanding and memory by two avenues instead of one.

To enable me to fulfil this latter purpose, I made during the summer, as many of you know, a voyage to Europe; and I am happy to inform the class that it has not been altogether fruitless. I have already received a considerable amount of illustrative material; and, unless the winds and waves thwart my expectations, shall receive more in time for use this winter; but, as much that I ordered requires time for its preparation, I fear that all the results of the voyage may not be available during the present session.

It seems to me that, before entering regularly on the duties of this place, it may not be unbecoming to pay my small tribute to the merits of him who filled it before me.* Happily, though withdrawn from an active participation in our labours, he is still among us, and, in the office of *Emeritus Professor of the Theory and Practice of Medicine*, yet lends his countenance to the school, which he so long aided to support and elevate by his prelections. It would be grateful to me, could I, with a due regard to propriety, delineate to you those personal traits of our honoured friend, the expanded intellect, the fine imagination, the extraordinary judgment, the keen insight into character, the ready and cheerful wit, and, above all, the kindly feelings and excellent heart, by which he has ever been distinguished among those who have known him best. I should delight in doing justice to the quick flow of thought, the rapid combination, the ready perception of ludicrous analogies, and the copiousness of language, which rendered him one of the best extemporaneous speakers, and caused all that he said, whether in ordinary converse, at the festive board, or on more stately occasions, at once to impress with its justness of thought, and to delight by its sparkling pleasantry and imaginative brilliancy. It would be a source to me of unmingled satisfaction, could I follow him in the daily

* The late Dr. Nathaniel Chapman.

walks of life, into the private circle, the sick chamber, the meeting of business or of pleasure, and endeavour to represent to you those qualities, which, wherever he went, caused his coming to be hailed with pleasure, and gave a charm to his intercourse, which it is the happiness of few to command in this world of struggle and of strife. But respect for the decencies of life forbids such an analysis of living character, even where nothing but what is creditable would be displayed; and I must content myself with referring to facts and incidents, which, being more or less of a public nature, are a fair subject for contemporary notice.

Thirty-five years ago, when I first entered as a student into the medical department of this University, Dr. Chapman was professor of materia medica, to which chair he had been elected in 1813. I recollect that, even then, though a young man, he was among the most popular teachers of the school. In 1816, he was made professor of the practice; and for two winters I had the pleasure of listening to his instructions. It was from him undoubtedly that I received many of those therapeutical views, which I have ever since held, and which will be inculcated in the ensuing lectures. I need not tell you that he continued to hold that professorship until his resignation last spring, a period of about thirty-four years.

In the prime of his life, he attracted about him large classes of private pupils, for the instruction of whom he associated with himself several young men, who afterwards formed with him the Medical Institute, and most of whom have since attained eminence in their several departments. Professors Horner, Jackson, and Hodge of the University, and Professor Mitchell of the Jefferson School, were among his associates. No medical man upon this continent, probably no one in the whole world, has been concerned in the education of so many pupils public and private; and thousands scattered over all parts of the United

States, many of them the most distinguished men of their respective neighbourhoods, hold his name in honoured and affectionate remembrance. Though not the oldest in years of our medical men, he certainly deserves to be considered, more than any other living individual, the patriarch of his profession in this country. The general feeling of that profession towards him was flatteringly evinced in the year 1847, when he was chosen by the great American Medical Association, then meeting in this city, their first President; and they who were present on the occasion vividly remember the feelings of affectionate enthusiasm, with which his installation into that highly honourable office was greeted.

As a practising physician, he has been scarcely less eminent than as a teacher. In this city, he has always been among those who enjoyed the highest confidence of the community; and, throughout the Union, his reputation as a practitioner was such that his opinion was eagerly sought, and many came hither from great distances for the benefit solely of his advice. The younger members of the profession looked up to him with affectionate confidence, loving his warm, genial nature, as much as they respected his abilities; and his aid in consultation was habitually called in by the most distinguished among us, long after his advancing age had induced him to withdraw, in great measure, from the more active offices of his profession.

Nor was it only in the ranks of his professional brethren, or among those bound to him by the strong tie of medical service, that he was highly esteemed. The position long held by him of Vice-president of the American Philosophical Society—the most distinguished scientific body of the continent—and that of President of the same society to which he was afterward elevated, evince the respect entertained by the best informed men in the community for his general intellectual endowments.

His career throughout, from youth to manhood, from manhood

to old age, has been in the greatest degree prosperous and flattering; if the most kindly regards, general respect, a wide social and professional influence, a reputation limited only by the bounds of civilization, and the highest positions not political which an individual can attain in this country, may be considered as evincive of prosperity and honour.

Feeling the weakness of age encroaching upon him, he has spontaneously withdrawn from all his active duties, and all his elevated positions; and now, reposing on his yet unfaded laurels, amidst the grateful ministrations of affectionate kindred and friends, he may look back to the crowded scenes of the past, and forward to the vast uncertainty of the future, with the calm feelings of one who has done his work in the day, and may hope for a peaceful reward, when the sun of a new and endless morning shall rise after the night of life.

Our school, deprived by Dr. Chapman's advanced age of one of her main supports in times past, is now about entering on a new stage of her long existence. Two of the professorships have undergone a change of occupants. What is to be the effect upon her fortunes time alone can determine. In relation to the chair of *materia medica*, which became vacant by my own transfer, I have no misgivings. The thorough familiarity of our new colleague with the subject to be taught, his long and satisfactory service as a lecturer upon that subject in a school which has been a nursery of teachers, and the zealous energy with which he enters upon the duties of his present office, assure us that the department of *materia medica* will not suffer by the change.* How it may be with that of the practice, it is not for me even to conjecture. I can only assure you that my very utmost shall be done, in every way, to satisfy the friends of the school; and,

* Dr. Joseph Carson, the present professor of *materia medica* in the school.

should there be a failure, it shall arise from want of capacity, and not from any deficiency of zeal, effort, or devotion.

As an institution, I can say proudly, apart from any personal concern, that we deserve success. It has been, and continues to be our great aim, to maintain medical education at the highest point of which it is susceptible among us, and thus to contribute at once to the elevation of the character of our beloved profession, and to one of the greatest temporal interests of our no less beloved country. In that profession, and in that country, I have an abiding confidence that they will not forsake us, so long as we continue to merit their support; and you yourselves, my young friends, as future members of the same profession, to share in its prosperity or decay, will sympathize with us in our ardent wishes, and do what you can to contribute to the same great, I had almost said, holy end.

LECTURE II.

DELIVERED OCTOBER 10TH, 1851.

Requisites in the Study of Medicine.

ACCEPT, gentlemen, my cordial greeting. We have met together with a common purpose ; to enter, namely, upon a course of duty. My part is to teach you the *theory and practice of medicine* ; and I do not know that I can better begin the performance of the duty than by giving some general precepts to guide you in the study.

1. The first and most important requisite, without which all effort must be languid, all appliances partial in effect, and the result, to say the least, unsatisfactory, is the possession of a proper spirit, on the part of the student. If he approach his task cold and careless, merely as something he has undertaken and must finish, without any just appreciation of its nature and objects, he will assuredly fall far short of the attainments, essential to the character of an accomplished physician.

But to become imbued with this spirit, he must have a deep sense of the importance of the study in which he is about to engage, of its great ends, of its fitness for those ends, and of its claims upon his conscience as a responsible being. These are points, therefore, which I wish to impress on your attention.

When I tell you that the object of the theory and practice of

medicine, as a department of medical science, is to qualify directly for the cure and prevention of disease, in other words, for the relief of physical suffering and the preservation of life, I say all that is necessary in relation to its ends. Except the salvation of the soul, nothing can be more important. But is it really adapted to the attainment of these ends? Is it in fact what it claims to be? There are many who profess to doubt, many who absolutely deny its usefulness. But who are these unbelievers? Are they men of information, reflection, and sound judgment, men too who have had the opportunities for correct decision? If so, their opinions must have weight. Let us examine this question.

They who, by diligent study and long experience, have made themselves familiar with the practice of medicine in its principles and application, are certainly best fitted to judge correctly on the point referred to. Do we find these denying and decrying the importance of the study? Certainly there are many honest and honourable men among them. Do these acknowledge their error, and abandon their profession as a system of fraud and deception? On the contrary, do they not in practice and precept maintain the validity of its claims? Do they not devote their whole energies, their time, their life, to the performance of its duties, often even when mere worldly interest would lead them into other paths?

There are undoubtedly medical men who have renounced, and now abuse their profession. But who are they? Some may be sincere; men of unstable minds, whose fancy predominates over their judgment, eccentric in their habits of thought, bordering in fact upon insanity, if they may not be deemed actually insane. But by far the greater proportion are mere calculators, whose views of honour and honesty are measured by a pecuniary standard, to whom human life, at least the life of others, is of little value compared with money, and who, not succeeding to their satisfaction as regular physicians, and deterred by the fear

of the penitentiary or the halter from illegal crimes, have taken up the trade in human life and happiness in the safe form of quackery. Assuredly, these are not the men from whom you, my young friends, would be disposed to adopt your medical faith.

As to the opinions of those who have never studied medicine, their value is much affected by the consideration that they are based in ignorance of the subject. Their sources, too, when carefully examined, will for the most part be found such as completely to neutralize their force.

One of these sources is a feeling of envy or jealousy, which cannot tolerate the superiority of medical men in intelligence and general esteem, and delights in every opportunity of derogating from the profession.

Another is an ignorant pride of opinion, which glories in an asserted independence of all established belief, and is usually obstinate in proportion as it is erroneous.

A third is a vain love of notoriety, which enlists under every flaunting banner of novelty, if it may only be allowed to act, or to suppose that it is acting a conspicuous part. Who does not see that this is a ring in the nose, by which many a quack leads his throng of male and female advocates?

A fourth source, and probably one of the most frequent, is a certain restlessness of character, or flightiness of imagination, which is ever ready to seize on any new plausibility, and exhibits adhesiveness only when strongly committed with the public, or with some limited circle.

But undoubtedly the most frequent source is an honest but weak credulity, which yields belief from its own sincerity of nature; a principle of which quacks, swindlers, and impostors of all kinds have always taken advantage, and will ever continue to do so, as long as imbecility and ignorance shall exist.

I need not refer, in addition, to the source of unscrupulous

self-interest, which oversteps all obstacles in the pursuit of its ends, sweeps aside from its path honour, and honesty, and truth, and self-respect, and the respect of the world, and wades through groans, tears, and death, to the sordid object of its desires. We shudder at the horrors which have attended the track of the robber and the pirate; of a Pizarro to his gold, of a Robespierre to his power; but in what are they worse than the medical pretenders, who, without knowledge, or against better knowledge, put life and all its attendant blessings at constant hazard? nay, are they not even more respectable, as they venture life against life, while the charlatan risks nothing of his own except character in this world, and happiness in the next, both of which he has taught himself not to value?

Such, then, are the influences which combine to underrate and decry the value of regular medical practice. Are they such as ought to have weight in your estimation? Can they stand for a moment against the testimony of the great body of educated and honest physicians; against the practical evidence borne by the mass of civilized men in confiding their lives to our skill; in fine, against the clearest dictates of common sense, which would certainly ascribe more efficacy to the combined medical experience, and the aggregate medical reason of all ages, which true medical science is, than to the crude theories of a single man, to the wild ravings of an insane fancy, or to the mere unsupported pretensions and assertions of the pure charlatan? Indeed, so powerful in this respect is the influence of the common sense of mankind, that, even with the most bitter opponents of our science, it often happens that, in the last fearful crisis, when the passions of this world are silent before the threatening presence of death, the aid of the regular physician is invoked as the only remaining hope. How often are we called to the death-bed of the wretched victim of delusion, to mourn over opportunities irretrievably lost! to witness the last expiring glimmer of a life that might

perhaps have been rescued, but for baseless doubts of regular medicine on the one hand, and equally baseless confidence in some miserable quackery on the other!

You can have no doubt, then, of the inestimable value of this branch of medicine. You feel deeply that it is worthy of whatever effort or sacrifice may be requisite to make you masters of it. But this is not all. The nature of its practical duties is such, that a neglect of the means necessary to fit us for their performance is a great moral wrong. The artisan, the farmer, the merchant, the lawyer may be badly qualified for his duties, without other evil than his own failure, or some temporal inconvenience to those who trust him. A similar deficiency on the part of the physician may and frequently must occasion the loss of life, and thus fix the everlasting position of the patient. Error with him is often irretrievable; and its consequences may be felt through time, and through eternity. Upon your consciences, therefore, is the duty of proper preparation obligatory. These considerations should generate in you a spirit of zealous devotion to your studies now, and to your profession hereafter; a spirit above all sordid views, which shall look for its reward not merely to the acquisition of money or fame, but to the noble consciousness of powers fitly exercised, to the sweet comfort of an approving conscience, and, above all, to the smiles of the all-knowing and all-powerful, in whose will are our destinies forever.

2. The next great requisite is due preliminary preparation. It would be easy to fill this lecture with proofs of the importance of a preparatory education to the medical student, and with details of its desirable quality and extent. But such lessons are now out of place. You have already entered into the study of medicine. Whether duly or unduly prepared, you have already commenced the journey; and it would be useless to recur to the past. I would, however, urge on those of you who may be sensible of any deficiencies in this respect, to give a portion of your leisure to the

means necessary to supply them. Especially would I recommend the study of the elements of natural philosophy, and of the grammatical structure of the Latin language, the former as essential to correct physiological knowledge, the latter to a due appreciation of medical nomenclature. To the commencing student not already familiar with these subjects, the devotion to them for a few months of the intervals of professional study, too often spent in mere amusement, will be of infinite service in facilitating his subsequent progress.

There is one point connected with this branch of our subject to which I would invite your special attention; I refer to the importance of a proper habit of study. This is one of the great advantages of an early education. A well-instructed young man comes to the study of medicine with a certain mental training and discipline, as important in the conquest of its difficulties as military training is to the soldier. To those, however, without this advantage, yet possessing a teachable spirit, a word of counsel may be of great value. Do not confound together reading and study. Do not suppose that, simply because you have read a book through, you know anything of its subject.

I recollect well, in my student days, a young man in the same office with myself, who used to shame us all by his extraordinary diligence. He was incessantly reading medical books. By no chance did we ever find him wasting his time in idle amusement, in frivolous reading, or in listless indolence. I often felt myself spurred on to increased diligence by his apparently ceaseless and indefatigable industry. But, at the time of recitation, when we were called on to show what we knew, this young man was of the whole class the most deficient in his answers, even upon the very subjects of which he had just been reading. He seemed to know nothing. And what was the cause of this seeming anomaly? It was that he simply read; he did not study. He allowed his eyes to run over the page, catching the meaning

if it was obvious, letting it pass if otherwise, and using no efforts to make the facts and reasoning his own. The result was that he really learned little, and allowed what intellectual energy he may naturally have possessed to waste for want of exercise.

I once myself had a pupil, correct, industrious, and extremely desirous to learn. At first I was surprised to find that, upon being examined on the subject of his studies, he could scarcely answer a question. On investigation, I discovered that he was in the habit of simply reading, and did not appear to have the conception that anything further was requisite. I then made him sensible of the difference between reading and study. I told him, in the first place, never to pass a sentence without fully understanding its purport, or trying his best to do so; if he should find his attention flagging, and the words slipping through his mind without leaving an impression, to return to them again and again till he had mastered his own listlessness and the difficulties of the subject together; in the second place, to be quite convinced that he had fixed the facts in his memory, and to test the point by mentally repeating, at the end of every paragraph, or of every page, what he had learned in the course of it; and, lastly, not only to follow the thread of every intellectual process, but to examine it carefully, to exercise his own judgment upon it, and to satisfy himself, as far as his present lights permitted, of the soundness of the reasoning, and the correctness of the conclusion. The advice I gave to him, gentlemen, I impressively give to those of you who have not yet formed their habits of study. He listened to what I said, became an excellent student, and afterwards a highly successful practitioner. Should the same happy result follow to any one of those who now hear me, this little anecdote will not have been told in vain.

But, in referring to the subject of preliminary preparation, I had in mind not so much the general education antecedent to the study of medicine, as that portion of the study of medicine

itself which ought to precede attention to the theory and practice. The commencing student is wholly unprepared for efficient application to this subject. The child might as well undertake to read without having learned his alphabet; or the youth to practice the higher processes of arithmetic ignorant of his multiplication table. You must plough the ground, before you can expect profitably to sow the seed. How can you possibly understand diseased structure, until familiar with the same structure in health; or diseased function, until you know something of normal function? The studies of anatomy and physiology are indispensable prerequisites to that of the theory and practice. Not less essential is a knowledge of materia medica; for it is obviously impossible to learn how to treat disease properly, without an accurate acquaintance with the instruments employed. Chemistry is another important preliminary study, the value, I should say the necessity of which, I wish strongly to impress on your convictions; and the more so as it is but too frequently underrated. Always important as a branch of medical science, it has within a few years become greatly more so, in consequence of discoveries in the section of organic chemistry, and the application of these discoveries to physiology, pathology, and therapeutics. They can have no claim to be considered as accomplished physicians, who are ignorant of the general principles of chemistry, and of such of its details as have a direct bearing upon medicine.

In speaking thus of these preliminary branches, I am using no terms of exaggeration, but laying before you the simple truth. I would beg of you to neglect none of the studies mentioned, under an impression of the greater importance of that which I teach, and its stronger claims on your notice. It is true that the theory and practice is the great structure, of which the others are only the foundation; but without these it can have no useful existence; and, where all are essential, it cannot be said that one is really more important than another. It would be as easy to fly

without wings, or to run without legs, as to acquire a competent knowledge of the theory and practice of medicine, without a previous acquaintance with anatomy, physiology, chemistry, and *materia medica*.

I do not say that you are altogether to avoid the subject of the practice, until fully prepared on the preliminary branches. What I do mean is, that you are not regularly to commence its study until thus prepared. You may, without disadvantage, occasionally read in practical works, and listen to practical lectures, at any period of your studies, in an incidental way, and as a temporary relief from drier subjects; you may thus even gain a knowledge of facts and terms which shall afterwards render the subject somewhat easier: but you should not allow the regular course of study to be materially broken in upon by such excursive indulgences; you should take care not to be seduced by the deceptive notion, that you are doing anything more than somewhat beneficially recreating yourselves from the real hard work, necessary to make you what you are aiming to be.

3. But let us suppose that the student has thoroughly prepared himself for entering on the theory and practice. What course is he then to pursue? First, he should select some general treatise on the subject, and study this thoroughly, either under the private instruction of a competent teacher, or, what is still better, in connection with a course of lectures. Such aids are of vast importance. They point out what is most essential, explain difficulties, obviate errors, test knowledge, and incite to diligence and close attention.

Allow me, under this head, to say a few words in relation to the course of lectures I propose to deliver. First, you will understand that they profess to be merely aids to a system of reading, and not substitutes for it. In a number of lectures from 80 to 100, of an hour each, it would be utterly impossible, with the utmost compression, to introduce everything in relation to the

practice of medicine with which the physician ought to be acquainted. It appears to me that the legitimate scope and aim of such a course of lectures is, in the first place, as far as possible to give general facts or principles, through which the student may himself arrange individual facts, and deduce correct conclusions in individual cases; and then, in enumerating, describing, and otherwise treating of special diseases, not to give minute details, filling up and colouring to the life every little trait and shade of the picture, but to call attention to the important and characteristic points, to fix in the recollection of the student the landmarks, by a knowledge of which he may direct his own steps through the intricacies of the subject. Upon this plan, a course of the extent referred to may be made to embrace the whole circle of diseases belonging properly to this department. It is the plan which I propose to follow in conducting the ensuing course.

I scarcely need tell you that another principle of my plan of teaching is to be as far as practicable demonstrative; to illustrate to the eye by diagrams, pictures, models, wet preparations, instruments, etc., whatever is susceptible of such illustration; and I appeal to those who may have attended my previous course, whether there is not in our subject a vast deal capable of being thus treated, and whether, on a great many points, much more vivid impressions may not be made by these auxiliary means than by words alone.

I would repeat, that the prominent objects at which I aim, in conducting my course of lectures on the practice, is to render them comprehensive and illustrative; and it is in these respects, if in any, that they may claim to be peculiar.

In following the course, your plan will be to recollect as far as possible the facts, processes of thought, and deductions; if you have great facility in writing, to take such notes as may tend to aid your memory in recalling the more important points; and

then, in the intervals of the lectures, to read upon the subject in the text-books.

I have always considered a system of examinations, in connection with courses of lectures, as highly important. However great may be the zeal of the student, the consciousness that his proficiency is about to be put to the test, will increase his powers of attention, and, I may go so far as to say, even his *will* to attend. He thus absolutely learns more from the lectures themselves than he would do without such a stimulus. Nor is this all. The prominent facts being presented a second time to his notice, if recollected, will be still more firmly fixed in his memory, and, if not recollected, will be so impressed on him that he will afterwards be much less liable to forget them. Besides, misunderstandings of what was said in the lectures are by this mode of rehearsal corrected; and difficulties, not sufficiently explained or accurately comprehended, may now often be rendered perfectly plain to the understanding. These are truths which I have had innumerable opportunities to verify. I have been in the habit of conducting medical examinations now for more than forty years, and consider them in the highest degree valuable in a course of medical tuition.

4. But now let us suppose that you have thoroughly studied a systematic treatise or treatises on the practice of medicine, and have derived all the advantages possible from attendance upon courses of lectures on the subject. You are not on this account to consider your studies as completed. You have in fact only laid the foundation, and erected the frame-work of your future knowledge. You have yet to do the filling up and finishing of the structure. For this purpose you are now to leave the general treatise, and turn your attention to monographs on special diseases, or treatises on certain sets of diseases having some common bond of union. These you are prepared by this time thoroughly to understand, and in great measure to appreciate.

Not only will you thus acquire a greater mass of facts, and become conversant with different views, but will learn to think for yourselves. You will escape the dangers of an indolent reliance upon the thinking of other people, of pinning your faith to the sleeve of any man, of swearing by the words of any master.

It is believed by some that the present mode of teaching, by a system of reading and examinations, has the injurious tendency to stifle all independence or originality of thought, to make the student familiar with a certain routine of facts and formulas, and to give him the impression that nothing more is needful; in fine, to make of him a mere instrument for carrying into practice in communities certain cut and dried notions that have been packed into him—a kind of medical sowing machine, that shall scatter its seeds, in the same proportion, over all sorts of ground, in all states of preparation. It must be admitted that such might be its influence, if instruction were carried no further. But we are not to suppose that the student is to stop here; and, for fear that he should stop here, we are assuredly not justified in advising him not to proceed thus far. As well might you avoid teaching a child the grammar of a language, for fear that he might ever afterwards speak and write with the stiff formality of rules. No! This exact mode of instruction is of vast importance by giving accuracy and precision to knowledge and thought. Without it, trusting merely to himself, the student would be apt to be inaccurate in attainment, loose and discursive in his reading and thinking, culling the flowers only as he proceeded, indulging the imagination rather than disciplining the reason, and withal acquiring a self-confidence and self-reliance, very proper and very useful when based on correct knowledge and mental discipline, but a curse to himself and those who trust him, when connected, as they too often are, with real ignorance and inexperience.

Neither plan, then, is exclusively right; neither that of sys-

tematic study under constant superintendence, nor that of discursive reading without experienced guidance. The two should be combined, and the former should always precede the latter. Accuracy and precision may thus be attained, and a mechanical routine avoided.

As to the particular special treatises that you should read, or the order in which they may be read, no very precise rule is necessary. The choice may very well be left to the judgment and taste of the previously instructed student. It will certainly be more or less influenced by his opportunities, his predilection for one or another specialty in our science, and the character of the disease or diseases which may come under his notice, and which he may desire to investigate. And this leads me to another, and the last step in the education of the medical practitioner.

5. You have heard much of clinical instruction; and you can scarcely have heard its importance overstated. To show disease by the bedside is the true mode of demonstrating it. Until you come to the practice of your profession, you can with difficulty conceive how essential the personal observation of disease is to the proper understanding of it, and how little the notions often formed from reading or oral instruction correspond with the reality. The young physician who engages in the business of his profession, without this previous preparation, finds himself at a loss in recognizing the most common diseases; and it is only after frequent trials, and not unfrequent blunders, that light at last breaks upon him, and he begins to learn to diagnosticate in practice as well as out of books. To recognize and treat a complaint well, without ever having seen it, or anything like it, would be as difficult as to make a coat or a shoe, after having been taught by description the various steps of the process, without having seen it put into practice.

From the very commencement of your studies, you should

embrace every occasion to become practically familiar with disease. Like the botanical student who, in all his excursions, whether of pleasure or business, seizes eagerly on every unknown plant along his path, and plucks it for examination; so should you be ever on the watch for the objects of your own pursuit, and, whether in town or country, by day or night, in the search of enjoyment or the performance of duty, catch each fleeting opportunity, and gather as much as you can of the good which it offers. Of course, your first impressions will be vague and unsatisfactory; but you will be acquiring a practical knowledge of the pulse, of the various appearances of the tongue, of the colour, temperature, and other qualities of the surface, of the expression of the face, etc., which will be of great service in your subsequent studies, as well as in your clinical observations. You should also explore the sounds of the chest and the heart, and practise percussion and auscultation upon the well and the sick, the young and the old; and, though I would not advise you, in all your social intercourse, to be watching your friends of either sex thus professionally—to slide your fingers from the palm to the pulse at every greeting, to count the respirations when you ought to be listening to the words, or to think of the heart technically whenever you may happen to feel or to witness its throbbings—yet there are frequent occasions when all this may be done with very great propriety, and no less profit. To procure such opportunities, you should be ever ready to aid in the performance of the offices, so often called for in the care of the sick; to sit up with them at night, to prepare and administer their medicines, to make the various external applications, to arrange their positions, to bleed, leech, cup; in a word, to do everything that may tend to familiarize you with the duties, which, if you do not actually have to perform in future, you will certainly have frequent occasion to direct and superintend.

It is especially, however, while studying the practice, that you

should seek for opportunities of observing actual disease in all its relations. Those of you who pursue your studies in rural situations have a fine field open to you in the practice of your preceptors, whom you may often materially aid, while benefiting yourselves, by an occasional visit to his patients when he is overburdened, and by rendering those numerous offices about the sick which nurses cannot always be found competent to perform, yet the due performance of which is scarcely less essential to a favourable issue than the prescription of the physician himself. Allow me, in this place, to offer a hint which may not be useless in reference to your ultimate interests. When acting as nurses, you should endeavour to sink self in the office, to make the patient the main if not exclusive object of concern, and scrupulously to avoid all those levities, which, however excusable in youth under other circumstances, are certainly out of place in the presence of human suffering, of danger, perhaps of death. Appropriate deportment under such circumstances, not only the proper performance of professional offices, but a becoming sympathy with the patient and his friends, will, you may be assured, be remembered to your advantage; while a contrary course may leave an unfavourable impression, which the whole future life may not entirely efface. I know well that youth cannot make the experience of age its own; but, when the proper disposition exists, when the soil of the heart is good, a word of admonition duly planted may take root, and spring up to ultimate profit.

For those who study in large towns, abundant clinical opportunities are usually afforded in hospitals, dispensaries, and other public institutions, which a student would be quite unpardonable in wholly neglecting, if he have any view ultimately of taking upon himself the care of the sick. Undoubtedly, the most efficient method is to visit the sick-bed along with a competent instructor, and there thoroughly investigate the case. To the zealous more or fewer of such opportunities are generally presented.

It is true they must be sought. You must put yourselves in the way of catching the fleeting chances as they offer. They will certainly not follow and hunt you up in your private places of abode or of resort. But recollect, gentlemen, that years hence, you will often bless the perseverance and self-denial which you may now exercise in this sphere of duty.

Next in advantage to these private bedside studies, is attendance upon the clinical instruction, provided in hospitals for classes of students. When large numbers of young men are to be taught at the same time, it is obviously impossible that they should be advantageously taken from bed to bed in the wards. I have tried this plan, and know it from experience to be productive of little good to the pupil, while it is often greatly oppressive to the patient. The confusion, the noise from shuffling feet, the impossibility of hearing in the outskirts of the crowd what may be said by the prescriber, and the want of due access to the bed, often counteract and neutralize all the good produced. The proper method is to collect the audience in a suitable apartment, and to bring the patient before them at a point whence he can be seen by all, and whence the lecturer, stationed at his side, can be heard by all. By this plan the learner is enabled to bring all the requisite faculties, except only the sense of touch, to bear upon the case presented. The teacher has the opportunity to demonstrate the disease, with the certainty that at least most of what he points out will be seen, and that all that he may say will be heard. He is, moreover, enabled to make a selection of cases from the wards, to bring forward together those which are analogous, or have important mutual relations, and thus to present his facts and reflections to the student in a succession, which will greatly increase their impressiveness, and cause them to be more easily recalled by the memory when needed. Many of you are aware that this is the plan adopted in the Pennsylvania Hospital, the only one in fact at all applicable to the circumstances in

which that institution is placed, in relation to medical instruction, in the winter season.

I need not urge on you the importance of attending the clinical instruction thus offered. In ours, as in many other medical schools, such attendance is made obligatory on all candidates for the degree. Wherever practicable, it is I believe considered, both in this country and Europe, as an essential part of medical education. In a rearrangement of the fees which took place some years since in the medical department of the University, the price of the Hospital ticket, over which our school has no control, was deducted from the amount of the graduation fee, so that, though paid by the student, it should in reality cost him nothing. I revive the remembrance of this fact in order to show the estimation in which clinical instruction is held by those who regulate the concerns of our institution. Indeed, the advantages of this most efficient method of demonstrating disease, whether attained through hospitals, dispensaries, or in the walks of private practice, can scarcely be overrated; and the day, I hope, will come, when they shall be so clear not only to the profession but to the public generally, that all will unite in throwing open as widely as possible to the students of medicine the portals of every avenue that can lead to their attainment.

With these observations I close the advice I had to offer you. I am well aware that to many of you, much of what has been said is quite superfluous; but if they by whom the paths of medical study have but just been entered, and who may be still somewhat embarrassed by the novelty of their position, should derive any advantage from them, my purpose will have been fully answered. Even those of you who least need the lessons will, I know, excuse them, when you reflect that they proceed from one old enough to be your father, and whose experience in medical teaching began, before the greater number of those who now hear me had seen the light of this world. I have endeav-

oured to make them plain and simple, aiming at no ambitious ornament, but solely to be understood, and to be impressive.

I once more, gentlemen, welcome you to these halls, and on my own part, as well as on that of my colleagues, assure you that no pains of ours shall be spared, in promoting the great purpose for which you have come, and in rendering you whatever aid may be necessary to make you all that your best friends could wish.

LECTURE III.

DELIVERED OCTOBER 14TH, 1858.

Character and Objects of the Medical Profession.

ACCEPT, gentlemen, my cordial greetings. Allow me also thus early to bespeak your friendly sentiments, in return for those which I offer you. Reciprocal kindness of feeling will greatly lighten the burden of our coming duties; and I am not without the hope, that the labour which might otherwise be looked upon as a task, may become a real pleasure, under the cheering influence of mutual good-will, and hearty co-operation.

I am to be your guide, my young friends, through the intricacies of practical medicine, which now lies before you like a seeming wilderness. I hope to be able not only to make your path plain, but to show you that what, to the inexperienced eye, may seem a tangled labyrinth, is in fact a wisely planned system of harmonious and beneficent order. I hope, too, though your journey will be necessarily toilsome, to lead you into many grateful and refreshing scenes; through grassy glades, by cool rivulets, beneath the shadow of magnificent groves, where the sense of weariness or fatigue may be lost in that of the beautiful or grand, and the sweat of your brows be fanned away by the sweet breath of nature.

Yet, before we enter together this scene of mingled labour

and enjoyment, I have a duty to perform. I must tell you what lies beyond it. I must endeavour to give you some knowledge of that wider field of practical duty, to which the course of study you are about to enter is merely preliminary. But it is not my intention to represent to you specially either its attractive or repulsive qualities. Having already enlisted under the banner of medicine, you need no allurements to entice you onward, and are not likely to be alarmed into desertion by any picture of the possible evils to be encountered. My aim is only so to place before you the character and objects of your future profession as to enable you to appreciate its requisitions, and to stimulate you to every needful effort.

1. Prominent above all other points is the consideration, that the medical profession is not to be regarded as a mere business; as the means of securing a livelihood, or accumulating a fortune; as an instrument for the attainment of any object whatever of a purely selfish character. Reflect for a moment on the great ends which it proposes; the relief of human suffering, and the preservation of human life. To live, and to be exempt from bodily pain are, upon the whole, the two greatest earthly blessings of man. It is true that they are often put at risk in the pursuit of other objects. In the spirit of the gambler, we recklessly stake them in the vast games of the passions; in the spirit of the martyr, we sometimes offer them up at the shrine of duty; but, in the former case, the loss of the game is despair; in the latter there is simply an exchange of a temporary for an endless blessing, of life and its comforts here, for an eternity of happiness hereafter. What are all the good things of this world without health to enjoy them? and what boots it, if we gain wealth and power, or attain our immediate ends in the pursuit of any other secular object, and at the same time lose our own lives, upon the continuance of which hangs all the pleasure of success? What is the highest cruelty of which man can be guilty, the

characteristic in which he approaches nearest to the beast of prey, if it be not the infliction of bodily torture? Why is it that a cold shudder creeps through us at the very name of the inquisition? What gives to the North American Indian the atrocious pre-eminence among savages, which the holy brotherhood holds among civilized men? Is it not that the slow anguish of the stake is the highest conceivable degree of human suffering? Say what we will of mental torture, how few there are who are willing to escape it, at the cost of even a comparatively brief torture of the flesh!

If, then, bodily ailment and the loss of life are the greatest of worldly evils, how noble must be that pursuit whose purpose is to obviate them! How great the responsibility of those who undertake its duties! This is the light in which our profession should be habitually viewed by all its votaries. In entering it, we assume an obligation to devote ourselves to its high functions. This should be the prominent feeling of every medical student and practitioner. How powerful the stimulus thus offered, in every well-constituted mind, to industry and zeal in the work of preparation! With the medical student, it is not a question, as with the mere worldly neophyte, whether he shall personally gain or lose in proportion to his industry or negligence. Were this the only consideration, he might often, under strong temptation, reconcile himself to inattention and idleness, upon the ground that his conduct is purely a matter of expediency; that, if he choose, for present gratification, to sacrifice a portion of future good, no one has a right to complain, as no one but himself can be affected. It is true that, even in reference to sordid interests alone, this reasoning would be unsound. But it is not without some plausibility, and might not be without effect. But in the higher view here taken of the scope of the profession, which beyond all controversy is the just one, such an excuse could not be offered to the most obtuse conscience. The student,

habitually keeping it before his eyes, could never give way to the temptation of idleness, or distracting indulgence, without a consciousness of neglected duty. He would feel, when yielding unduly to enticement, that he was inflicting evil on others; that, in failing to use all diligence in qualifying himself for his profession, he was, in the same proportion, doing injury to his prospective patients, repaying their good-will and confidence with suffering and perhaps death, and laying up remorse for his own future.

Fix, then, indelibly in your minds this high conception of your future office, and let it mingle with and pervade all your professional thoughts. Consider yourselves not as traffickers in the pursuit of gain; not even as mere aspirants for honourable distinction; but as men destined by Providence for the performance of a great duty; a kind of priesthood, set apart and anointed for a peculiar and sacred function, to which belong, in a considerable degree, the issues of happiness and misery, of life and death, and in which unfaithfulness, either in promise or performance, is an offence not against man only, but the Most High.

The habitual cherishing of such a sentiment will have other important effects, besides those of encouraging diligence in the pursuit of professional knowledge. It will have an elevating and ennobling influence upon your character. One lofty sentiment, habitually entertained, acts like a ferment, leavening, in a greater or less degree, the whole soul into its own nature. There is happily a contagion of good as well as of evil. Simply realize the fact, that, by entering the medical profession, you bind yourselves to devote your best energies to the good of your fellow-men, so far as life and health are concerned; and the simple consciousness will raise you above what is sordid or grovelling. You will feel yourselves invested with a moral dignity and self-respect, as with a robe of ermine, which will cause you sedulously to shun every soiling contact.

Picture to yourselves a man who becomes a physician from purely sordid motives. In the first place, he is probably insufficiently prepared, because he has been without sufficient inducement to the requisite exertion. In the second place, as his wish is not so much to cure disease as to make money, the former object will yield to the latter, when the two are incompatible. He is likely, therefore, at once, to be an unskilful practitioner, and not to employ to the best advantage, therapeutically, the knowledge he may possess. He looks upon his unfortunate patient simply as a customer. Allow him to be at first so far an honest man as to be disposed to sell the best that he may have at a fair price. This disposition cannot long continue. The tendencies of his mercantile position will always be, to make as much money with as little expenditure of time and trouble as possible. The resistance of evil requires the constant support of strong principle, with the careful avoidance of all seductive influences. Among the petitions that we are directed in Holy Writ to offer to our Father who is in Heaven, is that we may not be led into temptation. A physician with no other than sordid motives is unceasingly and voluntarily exposing himself to influences which he is thus taught to shun. The prayer against temptation can, under such circumstances, be of no possible avail. It would be as though we should beseech to be saved from poison, while of our own accord swallowing arsenic. The sordid tendencies would undoubtedly predominate, and, unless in a mind extraordinarily well constituted by nature, would be apt in the end to gain unresisted sway.

Let us trace the probable course of the mere trafficking doctor. It differs somewhat under different circumstances; but on the whole is inevitably downward. Suppose him to have a fair start, in an unoccupied field, and without competition. At first, if not already corrupt, he may aim to practise fairly, giving to each case its due amount of attention, and demanding only a

just remuneration. But he soon begins to find, or at least to imagine, that he is not making the most of his opportunities. He learns that he may gain more, with less cost of time and labour. His visits to the patients who can pay little gradually become fewer; to those who can pay well gradually more frequent; for he is paid by the visit; and he begins to think that no one is entitled to attention he cannot pay for, a whit better than to a pair of shoes or a pound of bread below cost. As it happens, this is lucky for the poor man affected with a spontaneously curable, or easily treated disease; for he gets well with little medicine and at a small expense. But woe to him if seriously ill, and in need of incessant and careful attention. Woe, too, to the rich man in pocket and in health. His is a case to be cherished. He receives visits, it is true, in abundance, and doses without number; but there is no corresponding amendment. He may at length get well; for nature often cures in spite of the doctor; and, besides, the conscience is not yet absolutely hardened to murder; and even interest requires that the sheep already fleeced should be kept for another shearing. Some attention, moreover, is necessary to reputation; and the patient and his friends must not be scared off by suspicions, either of deficient skill, or of foul play. The duration of the case, therefore, so far as it depends on the doctor, is a matter of somewhat complex calculation. On the one side are the dollars; on the other, some remains of conscience, a prudent regard for reputation and future opportunities, and, perhaps, a sickly season. Professional duty and the welfare of the patient are not taken into account.

But let us suppose that competition springs up, or has existed from the first. He has now a double game to play. Gold must be won, and the rival undermined at the same time. There may, under these circumstances, be more caution in practising tricks of trade; for a watchful and knowing eye is upon his move-

ments, and a fair seeming is essential to success. Here the sordid spirit shows itself in endeavours to depreciate the rival by disadvantageous comparisons, false insinuations, or even direct falsehood. Offence is thus given to the medical brother, however correct and high-minded he may be; and hence unseemly disputes, which disgrace the individuals concerned, one or both, and injure the profession generally in public esteem.

Perhaps, instead of regular competition, some variety of quackery comes upon the stage; and the public mind is thrown into excitement by the novelty, or the flaring pretensions of the new practice or doctrine. Our doctor, if quite lost to all principle and self-respect, and surrendered, body and soul, to mammon, is now apt to set his sail to the popular breeze, and to meet the new rival with his own weapons. Perhaps he proclaims himself a convert, and professes to practise on the novel plan. Perhaps he goes only half way, and, medical demagogue as he is, declares his submission to the will of the people, and engages to cure them in whatever way they may deem best, whether by homœopathic globules, by sweating and red pepper, by cold water, or in the old accustomed method.

There is yet one further step in the ignoble descent. His cupidity is excited by the reported success of some renowned advertising doctor. He hears of this or that pill-vender, or nostrum-monger, as having accumulated boundless wealth, and living in corresponding magnificence. Visions of similar prosperity present themselves to his inflamed imagination. He is aware that a gulf of infamy lies between him and the realization of the splendid picture. He nevertheless takes the last desperate leap into the slough before him, and either sinks dishonoured, or rises up, clutching the coveted prize, but covered all over with the filth of degradation, which, though he may endeavour to conceal it with the splendour of his fortunes, no subsequent cleansings can remove, save only the washing of regeneration.

I have thus endeavoured to sketch the gradual descent to which they are liable, who, in the practice of medicine, start with the sole object of pecuniary advantage. You may think that I have spoken strongly. But consider simply the consequences of deviation from the path of rectitude in medicine. Recollect that human life is at stake. The world and even the profession are apt to look upon this thing too lightly. They often speak of success or failure, as of the same results in other pursuits, and make a jest of quackery as they would laugh at a juggler. But this conversion of medicine into a trade is no laughable matter. Language, in my estimation, is scarcely strong enough to express its intense criminality. Life is put at hazard, not unfrequently sacrificed for a little money. Let me not be told that there is no murderous intent. There is at least full knowledge that death may ensue; and, if it take place, in what is the manslayer less guilty than if it had been purposed? It may be said, in extenuation, that the patient is not so often positively killed by the treatment, as allowed to die from the omission of proper means of safety. There is scarcely the difference of a hair's breadth between the cases. In what respect is the practitioner, who neglects means which he may believe to be necessary, because in opposition to his supposed interest, less criminal than another, who, under similar influences, administers a medicine, knowing that it may prove deadly? Both are equally guilty, and neither, in my conception, better than the robber who kills you for your purse, or the assassin who deals the fatal blow for a fee. Nay, the latter, if not less guilty, are less mean-spirited; for they place their own lives at hazard, while the medical homicide cowardly sneaks to the same end under the safe cover of the law. You may understand how, with these views, I can feel only disgust or abhorrence for such unprincipled men, however apparently prosperous their fortunes, and under whatever hypocritical disguise they may conceal their moral deformity.

The proportion of those who, having been regularly educated as physicians, sink to this depth of depravity, is happily very small; but such is the tendency in every instance, in which the true aim and scope of the profession are lost sight of in eagerness for gain; and, though many may be arrested in various stages of the descent, no one is exempt from the danger of utter degradation who has once entered the downward path.

Even men who may succeed to their heart's content, in the attainment of practice and its pecuniary rewards, find that, after all, this is but poor compensation for their necessary labours and privations. Worn by days of labour, and sleepless nights; interrupted at meals, or in the rare enjoyment of social pleasures; breasting the midnight storms of winter, or sweltering in summer's noonday sun; fretted by conflicting claims, jarring professional views, the reproaches of disappointment or discontent, the misrepresentations of envy, malice, or opposing interests; can the medical practitioner, thus suffering from bodily and mental discomforts, find adequate compensation in the mere swelling of his hoard of dollars? No, gentlemen! Were this his only source of comfort, he would be wretched in the midst of accumulation. Something more is necessary to yield him an adequate recompense. This he finds, and can find only, in the consciousness that he is fulfilling a high duty, and is thus laying up treasures where neither moth nor rust corrupts.

But, while thus endeavouring to bring before you the unspeakable evils of a purely mercenary spirit in the practice of medicine, it has been far from my intention to lead you to undervalue the claims of the physician to a just remuneration. As in other avocations, so also in medicine, the practitioner must live by his labour. Being, from the necessities of his position, the associate of men in the highest walks of life, he must earn through his profession the means of supporting a conformable style of living. The capital expended in qualifying himself

for his pursuit must be repaid. He is, moreover, justly entitled to such a professional income as may enable him, after a successful career, when his mental and bodily powers begin to fail, to withdraw from active duty, not only with a competence for his old age, but with a suitable provision for his family. His compensation, therefore, must be on a liberal scale. Experience determines what is necessary on the basis of calculation just stated; and in all communities prices arrange themselves as a necessary result of existing circumstances. Two evils are to be avoided, both generally flowing from the sordid views against which I have endeavoured to guard you, and both having a debasing influence on the profession. One is that of underselling, by which a mercenary practitioner hopes to prosper at the expense of his professional neighbours. This is justly regarded by the mass of medical men as mean and discreditable; and he who notoriously practises on this principle loses more in the good opinion of his fellows, and of high-minded men generally, than he can possibly gain in a pecuniary point of view. The other evil is that of extortionate charging, by which a medical man brings discredit both on himself and the profession, and, in fact, though he may gain for the present, is apt to be a loser in the end. To avoid these extremes, it is customary for medical communities to determine the proper compensation for professional service in their several neighbourhoods, and thus to fix a standard, any material deviation from which would be regarded as discreditable. But great latitude is necessarily allowed, in consequence of the varying circumstances of the sick; and, whenever the regular charge would be oppressive, it is not only admissible, but even right, and I think, morally obligatory on the practitioner, to make corresponding allowances. Indeed, a necessary consequence of the view of professional duty that I have presented, is that we must, if in our power, even attend the sick gratuitously, when they are without the ability to com-

pensate us, and no other means of relief are at their command. If the practice of medicine were a mere traffic, these rules would not be necessary. Like other trades, it would prosper most when quite unrestricted. The simple rule then would be that every physician should make as much out of his opportunities as possible; and that his services should never be called into requisition, when they cannot be paid for. In our view, on the contrary, his services should be rendered whenever a necessity for them may exist, and the compensation be made a secondary consideration.

The same may be said of good-will, reputation, distinction, fame, as the reward of medical service. These are certainly allowable and even praiseworthy motives of action. They may be looked on as of a higher character than mere gain. The student who pursues them through a laborious course of preparation, and the practitioner who wins them by continued efforts after higher qualification, and the diligent performance of his practical functions, assuredly stand upon higher ground than he who aims only at the dollar. But they should ever be regarded as secondary, and subordinate to the great principle of duty.

If without irreverence we may quote the Scripture declaration, "seek first the kingdom of God and his righteousness, and all these things shall be added unto you," I would say that, what this divine injunction is, in its religious bearing, is the analogous injunction in our professional relations; seek first to perform your duty to the sick, and all else that is needful or desirable, whether pecuniary reward, the affectionate regard of others, or general reputation, will follow as an almost necessary consequence.

2. We have hitherto been considering the profession in relation to its ends. But there are other points of view, in which it must be regarded by those who desire to fulfil all its

requisitions, and to bring themselves into exact conformity with its character.

It is, you know, universally ranked among the learned professions. Some acquaintance with the natural and physical sciences is essential to the physician as a mere practitioner; but more than this is expected. Like other men of liberal education, he is supposed to know something of the past; to be more or less conversant with historical deeds and characters, with opinions which have influenced the course of human events, with the great productions of genius in literature, philosophy, and the arts. He must, moreover, not be quite ignorant of the existing condition of the world; of the races of men and their distribution; the divisions of the earth and its products; international relations; the principles of government; the state of learning and science; the great interests of agriculture, manufactures, and commerce. These are subjects to which every educated gentleman is presumed to have paid more or less attention, and gross ignorance of which would, as a general rule, be considered as evidence of neglected intellectual culture, and consequent incapacity for duties, which, like those of practical medicine, peculiarly call for the exercise of intellect.

It must be admitted that the vulgar often estimate a physician's professional abilities by a different standard. They are apt to consider medical qualifications as a gift. These, they often think, come by nature, like supernumerary toes or fingers. A natural bonesetter takes precedence, in their estimation, of a Dupuytren, Sir Astley Cooper, or Dr. Physick. A seventh son is a born doctor; and the seventh son of a seventh son, is a very miracle in the art of healing. Now, as the vulgar may be found among the rich as well as the poor, a practitioner who can inspire such a belief of his extraordinary gifts, may possibly attain a profitable practice, especially if possessed of that sort of talent which makes a successful juggler or swindler, namely, the talent

of humbug. But he could scarcely pass muster with the thinking and intelligent portion of the community. These, being quite ignorant of medicine, can judge of him only by the attainments he may possess in common with themselves. If they find him generally well informed, and of sound judgment in things they understand, and at the same time have reason to believe that he has been industrious as a professional student, they will give him credit for corresponding proficiency in medical knowledge and skill, and be disposed to seek his aid when the occasion offers. You perceive, then, that the physician, possessed of general information, stands a better chance of professional success than the mere pretender, or even than one tolerably qualified as a practitioner, but ignorant in other respects; and, at all events, should he fail to gain a greater amount of practice, he would certainly take a much higher position in the general esteem of the community.

Especially is it important that he should not be ignorant upon the subjects connected with his professional pursuits, though they may have no direct bearing upon the treatment of disease. Thus, he should be informed as to the sources of drugs, the origin and spread of diseases, and the history of the progress of medicine. Independently of his own personal satisfaction, and his own self-respect, the possession of this sort of knowledge will have a special bearing on the opinion formed of him by others. Many persons, ignorant of medicine professionally, have considerable information on such subjects, and are quite capable of detecting the want of it in the physician. It may be readily conceived that they would not feel themselves bound to silence; and that an estimate would be formed by the community of professional abilities in accordance with the ignorance displayed.

Suppose, for example, that a young medical pretender should inform his hearers, perhaps in answer to testing questions, that Peruvian bark is produced in Labrador, and Iceland moss on the

Andes; that Jamaica pepper grows in the East Indies, and Ceylon cinnamon in the West; that Galen discovered the anti-various influence of vaccination, and Hippocrates was highly skilled in auscultation and percussion; that yellow fever is a native of Alexandria in Egypt, and the plague of New Orleans; and that epidemic cholera originated somewhere in Kentucky, or perhaps in California; what do you suppose would be the opinion formed of his real professional attainments? And yet I have often known answers as absurd, given by candidates for medical honours.

You will, then, agree with me in believing that more or less general knowledge is essential to the physician, and will direct your studies accordingly, not now only, but during the whole course of your professional life. I do not here refer to the preliminary studies requisite in anticipation of the professional. This is an extremely important theme; but it does not come within the scope of the present address. I may, however, be permitted, so far to allude to it, as to suggest to those among you, if there be such, whose early opportunities have not been favourable, the propriety of endeavouring, henceforth, as far as may be in their power, to supply the deficiency by additional labour and diligence.

But I have as yet offered you only the humblest motives for the cultivation of general knowledge, in connection with that strictly professional. I have appealed only to your hopes of success in obtaining business. But there are inducements of a higher nature. An ampler development is thus given to your intellectual powers; a wider scope for the exercise of thought, and the cultivation of all your better feelings; a deeper insight into the springs of human action, and, as a result of all these advantages, a more powerful influence over yourselves, and over the thoughts, convictions, actions, and characters of others. You are thus elevated in the scale of civilization, are rendered

more useful members of the community in which you live, and add to the resources of pure medicine, in the treatment of disease, others altogether unknown to the uncultivated man. Something more than the knowledge of disease and of medicines is necessary to constitute the greatest skill in the healing art. In diagnostic investigations it is often important to enter deeply into the mental constitution of the patient, in order to estimate the nature and extent of the moral influences that may have been concerned in producing, or may continue to operate in keeping up the complaint. Nor is it less important, in a therapeutical relation, to have the power of applying such influences to the modification of disease, either directly, or through the co-operation of the mind of the patient with the remedial agencies employed. How can all this be done by a physician without mental culture? The respect and confidence of the patient are of immense importance to the practitioner, by inducing a hearty acceptance and full carrying out of a proposed plan of treatment. How are these to be gained, at least from intelligent and well educated persons, unless they can discover in their medical attendant something beyond the dry technicalities and details of professional knowledge?

Even our own self-respect requires that we should be able to associate, on equal terms, with the best instructed of any community in which our lot may be cast; and, in our country, there are few neighbourhoods in which sufficient intellectual light does not exist, at least in portions of the population, to throw deep shadows from extreme ignorance, whether pretending or unpretending, upon the path of professional success.

But, while urging the necessity of general mental culture, I would put you upon your guard against a course into which it may lead you, full of danger to your best hopes. I refer to an exclusive or very obvious devotion to any one branch of science or literature, which may absorb your faculties and time, and

withdraw, or seem to withdraw them from your proper professional pursuit. Medicine is a jealous mistress, and will bear no rival in your affections or attentions. She tolerates and even demands such accomplishments as may render her votaries more efficient in her service, and reflect additional splendour upon herself. But her deepest frowns await those who acknowledge only a divided fealty, or addict themselves preferably to the service of another mistress; and even coquetry often draws down upon her professed votary a withering indignation. To success in medical practice there are few greater impediments than a real or seeming preferable addiction to some other branch of knowledge, even though it may be collateral with medical science itself. The world, whether justly or not, will believe that time and labour must have been unduly abstracted from professional devotion, and will, as a general rule, seek the aid of physicians, who, though generally accomplished, have permitted no other attachment to encroach visibly upon their legitimate one. Of course, this warning is intended only for those who aim at the practice of medicine as their pursuit in life. To those, and they are not a few, who in the study of medicine are preparing themselves for usefulness in some collateral occupation, to which medicine herself is for their purposes only a handmaiden, the remarks just made are quite inapplicable. But I would reiterate that, if you propose, as your great object in life, a wide field of professional duty, you must let it be clearly seen that such is your aim, and that whatever else you may have gained through opportunity or diligence is to be made subservient to this end. To attain eminence as a poet, historian, mathematician, philosopher, even as a chemist or botanist, if not fatal to your views, will very greatly impede their fulfilment.

3. Without further pressing the subject of general literary or scientific culture, I would call your attention to another professional requisition, of considerable, if not equal importance. Phy-

sicians necessarily associate with all classes of the community, from the coarsest to the most refined. They come, moreover, into the closest relations with individual peculiarities, unprotected by the defences which are thrown about them in ordinary social intercourse, and liable to be irritated or wounded by rough or uncongenial contact. It is, therefore, highly desirable that our habits and manner should be such as not to conflict injuriously with the susceptibilities of our patients. Roughness never suffers by the contact of the smooth and polished; while refinement shrinks sensitively from whatever is harsh or coarse. It follows that, among the duties of the physician, is the cultivation of a polished manner, and the exercise of the amenities and courtesies of a gentleman on all occasions.

Picture to yourselves the consequences which must often flow from the non-observance of this duty. Suppose a woman of native delicacy and becoming sensitiveness, brought up with the refined tastes and habits of the true lady, and altogether unaccustomed to the coarse, harsh, and slovenly in dress and manner, to be attacked with an illness, which, while it may possibly be dangerous, nevertheless leaves unimpaired her powers of observation, and sensibility to outward impressions. Suppose, also, that, from the necessities of the case, a practitioner is called in, previously unknown to the patient, and, as it happens, quite ignorant of the proprieties of cultivated society, or, if not ignorant, despising them. He enters the sick chamber abruptly, perhaps carelessly dressed, it may be even in his shirt-sleeves if the weather is very hot, or in a coarse, shaggy overcoat, if it is cold or stormy. Not having taken the precaution to use the scraper or the door-mat, he leaves at every step a soiling track upon the fine carpet. Perhaps, before reaching the bed, he may squirt out a mouthful of tobacco-juice upon the floor, or make a not less disgusting deposit from his nasal or bronchial passages. His near approach discloses, to the delicate sense of the patient,

that his person or breath is reeking with the odour of tobacco, onions, or bad whisky. He addresses her gruffly, seizes her wrist with a bearish gripe, makes further investigations without delicacy, pronounces his decisions abruptly, and leaves the room with as little regard to propriety as he entered. Now, what do you suppose would be the effect on the patient? Nauseated and faint with disgust, shocked by the rudeness, scarcely able to appreciate his questions, and quite unable to answer them efficiently, she presents to him an aspect wholly different from that proper to her disease, and very likely to mislead his judgment. However well informed he may be professionally, he would probably form false or imperfect views of the case, and consequently prescribe incorrectly or inadequately; while the patient herself, without confidence in the prescriber, would submit reluctantly, if at all, to the measures proposed. The result might be a serious aggravation of the danger, possibly a fatal issue of the disease, which a more judicious practitioner might have averted.

It may be said that this is an extreme case. I most cheerfully admit that it is so. I am happy to say that very few regular practitioners could be found capable of fulfilling all the conditions here imagined. But I appeal to your own observation, whether the picture might not find its prototype in real life; and, if drawn somewhat strongly, it may perhaps prove the more impressive.

There are two kinds of politeness, both of which demand observance. One is conventional, based upon custom, and therefore variable in different communities; the other essential, springing from the inherent principles of our nature, and unchangeable with time or place. The former consists in attention to modes of dress, address, movement, eating, drinking, and all the ceremonials of social intercourse. These, though in themselves of little importance, are connected with our well-being through

their influence on opinion. A neglect of them occasions disapproval, ridicule, disgust, even reprobation and avoidance, and often interferes with social acceptance and professional success much more than moral obliquity, when covered over with a decent veil of propriety. I do not say that this is right; but so it is, so it always has been, and so it will continue to be until the millennium. Few men can withstand the neglects, rebukes, and indignities which follow a non-observance of the ordinary ceremonials of civilized society; and nothing but well-known conscientious scruples, an established character for eccentricity, or extraordinary eminence in rank, wealth, or talent, will be admitted even as a palliative.

To over-act in all these matters, though less offensive, exposes equally to ridicule. To dress and act like a fop, or show in any other way that the mind is wholly absorbed in these external and formal observances, is supposed to indicate either native deficiency of mind, or want of substantial attainment; and, unless counteracted by palpable evidence to the contrary, will inevitably lead to distrust and neglect in all relations of business.

For the medical practitioner it is necessary to avoid both these extremes. The great rule for him, upon all the points referred to, is so to appear and act as not to attract peculiar attention, or excite remark. Many a man of talents and high attainments has thrown away his chances of success in life by a neglect of this rule, and wonders how it has happened that he has been surpassed in the race by persons, whom he well knows to be less qualified substantially than himself.

The second kind of politeness, the essential or native, which is only the outward expression of kind and benevolent feeling, goodness of heart, sound principles, and noble sentiments, though perhaps less indispensable to success in a business point of view, contributes greatly to social acceptance, and the attainment of influence through the affection and esteem of the community.

The amenities of a true gentleman are a coin which is everywhere current, and secures for its dispenser the favour of men of all modes of thinking, and all grades of life, because addressed to feelings and principles characteristic of human nature itself. Christianity is in this respect the very highest gentility ; because its tendencies are altogether to inspire the sentiments which lead to courtesy of act and manner ; the postponement of one's own wants or pleasure to those of others, the scrupulous avoidance of unnecessary offence, a kindly yet not intrusive interest in the happiness of all, and universal gentleness in deportment, and beneficence in deed. High and sanctimonious profession, without these fruits of the true Christian spirit, may always be suspected.

Men of the world, observing the influence of these amenities of intercourse, whether based upon religious sentiments, or the result of a well-balanced nature duly cultivated, though unable or unwilling to attain to the inner reality, adopt its external representative, and thus present to the world the appearances of a gentleman. These appearances become at length the standard ; and he who observes them carefully, whatever may be his genuine character, takes the social position, and exercises the social influence belonging to the reality ; because mankind can judge of the heart only by external signs. Now, this outward garment of politeness, though thrown over an evil nature, is certainly preferable in social intercourse to its opposite rudeness, and will in a much higher degree promote one's worldly interest. It is a desirable acquisition for all, and for none more than for the members of our profession. You will, therefore, cultivate with great care all the courtesies which are considered as characteristic of the gentleman. Remember, however, that, beyond comparison, the most successful mode of culture is to develop and cherish the inner virtues from which they naturally spring. An evil heart will occasionally, in spite of the most careful

watchfulness, make itself visible through the garb of refined and polished manner; and no one can always be certain of himself, who wants the perennial source within, from which the outward graces of character spontaneously issue.

4. There is one other point connected with the requirements of the medical profession, which cannot be omitted, without leaving incomplete the view I have attempted to sketch for you. Ours is a pursuit in which the inmost secrets of individuals and families, not unfrequently involving character, and sometimes even life, are necessarily unveiled to us; being betrayed by the very nature of the disease, or entrusted to us in our professional capacity. All such secrets the physician is bound to keep religiously; and no promise, however solemn, no oath, however awful its sanctions, can add one iota to the obligation, under which he is placed by the very nature of his calling. To his most intimate friend, even to the wife of his bosom, his lips must be sealed forever, so long as the slightest injury might, by any possibility, result from a disclosure. Though the person concerned might subsequently become an enemy, the knowledge acquired in professional attendance can rarely be used as a weapon even of defence. The law alone presents a higher obligation to his conscience; and I can conceive of cases in which even this would not excuse a violation of professional confidence. It is, on the whole, a good rule for the medical practitioner, to say as little as possible, in ordinary social intercourse, of what may come under his notice in his rounds of attendance, even though there may be nothing which could be looked on as a secret. To have the reputation of a gossiping doctor is anything but creditable. To betray confidence is in the highest degree base and wicked, if done with an evil purpose; and is wholly inexcusable, if done carelessly or inadvertently. This principle you should fix deeply in your consciences, even at the threshold of your professional career, and make it as it were a

part of your very nature, so that a violation of it should be as impossible as a disregard of his promise, or a palpable falsehood is to an honourable man.

In closing the address, I would ask of you to contemplate the general character of the profession, as I have endeavoured to present it, and to open your hearts to the feelings it is calculated to inspire. Consider its great and noble aims, the ability and knowledge requisite for its due exercise, the graces of deportment and character, and the high principles of honour demanded of all its true votaries. In a well-constituted mind, it is impossible that feelings of profound esteem and warm attachment should not spring up, and expand into an absorbing sentiment, under such contemplation. The genuine professional spirit is thus generated, which, once possessed, you will find of inestimable value. It will tend to elevate you above all that is base, grovelling, or purely selfish; will serve, even in your state of pupilage, to stimulate to honourable exertion, and guard against discreditable acts of all kinds; and, in your future course will, next to a sense of religious obligation, or in connection with it, be your surest guide to honour and usefulness in life, and happiness at its close.

LECTURE IV.

DELIVERED OCTOBER 13TH, 1859.

Scope of the Practice of Medicine.

GENTLEMEN:—

YOU know that my office in this school is to teach the *theory and practice of medicine*; in other words, the knowledge and treatment of disease. In order that you may enter on this study with a proper spirit, that your efforts may be duly directed in the course of it, and that, when it is concluded, you may be prepared to apply your knowledge with the best practical effect, it is advisable that, at the very outset, you should be made acquainted, as far as may be, with its true nature and objects. To this purpose the few remarks which follow will be applied. My wish is to make them as precise and intelligible as possible, without ornament, or any attempt at display. Whatever impressiveness they may have must depend upon their truth.

1. In the first place, I would inculcate upon you that the theory and practice of medicine is not a *particular system*; not a set of rules or precepts, based on some *one dogma* with pretensions to universal application. This narrow view of it is one which irregular practitioners of all descriptions endeavour to impress on the public mind, in order to further their own ends. Regular medicine, they say, is an old system, worn out, senile, effete; while their own is new, with the vigour of full maturity, on a level with the times, corresponding with the ad-

vanced knowledge and higher intellect of the age. Thus they endeavour to dignify their position by putting themselves on the same foundation with us, and then claim superiority upon the score of *progress* and *reform*; the two great watch-words of the times, as often the cover of ignorant pretension and selfish cunning, as the signals of forethought and philanthropy.

I would adduce a single instance. The homœopathists, after the example of their founder Hahnemann, while they put forth their own fundamental principle, that disease is to be cured by medicines having an effect similar to the disease itself—an absurdity drawn from the musty records of our own science, *similia similibus curantur*—maintain that the regular practitioners act upon the opposite rule, that the proper remedies for a disease are those which produce an opposite or dissimilar effect, and hence designate us by the nickname of *allopathists*. Thus, they would make the question before the public, not between regular and irregular medicine, but between homœopathy and allopathy; the one a new system for which they claim the support of a transcendental reason, and a confirming experience; the other an old system, not entirely worthless, adapted to the unenlightened times in which it originated, but quite unequal to the wisdom of the present age, and not to be compared with theirs. It is easily to be seen that a question of this kind, before the altogether ignorant and often very conceited tribunal of individual opinion, must frequently be decided in favour of him who can talk most plausibly, utter falsehoods most glibly, and bow most profoundly before the silly vanity of the party addressed. Is it surprising, therefore, that homeœopathy has disciples and advocates in a community, quite ignorant of the subject discussed, and especially among the more amiable and credulous sex, who, being true themselves, can scarcely appreciate the falsehood of those who stoop to flatter either their personal or intellectual perfections?

Even medical men have in many instances inconsiderately given in to this error, and strengthened the cause of their adversaries by recognizing the title of allopathy, and with it of course the principle upon which it was applied. I would guard you against a similar mistake. Not only scrupulously avoid the use of the term as applied to your profession, but disclaim it altogether when applied by others. Let it be seen that the nickname is offensive, and that its purposed repetition would be incompatible with the courtesy of refined social intercourse.

We are not allopathists. We do not base our plans of treatment on the asserted dogma, nor, indeed, on any other one theory or principle. Medicine, as a science, consists of all the knowledge in reference to disease which has been gathered from past ages, or accumulated in our own times. As a practice, it embraces all the means, from whatever source derived, which can be made available in the cure, alleviation, or prevention of disease. The physician is confined within no limits except those of truth and honour. He seeks for knowledge wherever it can be found. He would even receive it from the hands of the quack; for it has that excellent quality that it cannot be defiled by the filth around it. He does not reject the systems or practices of the irregular practitioners, because they may be in supposed opposition to his own interests; but because, enlightened as he is upon the subject of our bodily constitution, he knows that they are untrue; that they are visionary illusions of ignorance or fanaticism, or unprincipled assumptions of mere charlatanism. Hence the pity or scorn with which he regards their professors; pity for the few who are honest but deluded; scorn for the greater number who know what they are about, and seek a vile livelihood out of the ignorance, credulity, or imbecility of the multitude. Especially does he regard with unmitigated disgust the deserters from his profession, who, having received light, and knowing as well as himself the worthlessness and

noxiousness of the different forms of quackery, nevertheless abandon the regular practice, because it has not satisfied their aims of self-interest or cupidity, and throw themselves into the current of some popular delusion, hoping that it may bear them on to fortune. These deserters, it must be acknowledged, are relatively very few; and it is a subject of honest self-congratulation to our profession, that, in the midst of an over-crowded competition, in the long struggles, the disappointed hopes, and the too often fruitless patience of the first years of practice, in the face too of the occasional gaudy and glaring successes of quackery, strutting and flaunting before the eyes of the astonished community, so small a number should be found willing to abandon their colours, or at least to go over to the enemy.

I may presume, gentlemen, that you are now possessed of the real nature and scope of medical study; that it is no one system, hypothesis, dogma or set of dogmas that you are to learn, but facts and philosophical deductions from them; in other words, simply truth in its relation to human health, gathered from the observation of all time, garnered up and methodized for the most convenient acquisition by the learner, and destined to go on in the course of accumulation, simplification, and improved arrangement, until at length it shall embrace, within a scope not beyond human capacity, all that a wise Providence has ordained for obviating the miseries of disease.

It must be clear to you that any one hypothesis, intended to explain everything, and be a sufficient guide to practice in all cases, must be a pure assumption, and necessarily false. Attempts have repeatedly been made, in the history of our science, by highly imaginative and inventive minds, to fashion such hypotheses; and the medical world has been led astray by these false lights, to flounder in the slough of speculative error, and to reach again the fast ground of truth, only after long fruitless wandering, and wearisome struggles. A true theory can be

formed only by deduction from facts. Now, facts enough have not been collected to serve as the basis of a universal theory in medicine. There are points in our physical constitution, of the nature of which we have not even a conception. We do not know what is life; the very principle which governs all those operations of our system, by which it is distinguished from a mere physical machine. We have traced anatomy into its microscopic elements of molecules, fibrils, cells; but we are utterly ignorant of the force which creates these wonderful germs, and of the laws which direct their no less wonderful, I might say, their sublime developments. We have learned enough to teach us how vague, how utterly inane have been the profoundest speculations in our science, having any claim to universality; enough also to satisfy us that much, much more must be learned, before we can even begin to fashion such speculations hereafter, with the least hope of permanent acceptance. To succeed in such an attempt, in the present state of our knowledge, would require a direct admission into the counsels of Omniscience, an inspiration proceeding immediately from the fountain of creative wisdom; and, even were a doctrine put forth under such supernatural influence, it would probably be rejected by us in our self-sufficient ignorance; for it would necessarily be a mystery, unintelligible because we do not understand the facts upon which it would rest, and should, in all probability, be ignorant of the very meaning of the terms in which it would be expressed.

Here, then, is a touchstone by which we may, to a certain extent, estimate the truth of any asserted medical dogma. Does it claim to be universal? If so, it must be untrue. We may pronounce as positively on this point, as the physical philosopher pronounces on the point of perpetual motion. Such theories, therefore, as homœopathy, though a thousand times more plausible than that miserable absurdity, must be rejected; such universal remedies as the water-cure, and all other panaceas,

must, from their very universality, be purely empirical; that is, they must be destitute of any basis in abstract reason, and depend for their asserted value solely on experience.

Do not understand me as being opposed to all theory in medicine. To a certain extent, this is essential for the convenient arrangement and recollection of facts. These accumulate as the result of observation and research, until they at length become so numerous as, in their isolated state, to be quite unmanageable for any useful purpose. Upon examination, natural relations are found to exist among them; these relations appear to depend on some principle common to the several series in which they are observed; and the principles thus deduced serve, not only as handles to the memory, by which it may hold on to the several bundles of facts, but also as clues to further research. The science of medicine is full of such principles, and could scarcely exist as a science without them. It does not necessarily follow that they are all true. They may be considered so, if found applicable to every fact professed to be embraced by them. We may, for convenience sake, admit their truth provisionally, even though there may be some apparent exceptions; for it may be hoped that these exceptions will, in the end, prove to have been merely apparent. They must be abandoned when any fact is discovered, and established beyond doubt, which is quite incompatible with them. But, even though rejected with the advance of knowledge, they have served a useful purpose, and tended on the whole to the improvement of science.

What I especially wish to guard you against is the acceptance of any one universal, and of course exclusive hypothesis, which in the nature of things cannot be true, unless a direct revelation from Omniscience, and which, if untrue, and yet adopted and acted on, must lead to inexpressible evil. Even in relation to the partial principles referred to, you should be on your guard not to let them sway you too exclusively, so as to

close your eyes and your will against truths that may be hostile or even fatal to them.

With the reiteration then of the statement, that the science of medicine, as it now exists, is not one exclusive system, and cannot therefore be in opposition to, or in fact have any relation with, any such asserted system; and with the repetition of the advice, that you should on all occasions disclaim and reject this false position in which the enemies of regular medicine, whether original or renegade, would desire to place you, I leave this branch of the subject, and proceed to another point, in relation to your future profession, scarcely less important than the one discussed.

2. The point referred to is, that the science of medicine is yet imperfect, and its powers limited. The practical inferences are, that you are not to expect too much from it, and should be specially careful not to claim more credit than may be justly due to you in its exercise.

Some diseases are in the present state of our knowledge quite incurable. Many run a certain course which medicine may in some degree regulate, but cannot interrupt, unless by the destruction or at the great risk of life. Others, again, may be influenced both in degree and duration, and may often be cut short with advantage.

Now, it must be quite obvious to you that any one general plan of management cannot be adapted to these several varieties. The *incurable* you must be content to palliate, until some new discovery shall remove them from that sad category. *Those of definite course and duration* you must manage cautiously, aiming not at their immediate cure, but simply to prevent mischief in their progress, so that they may eventuate favourably when the period for their termination shall come. Unhappily, they will in many instances prove too strong for you, even with the appliance of your best skill; but very often also you will, by

good management, conduct to a safe issue cases which might have proved fatal without you. In reference to the third set of diseases, those, namely, *without fixed duration or end*, you will be determined in your course by the degree of apparent danger. Very often, I might say in the vast majority of cases, they will terminate favourably in their own natural course, without any interference, and not unfrequently in spite of very improper and even injurious interference. Here it would be the height of folly to medicate vigorously; as it would be the height of impudence or of ignorance to claim the merit of success from measures, which could have had no other effect than to incommode the patient, protract the disease, or endanger the result; or, at the very best, to hasten a cure at the hazard of the patient, which would have occurred without any risk at a somewhat later period. It is only where danger, or suffering, or great inconvenience may be obviated, that vigorous treatment is admissible in such affections; and, as occasions of this kind are not unfrequently presented, the physician must be prepared, with all his habitual caution, to act when requisite with great promptitude and energy.

From this brief sketch you will at once perceive how utterly impossible it must be for an uninformed man to treat disease properly, and what an awful responsibility they assume who run headlong into practice, with very imperfect preparation, or with no preparation whatever.

I have said that you are not to expect too much from medicine. The young practitioner is peculiarly liable to error in this respect. He is apt to have great confidence in therapeutics, and consequently to wield its resources with an unsparing hand. Experience in time generally convinces him of his mistake, and then he is in danger of running into the opposite and equally incorrect extreme of skepticism. It is certainly best to start with correct views on this point.

We have had examples of both of these extremes in the practice respectively of the old English and French physicians. The former, who were copied by the Americans, were in the habit of using medicines in great excess. The ideas of disease and of drugs were inseparably associated in their minds; the dosing of a patient was considered to be the main business of the physician; and no matter what the nature of the complaint, whether mild or severe, curable or incurable, self-terminating or otherwise, it would have been deemed unpardonable to let a case end either in recovery or death, without its full share of medication. Of course, I am speaking only in general terms. There were always individual practitioners who had escaped the trammels of prejudice, and allowed themselves to be guided by the lights of reason and a well-considered experience. But of the general truth of the statement there can be no doubt.

The source of this over-practice may be traced in part to the peculiar state of the profession in England. As before observed, the natural tendency of the young practitioner is to this extreme; and the same may be said of the youthful period of the profession. But there were causes of a special character acting among our English predecessors. The practice was divided between two classes of medical men, the physicians and the apothecaries. The former only prescribed, and, having no legal claim for remuneration, received an honorary fee at each visit. The latter both prescribed and furnished medicine, and, being protected by the law in their claims for compensation, so far as the medicines were concerned, though not for their advice, were paid not at the time of the visit, but subsequently, upon rendering their account, as is the case among ourselves. But, being allowed to charge only for the medicines supplied, they were irresistibly tempted, in order to swell their income, not only to affix an extravagant price to their medicines, but also to prescribe them extravagantly, and not altogether in reference to the wants of the case.

Our views of right are notoriously affected by our supposed interests; and finding that excessive medication was essential to their livelihood, they very naturally came to deem it essential also to the patient; and this habit of prescribing was accordingly established among them. But it may be asked, how did these circumstances affect the class of physicians? Upon the same principle exactly. The apothecaries were those in general first called in, and might be considered as the regular family attendants. The aid of the physician was sought in consultation, when the case became serious. Now, the apothecary could very often determine what physician should be sent for, and thus had it in his power greatly to promote the success of those whom he might be disposed to favour. The physician could not be ungrateful. It would be unfair in him to lessen the profits of his benefactor; and he also, in the regular course of things, came to see the importance of a multiplicity of medicines, and of a free use of those selected. As our medical knowledge and habits of practice, in this country, were derived mainly from English books and English tuition or example, we also fell into this vicious system of excessive medication, though never hampered by the same absurd classification of the profession as that which prevailed in Great Britain.

But a new era arose with us, beginning with the teachings of Rush, which had a great tendency to the simplification of medicines, and much promoted by the direction of opinion towards the French views of medicine, when the pathological doctrines of Broussais were propagated among us. To this medical reformer, though I was never one of his disciples, and though his peculiar views have at present few or no advocates, we are, I think, mainly indebted for the great change of sentiment, on the point in question, which has been going on during the last thirty or forty years. We must admit also that the practice of the homœopaths has contributed to the same end, by demonstrating how

much nature can accomplish when wholly unassisted; for genuine homœopathy, as you know, with all its wordy pretensions, is nothing more nor less than a skilfully contrived plan of doing nothing: I say skilfully contrived; because it has certainly succeeded in imposing itself on great multitudes for an efficient agency, and thus filching from nature a credit to which it has no claim whatever. This is one only out of the innumerable instances in which, by the orderings of an all-wise Providence, good is deduced from evil. It is, indeed, a most happy circumstance in the constitution of the universe, that wickedness in every shape leads to some ultimate good; and that while, in the little circle of their experience, the servants of his Satanic majesty seem to be working only in the cause of their master, there is an overruling intelligence, which is ever intertwining their bad deeds into that eternal bond, which connects all things in one great system of glory to God and good-will to man.

You are not, then, to expect too much from medicine. You will make it a special subject of investigation, how far our present lights enable us to proceed with sure steps into the wilderness of therapeutics; you may justly and even laudably endeavour by your own efforts to widen this circle of illumination; but, having gone thus far, stop; venture not unguardedly into the darkness; rush not headlong into the unexplored intricacies; for the inevitable consequence will be that you will go astray, and may drag with you the happiness and lives of those who may have put their trust in your skill and prudence.

There was another practical point connected with the imperfection of our science to which I alluded, and to which I would more particularly invite your attention; the propriety, namely, on the part of the physician, of claiming no more than his due in estimating the results of treatment. In the vast majority of cases that will come under your care, it will be to nature and not to yourselves that the cure will be justly ascribable. You

may diminish suffering in these cases, perhaps not unfrequently shorten their duration; but they would get well without you. Now, it would be stooping to the level of the quack, at least in one of the most characteristic of his habitual proceedings, to take to yourselves the whole merit here. If done ignorantly, it would be a strong proof of defective knowledge of disease, and of unfitness for its management; if knowingly, and with the object of producing a favourable impression of your own skill, it would be dishonourable if not positively dishonest, and quite incompatible with the character of a high-minded man. Two great evils flow from this bad habit, one relating to the individual himself, the other to the profession and the public. The practitioner who sees in every recovery a cure effected by his skill, is apt to acquire an overweening confidence in his own powers, and to neglect utterly those means of self-improvement, which a becoming modesty would lead him to seek for, and to employ diligently when within his reach. He thus remains ignorant, and is apt to become self-sufficient, and sometimes even ludicrously pompous in the eyes of better informed men.

To the interests of the profession and the public the consequences are still more serious. If in all cases of recovery under medical treatment, the people are taught that a cure has been effected by the physician, they will naturally infer that diseases are never self-terminable, that when they end well the result must be ascribed to the means used, and consequently that a favourable issue is a proof of the efficiency of those means in every instance. You can readily perceive the evil that must ensue. It often happens that, in the absence of regular professional aid, some supposed remedy is administered, perhaps harmless, perhaps noxious, but at all events wholly inapplicable to the case, which nevertheless ends in recovery. The experiment is repeated in other cases with the same result. Now it will be inferred by the experimenter that the remedy is really efficacious,

and, relying upon his supposed experience, he will be induced to administer it in all similar cases, with the effect probably in some of aggravating the disease, in some possibly of rendering it fatal, either by a direct injurious impression, or by the exclusion of positively curative methods. If the physician has set the example of claiming what he does not merit, and taken no pains to enlighten the public mind on this point, the result will be inevitable. Ignorant people will acquire confidence in their own power, or that of others equally ignorant, in the treatment of disease. All sorts of inert or inappropriate medicaments will get into vogue as popular remedies. The claims of irregular practitioners will be admitted, and quackery in all its forms will obtain more or less of the public confidence. This is, indeed, the great support of irregular medicine. Patients get well under the nothings of homœopathy. These nothings are much more acceptable to the delicate or pampered taste than the nauseousness of positive remedies. The people are taught by their physicians that a recovery is a cure. The recoveries under the homœopathist are therefore cures; and, as he offends the sensibilities of the palate and stomach less than the regular practitioner, he is preferred to the latter by the squeamish, who are apt to be found among the most cultivated, and especially in the softer, and, in this respect, more influential sex. For those who cannot have faith in the power of infinite littleness, whose coarse and homely judgments cannot recognize the transcendental efficacy, evolved by a certain number of shakes made in a certain way; for such as these there is the more substantial treatment of vulgar quackery; and the countless multitude of panaceas—the pills, the powders, the syrups, proclaimed everywhere as infallible by their shameless advocates, all positive, and consequently all capable of great mischief—become the false lights, which too often lead the ignorant into morasses, from which they may or may not flounder into health.

The physician, then, who demands in all instances of favourable result the credit of a cure, is playing directly into the hands of the irregulars. If his recoveries are necessarily cures, so also are those of the quack. He cannot escape this dilemma. He may assert that a larger ratio of recoveries takes place under his management; but his opponent will assert the same, and with greater effect, just in proportion as he is more unscrupulous. Accurate statistics, in such matters, can scarcely be brought to bear on the public faith; confident assertion and reckless falsification will be most apt to carry the day; and I need not tell you which class can wield these instruments most effectively.

But the regular practitioner may object that, if we teach the public how little we really do, and how much is done by nature, they will be apt to desert us entirely, and either trust to her cheap aid, or have recourse to the more highly professing empirics. Supposing this to be true, is it an argument for dishonourable proceedings on our part? Are we, professing to be honourable and high-minded men, to cheat the public into our support? and should we not by such conduct countenance quackery in all its forms, and every other species of humbug? Better far abandon our profession, and seek a livelihood in some honest calling, however humble.

But this is a needless fear. Providence has not so arranged affairs in this world, that, in one of the noblest and most ennobling pursuits in which man can engage, falsehood should be essential to success. At the same time that the people are taught truly in relation to the spontaneous curability of most diseases, they will also be taught that many cases can end favourably only under appropriate management; that many others, if left to themselves, though they may not prove fatal, may without proper attention degenerate into long-continued and troublesome

chronic affections; and that even of those to the cure of which nature may be adequate, almost all may be rendered by the skilful physician less painful, and the greater number materially shortened. These advantages can be appreciated by the most obtuse judgment; and the regular physician will be the more readily believed in all that he claims, when it is known that, in what he disclaims, he tells the truth to his own apparent loss. Besides, the sick are seldom able to appreciate their own real condition; and, even in those instances where little is required, fearing the worst, they will be apt to apply to the physician for his counsel, especially if they have learned to trust him, and to believe that he will not unnecessarily burden them either with medicine or attendance.

3. But, while I would guard you against an overweening confidence in medicine, I would equally warn you against that senseless skepticism, which is but the too natural result, in a badly balanced mind, of reaction from an overstrained faith. Bigotry, in our profession as in religion, when it yields before the light of reason, is too apt to seek refuge in absolute infidelity. Another source of this want of confidence in therapeutics is a too exclusive devotion to medicine as a science, to the study of the structure and functions of the system both in health and disease, rather than to the means of restoring that structure and those functions to their normal state when deranged. An exclusive addiction to any one pursuit is apt to narrow the mind against the reception of knowledge from other sources. Hence, the profound mathematician is often nothing else than a mathematician, the linguist than a linguist; and it is notorious how often the poet, who cultivates only the imagination and the feelings, and lives in the unreal, is wholly unfit for the struggles of this sublunary world. So is it with the medical student who surrenders himself, with a too partial zeal, to the studies of physiology and pathology. He neglects of course the practical and most import-

ant branch of his subject, and comes at length to doubt or disbelieve in the existence of remedial influences, at least of such as art can wield. Hence probably the medical skepticism of many of the profound pathologists of Europe, who study diseases as the botanist studies vegetable nature, and the geologist the structure of the globe, simply to learn what they are, not with a view to alter or amend them; science being with them the end instead of the means. Now, admiration of these great men, on the part of the pupil, not unfrequently extends to their errors and deficiencies as well as their excellencies; and hence another source, in unfortunate example, of the skepticism referred to.

You may possibly be sufficiently protected against this serious evil by a knowledge of its existence and ordinary sources, so that you may know where to be on the watch. But it is desirable that your assurance of the efficacy of medicine, of its frequently indispensable instrumentality in the preservation of life, should be based on positive and conclusive evidence. Of this nature is the testimony of the best informed, the most experienced, and the most honourable, not only among the living, but also in the long series of those, who have left behind their recorded experience for the benefit of mankind. This testimony, while it admits the incurability of some diseases, and the occasional insufficiency of all known measures to the cure of others, is united upon the point of the great utility of therapeutics properly applied. These men cannot all have wished to deceive; it is scarcely possible that they can all have deceived themselves. Their combined evidence is, therefore, to a certain extent, irresistible to a sound and unprejudiced judgment. Give due weight to their assurances, and you will be spared the skepticism which might possibly result from a one-sided direction of your confidence, and of your studies.

But your rational convictions may be strengthened by personal

observation. Watch the bedside of patients in private and hospital practice; observe the progress of various chronic diseases before and after the commencement of a course of judicious treatment; compare the result with that of other similar cases abandoned exclusively to nature; do all this in the most cautious manner, and with the most impartial spirit; and, depend upon it, you will come out warm advocates for the efficiency of therapeutics.

Besides, is it at all consistent with the general course of Providence, to suppose that so great an evil as disease should have been allowed to exist, without some remedy at the command of the afflicted? In physical nature, do we not observe constant efforts for the repair of injury? Floods devastate the earth. But notice the deposit upon their shores gradually rising, and rising, and at length confining them within due limits, and rendering them essential agents of good. Volcanoes pour forth their overwhelming torrents of lava, which hardens as it cools, and buries whole regions in a rocky tomb. But the winds and the rains soften the indurated surface, and clothe it in fine with a fruitful soil. The tempest, the earthquake, or other great physical agency, rends mountains asunder; and huge rocky masses topple from their heights, and spread ruin over the fruitful valleys at their base. But here again the flinty surface undergoes a gradual disintegration; the sharp angles are rounded off, the rough cavities are filled up; and what was a wide scene of desolation becomes beautiful with swelling heights, and soft declivities, and meandering streams, smiling with verdure and with flowers.

So also is it in animated nature. Look at the broken or wounded plant, and observe by what a beautiful process the injury is repaired, and even its vestiges ultimately effaced. Those of you who have paid the least attention to physiology know well, with what resources the animal system has been

provided for the repair of injuries, and the restoration of lost parts.

In the higher moral world the analogy with the physical is in this respect complete. The history of nations and of individuals is often but a series of successful efforts to avoid and repair injury. From the cradle to the grave we are called on to mourn for losses which are the inevitable lot of humanity; and, but for the happy remedial influences which nature in various ways brings to bear upon us, our experience in this world would be too often of almost unmitigated suffering. What is the great scheme of Christianity itself, but a glorious remedy provided by the all-good and all-merciful, to save a sinful world?

Is it possible, then, that Providence should have placed man in the midst of noxious influences, have given him an inquiring spirit to search, an intelligence to apply, and an inborn irresistible hope to use efficiently, means for counteracting these influences, and have done all this with no other purpose than to deceive and disappoint? To me the notion is inconceivable; altogether inconsistent with our convictions of the joint power and goodness of the Creator.

There are remedies for our diseases; for all of them, I believe, not essentially fatal by an interference already exercised with the processes of life. Many of these remedies have been discovered; many yet remain concealed to reward future research. Compare the past with the present, and from this comparison infer how much is to be hoped for the future. To refer simply to two instances, the one prophylactic, the other remedial; I would call to your attention the preventive power of vaccination over small-pox, and the curative influence of Peruvian bark over miasmatic diseases. These two scourges, which formerly devastated the globe, are now brought into comparative subjection to the power of man. Thus will it probably some time be with diseases still essentially incurable, or extensively destructive by their

violence. Cancer and consumption, yellow fever and cholera, are yet, it may be hoped, to come within the certain control of medicine.

Guard, therefore, your faith in the efficiency of the profession you are about to enter. But you have another office to perform. It will become your duty to impart faith also to the non-professional community, and to cherish and preserve it when already existing. For this purpose it will be necessary for you to employ all the resources of your judgment and reason; but beyond comparison the most efficient agency will be that of your example. You must not only by your conduct show that you have faith yourselves, but must labour zealously for those qualifications, by which you will be able to set forth in practice the principles you inculcate by precept. Make yourselves conversant with all that is good in medicine, and you will through life exhibit, to the public, in your persons and conduct, an ever-present and irrefragable proof of the real value of our science. When the whole profession shall have elevated itself to a high standard of character and attainment, it may bid defiance alike to the open assaults and covert stratagems of its enemies. Ignorance, superstition, and weak-mindedness will probably, until the millennium shall come, afford a refuge for the frauds of charlatanism in ours as in all other pursuits; but we can afford to be content with this when we shall have on our side the intelligence and worth of the community; for these will, as a general rule, govern even the uninformed masses; and it will be only in the darkest quarters, and the most remote haunts of the moral world, that quackery will be able to show its face.

I have at present but one further remark to make. All that I have said must have been uttered to little purpose, if it do not tend to confirm and stimulate you in all proper effort in the honourable course which you have entered. Keep ever before you the great ends of your studies, the incalculable importance

of the duties which are to devolve upon you, and the awful responsibility connected with the discharge of those duties; and you will spare no endeavours to avail yourselves to their full extent of the advantages now offered, so that, when you ultimately leave us, you may go forth accomplished physicians, prepared at once to encounter disease most successfully, and to offer before the public, in your lives and character, a convincing proof of the truth, the power for good, and the pure and lofty aims of your noble profession.

TWO
INTRODUCTORY LECTURES,
GIVING THE RESULTS
OF
PROFESSIONAL OBSERVATIONS
IN EUROPE.

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INTRODUCTORY LECTURES

GIVING THE RESULTS

PROFESSIONAL OBSERVATIONS

IN EUROPE

LECTURES

UPON

THE MEDICAL PROFESSION IN EUROPE.

Prefatory Remarks.

THE two following lectures were delivered as introductory, the first, in the year 1848, to the course of materia medica, the second, in 1853, to the course of the theory and practice of medicine, in the University of Pennsylvania. As my travels, during my first visit to Europe, were confined to Great Britain and Ireland, the first lecture refers exclusively to professional observations made in those islands. The visit made in the summer of 1853 extended also to the continent; and it is to the state of the profession in this portion of Europe that the second lecture is confined. In both, the statements made are extremely general; as it was necessary to confine the matter within such limits as not to exceed the time usually appropriated to introductory. As regards Great Britain, some of the observations are no longer justly applicable, at least in their full extent; as the state of the profession has within a few years undergone considerable change; and a movement of reform has commenced, which will in all probability lead ultimately to the best results. Of these one of the most important is the consolidation of the three pharmacopœias, those, namely, of London, Edinburgh, and Dub-

lin, into one, which is to constitute the pharmaceutical code of the whole empire. The benefits of the uniformity thus introduced will be extended, in some degree, to this country, where British medical works are so much read, and where the confusion of British pharmacy has sometimes been productive of considerable embarrassment.—*Preface to the first edition.*

LECTURE I.

DELIVERED OCTOBER 19TH, 1848.

The Medical Profession in Great Britain.

IT is a good general rule that an introductory lecture should have a close relation to the subject of study which it proposes to introduce. This rule I have generally observed in my preliminary addresses to the medical class. But the ways of man's conduct in life, like those for his feet, cannot always be rigidly straight. They must be accommodated in the one case to the irregularities of circumstance, as in the other to the inequalities of surface. My position at present is, I think, such as to require of me a deviation from the ordinary course. Recently returned from travel in a foreign country, I may be reasonably expected to impart to those whom it is my duty to instruct some of that knowledge, having reference to our common pursuit, which I may have gathered while absent. I know of no opportunity better adapted to this purpose than that offered by the opening of a course of instruction, before the attention has yet been engaged in a regular series of observation and study, which it might be inconvenient to interrupt. You will, therefore, excuse, perhaps you may even commend me, if, on the present occasion, omitting all mention of the *materia medica*, the teaching of which is my special function, I shall in its place introduce

to you a subject from abroad, and one no less important than that of the state of the medical profession in the British Islands. This is so peculiar, so different from what prevails in the United States, that it cannot but be an object of interest to all among you who have an inquiring spirit; and, considering the high civilization of that great country, the source of so much in every department of knowledge and art that we ourselves boast of, its arrangements in relation to a profession, so influential as that of medicine, must offer many valuable lessons, whether for imitation or for warning.

The present organization of the medical profession in Great Britain, like her political constitution and common law, has been the gradual growth of her wants or necessities, without any preconcerted or consistent plan. Unfortunately, accidental influences have been less successful in shaping institutions to the requirements of the case in this than in the other branches of public concernment; probably because medical knowledge lies less within the scope of mere human reason, and demands more of slow, patient, and persevering research, than either the political or the legal. Place together a number of individuals of Anglo-Saxon origin, beyond the pale of established government or acknowledged law; and, by the mere force of judgment, they will arrange themselves, almost as by a process of crystallization, into a regular and orderly community, with an organic constitution, and a legal code, admirably adapted to their wants. But their medical system, unless under instructed professional oversight, will scarcely rise above the empiricism of savage tribes; being withdrawn from the control of reason, which is powerless when unsupported by facts, and given up to the caprices of the passions and imagination. It could not be expected, therefore, that a medical polity, which has grown out of mere accidental circumstances, should exhibit the same beautiful appropriateness to the condition of the community as may characterize a simi-

larly originating system of law and government. It is universally acknowledged in England that the organization of medicine in that country is defective; and that, with a vast amount of individual learning, skill, and devotedness, the general economy of the profession is not upon the same elevated level as the other great national interests.

The medical and pharmaceutical professions in England embrace four bodies of practitioners more or less distinct; the *physicians*, the *surgeons*, the *apothecaries* or *general practitioners*, and the *chemists and druggists*. Of these, the physicians practise medicine either exclusively, or in connection with obstetrics; the surgeons, strictly so called, are confined to operations, and the treatment of affections generally denominated surgical; the apothecaries combine the occupation of the pharmacist, the physician, the obstetrician, and often of the surgeon, under the name of general practitioners; and the chemists and druggists are restricted to pharmacy, in other words, are identical with the apothecaries of this country. The last-mentioned body, as they practise neither medicine nor surgery, but confine themselves to the preparation and sale of drugs, cannot be considered as belonging to the medical profession, and will, therefore, be omitted in the remarks I am about to offer. I will simply observe of them, that they are relatively few; being confined for the most part to the larger towns, where they more than share their business with the apothecaries. They are, however, increasing in numbers, qualifications, and standing; and it is to be hoped that the time may come, when they may supersede their present rivals, and, compelling these into their medical functions exclusively, may get possession of the whole pharmaceutical business, at least in all places where the population is sufficiently numerous to support an independent drug establishment.

Of the three divisions which together constitute the great

medical body of the country, the physicians hold the highest rank; though it cannot be denied that individual surgeons, by great talents and extraordinary success, have raised themselves to an eminence, not surpassed by any belonging to the more elevated branch of the profession. All are entitled to the name of physician who have graduated in a British or foreign university, or have become licentiates of the Royal College of Physicians of London. But there are certain regulations which limit the privilege of practising, at least the legal privilege, within narrower bounds. Thus, by the charter of the College of Physicians, that body has the power of preventing any one from practising as a physician in London, or within seven miles of that city, who has not submitted to its examinations, and received its license; and may even enforce its privileges by fine and imprisonment against those who reject its authority. All the regular London physicians are licentiates or fellows of the College; the latter being the proper members of the body, and supplied by annual election from among the former. In relation to England and Wales beyond the limits just mentioned, I find it stated in the London and Provincial Medical Directory, that the only *legal physicians* are the licentiates and extra-licentiates of the College of Physicians, and the licentiates of the Universities of Oxford and Cambridge, to whom I presume should be added the graduates of the London University. Extra-licentiates are those permitted to practise only beyond the bounds of London and its vicinity. They undergo a different and probably less strict examination, and are required to pay less than one-half the diploma fees demanded of the licentiate, which are very large, being not much short of three hundred dollars. But, though physicians, in the legal sense, may be thus limited, yet, according to the same book, the graduates of the Scotch and foreign universities have long been admitted by the College as licentiates; so that the fact of graduation is in reality sufficient

authority to practise. When attending the late annual meeting of the Provincial Medical Association at Bath in England, I was accosted by a gentleman, who informed me that he had been one of my pupils, having attended lectures and graduated in the University of Pennsylvania. He was an Englishman by birth, had for some reason which I did not learn chosen to obtain his medical education in the United States; and, having received the honours of this school, had returned to his native country, and was now practising acceptably in one of its noblest cities, with no other authority than that of his American diploma.

Having told you who the physicians of England are, I will next tell you what they do. It may seem strange to you that any information should be needed on this point; and yet, if your notions were to be formed exclusively from what you are familiar with on this side of the Atlantic, you would have but an imperfect conception of the professional habits of the English physician. Many of you, I dare say, fancy him to be a man out early and at home late; riding from house to house on horseback, or in his one-horse vehicle; at the beck and call of any one who may wish to see him whether by day or by night; carrying his medicines along with him; turning his hand to everything that may offer; at one time using the lancet, at another dressing a wound or an ulcer; now perhaps extracting a tooth, and then superintending a labour; and, at the end of the day's work, noting the results in his account-book, and congratulating himself that, at the expiration of the year, he may, by sending out bills, gather in enough to feed, clothe, and warm his family. A London or even provincial physician in England would smile at this notion of his day's work. The fact is that he rarely touches a medicine, eschews all surgical offices as beneath the dignity of his position, would probably as soon think of performing the part of an executioner as that of a bleeder or tooth-drawer, and yields up obstetrics with the greatest possible good-will to the general

practitioner, or to the few who make it a special duty. His business is purely to give advice and to prescribe. The metropolitan physician seldom leaves home before twelve or one o'clock, and then drives out with his chariot and pair; and a fine equipage is almost as necessary an appendage as a hat or a coat. Much of his most profitable business is at his own house, where he receives calls and gives advice after his breakfast hour; the patients being admitted into a reception room, and one by one entering the sanctum in their turn. Very many of his visits are in consultation with the general practitioner, who is usually called upon at the commencement of the disease and in mild cases, and asks the aid of the physician when the symptoms become grave or obstinate. Not unfrequently he makes but one visit, waiting to be again summoned by the attending practitioner before repeating it. The wealthy only can afford the luxury of continued and regular attendance from the physician. In this country, the nearest approach to the ordinary practice of the English physician is that of a medical man of established reputation in one of our larger towns, who, wishing to limit his business, confines himself as much as possible to the giving of advice at home, and a consultation business abroad. But here the analogy ceases. The mode of compensation differs entirely. With us, each piece of service is noted in the day-book, and a bill rendered for the whole at stated periods. In England, the service is paid for when received. We charge one or two dollars a visit, they expect a guinea or about five dollars. We have a legal claim for our fee, and often lose it. They have no legal claim for theirs, and are sure to get it. A physician in this country may, if fully occupied, in the most favourable situations, make eight or ten thousand dollars a year; a London physician of high repute not unfrequently receives five thousand pounds, equivalent to nearly twenty-five thousand dollars, and sometimes doubles that income. It is remarkable how our sensibilities ac-

commodate themselves to the peculiar circumstances of our position. The physician in England thinks that to send in a bill for attendance would level him with the mechanic, and looks with something like contempt on the practice. I confess that to hold out my hand for money, at each visit, would be repugnant to my sense of delicacy. I should feel as if I were reducing an honorary to a mercenary service. It seems to me that the practitioner, under such circumstances, though he may not absolutely repeat the servile formula—*remember the physician*—must have the words in his heart.

The number of physicians is small, compared with that of the other classes of medical practitioners. They are almost all well-educated, many of them highly-educated men; and, indeed, a good preliminary education is a necessary prerequisite to an examination for the medical diploma, in all the English institutions which have the authority to grant it. They are also men generally of cultivated manners, and have the moral tone as well as exterior polish which characterize the gentleman. Though inferior in rank to the higher aristocracy of the kingdom, they associate often upon equal terms with the best society; and we occasionally see it announced in the *Court Journal*, that some physician of eminence has been honoured with a seat at the queen's own table. They frequently have great influence with men in power, and with the community among whom they live. I repeatedly met with physicians in the large provincial towns, who either were, at the time, or had been mayors of their respective corporations; and that position is even more honourable and influential in England than in this country. Their professional success is very precarious. It is, for the most part, after long waiting, and many of those delays which make the heart sick, that they become firmly established; and the greater portion can expect little more than to make a respectable livelihood. Now and then, however, an encouraging instance of great success

occurs among them, leading to both fame and fortune, and serving as a beacon-light to ambitious aspirants. The system of high fees enables one who can obtain a large practice among the opulent to reap abundant emolument; while it does not altogether prevent others from obtaining practice among the middling and poorer classes; for, though precluded by the general sentiment of his class, which has almost the force of law, from accepting less than a guinea for each visit, he may attain the same end by declining compensation for every second or every third visit, or even for two out of three visits, so as to bring the fees in fact nearly on a level with ours.

From the physicians of England I personally met, whenever I came in contact with them, the utmost courtesy, and to many I am indebted for very kind attentions. To Drs. Pereira and Christison especially, who may perhaps have recognized congeniality of pursuit as a stronger claim on their hospitality than mere professional brotherhood, I would express a peculiar obligation; and, should this acknowledgment ever reach them, I hope they will still further add to their kindness by excusing the use, which, under the impulse of feeling, I have ventured to make of their names on so public an occasion.

The second division of practitioners before alluded to, or the proper surgeons, are those who profess to deal only with surgical affections, with the addition in some instances perhaps of obstetrics. They do not seek a diploma in medicine, and have no special designation to distinguish them from other members of the community. To the eminent surgeon it is offensive to be styled doctor; because the giving of a title, to which he has no claim, would seem to imply that his consequence may be added to by something extraneous to his own merits or position. Though none are prohibited by law from assuming the name and character of a surgeon, and some persons do so without any claims from qualification or otherwise, yet no one is recognized

as belonging regularly to the profession, or can gain a respectable standing in the community, unless he has gone through a preparatory study and training, and received credentials from some authoritative body.* Such credentials are generally obtained from the Royal College of Surgeons of London, whose diploma of membership, given after a certain specified course of instruction, and a successful examination by the College, is everywhere received as sufficient authority to practise, and is sought for by most of those who have respect for themselves, or seek the respect of the community. A higher position still is that of fellowship in the College, which implies more ample literary as well as professional attainment, and is conferred, after a satisfactory examination, upon candidates who can bring the requisite certificates of previous preparation, such as that they are twenty-five years of age, have a competent knowledge of the Greek, Latin, and French languages, and have been engaged for six years in the acquisition of professional knowledge, in recognized hospitals and schools of medicine, either in the British Islands or abroad.

I found a distinction made in England, in conversation, between the surgeons and consulting surgeons, though I could not discover any very definite line between the two sections of the profession. The consulting surgeons, however, appear to be those who aim at, or have obtained the highest position among their fellows, who leave to others the humble offices of the profession, and confine themselves to the giving of advice at their houses, to the performance of operations, and to consultations. They are men of the highest attainment, respect, and influence in the communities in which they move, not unfrequently acquire con-

* This is one of the points in which the late act of Parliament has proved very useful. No one now can assume the title of surgeon or physician, who is not legally entitled to it.—*Note to the first edition, Dec. 1859.*

siderable wealth, and in many instances have, like the more successful physicians, been honoured by knighthood or a baronetcy; the highest title which has ever yet been conferred on any member of any branch of the medical profession in Great Britain. Sir Astley Cooper, Sir Benjamin Collins Brodie, Mr. Travers, Mr. Stanley, and Mr. Liston are, or were, examples of this higher grade of surgeons. Mr. Norman, an eminent surgeon of Bath, and at the time mayor of that city, presided over the late annual meeting of the Provincial Medical Association, though numerous physicians, and some of them of high standing, were present. In short, I could not discover that any marked distinction in social standing existed between the physicians and consulting surgeons. Both are, I think, generally deemed much superior, on the average, to the lower grade of surgeons, and to the general practitioners.

This last class will next engage our attention. It is by far the most numerous, and, if I am not much mistaken, is destined to play an important part in the future medical history of the country. It took root in the once humble and despised apothecary, gradually grew upon the wants of the community, and has at last attained an overshadowing magnitude, which, though each individual branchlet may be of little significance, will probably in time, by its very mass, shut out the sunshine of public patronage from the hitherto more elevated classes, and cause them finally to wither in its shade. The original and proper business of the apothecary was no doubt to prepare and vend medicines; and this it ought still to have continued to be. In the United States, he remains what he originally was; and the consequence has been, that, by a concentration of time and abilities upon his own pursuit, he has elevated pharmacy from the rank of a mere trade to the dignity of a profession, and increased in a corresponding degree his own personal respectability. It was otherwise in England. There, the apothecary,

though he continued to prepare and sell drugs, superadded the practice of the different branches of the medical profession to the pharmaceutical, which thus became secondary in his own estimation and that of the public. Without becoming a good medical practitioner, he ceased to be a good pharmacist; and the name of apothecary came at length to signify a mongrel compound of doctor, man-midwife, surgeon, and drug vender; a true jack of all trades and master of none; willing to play second part to the regular physician, and, though used by the public, yet looked on by them with a sort of good-natured contempt.*

It is not difficult to account for the different results in the two countries. With us, the practice of medicine, if not quite free, was trammelled with very few restrictions, and those by no means onerous; so that it was easy for any one possessing moderate means to enter the profession, the ranks of which were thus kept filled up to the wants of the country; while competition placed the fees upon a level with the general means of the public. All the avenues to practice being occupied by those regularly trained to the pursuit, the apothecary had no opportunity or temptation to step over the legitimate bounds of his profession into the empty places of medicine. In England, on the contrary, the regularly educated physicians were comparatively few; and these, enjoying a kind of monopoly, were enabled to maintain prices at such a point, as to place their services beyond the means of persons in low or moderate circumstances. The poorer people, unable to pay for instructed advice, turned

* It will be readily perceived by the context, that this sentence was intended to apply to the apothecaries as they formerly were. Their standing, at the time of my visit, was much more elevated; and, under the name of general practitioners, they constitute, upon the whole, a highly respectable branch of the profession.

to the apothecary, who, as a vender and preparer of medicines, was naturally supposed to know something of their uses. He thus became the adviser and attendant of the lower classes; and even those of the upper ranks gradually began to employ him, first as a subordinate auxiliary to the physician, and at length as his substitute in mild cases, and the incipient stage of those of a severer character. Not being permitted to charge for his advice or his visits, he naturally sought to indemnify himself for his loss of time by an increased sale of his medicines; and was tempted into various irregular modes of attaining this end, among which were excessive medication, the adaptation of the prescription to the pecuniary advantage of the prescriber rather than to the real wants of the patient, and a system of monstrous overcharging. I have been informed that it was formerly not uncommon for the apothecary to put up a dose of salts, worth two or three pennies, in half a dozen or a dozen potions, to be taken at intervals of an hour or two, each at the cost of a shilling.

Conscience, and a proper sense of his interests, combined to induce the apothecary to render himself fitted, so far as possible, to the new office which had been in some measure forced upon him. He sought, therefore, in the hospitals and schools, and by a course of study, a competent knowledge of disease, and the recognized modes of treating it. Some attained great skill and reputation, and even raised themselves to the rank of regular physicians. Many, however, remained in contented inferiority or ignorance; and the general standard of medical attainment among them was certainly not very elevated. The London Society of Apothecaries, who held the exclusive right, under the law, to grant licenses to practise their art, were by no means strict in their medical requisitions. The great majority of the people of England appeared to be doomed to intrust their health and lives to the chances of incompetent advice. But a new era has opened; great advances have already been made towards a

better condition of things; and, on looking down the long vista of futurity, we may see the prospect gradually widening and improving for this branch of the medical profession, and that portion of the public intrusted to them. Formerly, though the practice of medicine had been grafted on pharmacy, the latter continued to be the main object of solicitude, as it was the chief source of profit. Gradually the medical branch has acquired increased vigour, growing upon the nourishment that was thrown into it at the expense of the parent stem, until at length it has expanded into a luxuriance which almost conceals the latter from view. The Society of Apothecaries established a higher grade of medical qualification for their licentiates, and sustained that grade by more rigid examinations. The education now demanded of the apothecary, before he can obtain permission to practise, is of a character quite equal to the requisitions of our own schools. Independently of five years' apprenticeship, which is considered requisite for his due pharmaceutical accomplishment, he must be twenty-one years old, have attended three courses of winter and two of summer lectures in some recognized school, and at least a year in some recognized hospital containing one hundred beds. Of the different branches of medicine, surgery alone is omitted from the schedule of studies. The apothecary, though a medical practitioner, is not necessarily a surgeon. But most of those who enter into this division of the profession, qualify themselves also, as I was informed, for the practice of surgery, and become members, after due examination, of the College of Surgeons of London. They thus lay themselves out for the practice of every branch of our art, exactly as the country physician in the United States; and, in correspondence with this position, they are beginning to throw aside the title of apothecary, and to assume that of general practitioners. Until recently they were allowed to charge only for medicines; the advice and attendance being thrown into the bargain. At

present, according to the decision of the courts of law, they can charge for both ; and one great and most absurd evil has thus been corrected. The English general practitioners are now almost precisely upon a footing with the greater number of physicians in the United States, differing simply in the circumstances, that they do not take the degree of doctor of medicine, and, in most instances, continue to unite the business of the retail druggist with that of the physician. They universally make lower charges than the usual fee of the physician in England, receiving, I believe, generally, from those who can afford it, five shillings instead of a guinea for each visit. They enjoy the advantage, also, if it can be considered one, of having a legal claim for compensation for their services ; and, as with us, they render their bills at stated periods, instead of receiving their fee in hand. It is easy to foresee that, with increasing competence, and a still more enlarged instruction, they must raise themselves in time to be the almost exclusive medical practitioners of the land ; for low prices, with equal qualifications, will in the long run invariably carry the day. The very wealthy, and the high aristocracy, may long continue to cherish the distinction of a physician at a guinea a visit ; but even they will, I think, in time, come into the five shilling system, when they learn that the great point of health can be equally well secured. But, before this end arrives, a great change is yet to take place in the plans of the general practitioner. It will be necessary for him to devote an exclusive attention to the medical department of his profession, and to cut loose from the pharmaceutical, which must be abandoned to the chemist and druggist, or in other words, the legitimate apothecary.

Were time allowed me, it would be easy to point out the evils which flow from the combination of these two pursuits in one. As it is, I must content myself with a hasty sketch of them. They who are but superficially acquainted with the various

qualifications required in the practitioners of medicine and pharmacy, know well that either one of them is sufficient to engross all the time and powers of a single individual; and that he who undertakes to unite them must, as a general rule, do so at the expense of proficiency in one, or the other, or in both. This alone is an all-sufficient reason why they should be separated. But there are others. The medical practitioner who prepares and dispenses medicine is constantly exposed to the temptation of over-medication if he charge for his medicines, of under-medication if he make no charge; and if, in his capacity of apothecary, he be called on to put up the prescriptions of others, he is again tempted to an undue interference with the physician, by undervaluing whose skill he is indirectly raising his own in the estimation of the patient, and paving the way for an extension of his practice. The majority may resist these temptations; but some undoubtedly yield to them, and thus affix a stigma to the whole body, which has a tendency to indispose young men of the highest qualifications from joining it, and consequently lowers somewhat not only its general reputation, but its real efficiency. The general practitioners of England can never place themselves on a level with the physicians and higher grade of surgeons, until they shall have effected the separation alluded to; and we shall do well in this country to take warning from English experience, and scrupulously continue to keep the two professions distinct. In relation to practitioners in thinly peopled neighbourhoods, where apothecaries' shops are not accessible, it is necessary that the physician should himself dispense medicines to his patients; but it is not necessary that he should make a business of their preparation and sale, and thus load himself with the burdens and responsibilities of another profession.

From what has been said you will have inferred that the organization of the profession in England is very complex. It is

even more so than I have described it, in consequence of the varying action of different bodies, having or professing to have peculiar legal powers, or at least exercising by prescription peculiar influences which have almost the force of law. Thus, connected with the Royal College of Physicians are two if not three classes of practitioners; with the Royal College of Surgeons, two; with the Society of Apothecaries, a third; while, in the instance of new regulations in any of the institutions, there is necessarily one class of those in existence before their adoption, and another of those who enter the profession afterwards. The degree, moreover, of different institutions is of different weight, that of Oxford and Cambridge being perhaps more highly esteemed than that of Edinburgh or Glasgow, or of the foreign universities. In fact, upon making inquiry of some of my medical friends in England, I found that even there all the entangled relations of the different sections of practitioners were not by any means universally understood. From this cause it has happened that the movements in the profession, which a sense of its imperfect organization has occasioned, and the extent of which indicates a general dissatisfaction and restlessness under the present system or want of system, have hitherto been productive of no very important results. The law-makers have shown a disposition to aid the profession in working its way out of these intricacies; but a movement made in any one direction is apt to be met by the remonstrances of some opposing privilege, interest, or prejudice; and legislative interference appears to have been postponed until some plan can be presented, which shall unite the suffrages of the great body of those concerned. I cannot but think that the sagacity and judgment so characteristic of the English will ere long be brought to bear on this confused subject, and that measures will be devised calculated to bring about harmony if not perfect unity in the profession; so that the struggle as to what peculiar interest shall

be best promoted or defended, will give way to an emulous rivalry in furthering the general good. There should be one education and one grade of honour common to all; and everything else should be left to individual effort. Some, as at present, would addict themselves to medicine, some to surgery, some to midwifery, etc.; and many would combine the three branches together. The more special practitioners might be slower of success, but would in the end acquire greater skill and reputation, and consequently greater emolument; and there would be an ample field for the gratification of an honourable ambition on the broad basis of equal rights and privileges to all.*

The remarks hitherto made have had reference chiefly to the organization of the profession; but the view would be very incomplete in your eyes, were I not to present you some account of the plan of medical education, and the qualifications demanded of the candidate for the medical diploma, or in other words, for the certificate of qualification to practise. You will be surprised to learn that none of the proper medical schools in England, and none of the literary institutions with which they are directly connected, have the power either of conferring degrees, or of giving a license. The only graduating bodies are the Universities of Oxford, Cambridge, and London. The first two grant medical honours to those exclusively who have completed a course of academic study under their own supervision, unless perhaps the graduates of the Dublin University may constitute an exception; the last extends them to all who can present the requisite credentials, and undergo the requisite examinations, no matter in what school or schools their medical education may have been

* I scarcely need repeat that, since this lecture was delivered, an act of Parliament has been obtained, which, though it is not all that could be wished, has enabled the profession to organize itself, and promises to lead to very useful results.—*Note to the first edition, Dec. 1859.*

conducted, provided only that the school be one recognized by the University, and, of the four years of scholastic attendance required, one year at least shall have been in connection with one or more of the schools of the United Kingdom. Attached to the Universities of Oxford and Cambridge there are professorships in the medical sciences, and, in the latter, courses of instruction are given; but in neither is there a complete school. The University of London has not even the shadow of a school attached to it; for the University College of London, whose medical class is I believe the largest in England, has no more connection with the University of London, notwithstanding the similarity of name, than any of the other respectable schools upon the island. The University is merely an examining and degree-conferring body, established by government in order that dissenters might be enabled to obtain academic and medical honours; the graduates of Oxford and Cambridge being required, I believe, to profess adherence to the national church.

The schools are generally established in association with hospitals; the prescribing physicians and surgeons of these institutions uniting to get up courses of instruction in the different branches of medicine and surgery; and so necessary is the hospital connection deemed, that, when independent schools are instituted, they endeavour to set on foot an infirmary, to be under the charge of the teachers, as in the cases of the King's College, and the University College, in London. Had I time, I could easily demonstrate, to your satisfaction, that this plan of forming schools as subsidiary to the hospitals can never be permanently and greatly successful. The chief objection to it is that the officers are appointed, not in reference to their qualifications as teachers, but for the practical charge of the infirmary. It may accidentally happen that one or more of them may possess high teaching powers; but a succession of such happy accidents can scarcely be expected; and the reputation of the school must be

temporary. No great school of the kind has maintained a permanent existence in England; no one in fact has ever risen into the eminence which institutions have attained, based upon the principle, that peculiar qualification for the duties to be performed should be the ground of appointment. The most successful school in London has been that of the University College, in which the professors are chosen for their professorial abilities, and not for their fitness, either from favour or qualification, for the office of physician or surgeon to an hospital.

Schools are numerous both in London and the provinces. In the former, thirteen are recognized by the London University, in the latter no less than sixteen, of which the most distinguished are those of Manchester and Birmingham. Many of these schools are imperfect; but, as the requisition for graduation or a license is that the candidate shall have attended courses on certain subjects, for a certain length of time, he may receive his instruction, if he see fit, in several distinct schools, attending to one subject in one and to another in another; so that any deficiency in the arrangements of a school, as to the subjects taught, may be easily supplied. Most of the schools are very slenderly attended; many having classes of considerably less than fifty pupils, while the most flourishing seldom exceed two hundred, or two hundred and fifty.

The population of England cannot support so large a proportionate number of practitioners as ours, in consequence of the vast excess of the poor, who never pay for medical aid. This class of the population can contribute to increase the number of practitioners, only in so far as the medical assistance yielded them is paid for out of the public purse; but the compensation thus given is so ridiculously insignificant, and the numbers of the poor whom it is expected that each practitioner employed for the purpose shall attend is so absurdly great, that but a small addition can be made to the aggregate number of medical men

upon this score. The inadequacy of the compensation made by the public for attendance on the poor, is one of the most common and loudest complaints of the profession; and I have heard the strongest terms of reproach lavished on the wretched parsimony, which exhausts and impoverishes the medical practitioner, while professing to pay him for his services. I remember being told that the practitioners employed by the government, during the prevalence of the typhous epidemic, which has recently been desolating Ireland, were expected to expend their whole time, and more than all their energies, in visiting the destitute sick over wide tracts of country, for the miserable pittance of five shillings a day; scarcely sufficient to pay for their necessary horse-hire. Why, it may be asked, should they submit to be thus treated? The answer simply is, that, placed as they are in the midst of the perishing poor, they are compelled by the ordinary feelings of humanity to make every possible effort for their relief; and the government, with the spirit of a usurer preying upon the struggles of the unfortunate, speculates upon their benevolence. The consequent exposure and hardships prove extremely destructive to the practitioners thus employed; and I heard one of the most eminent of the physicians of Ireland say, in the most mournful and touching accents, that one-fifteenth of all the medical men of that island had perished in the year 1847, chiefly of typhus fever. The evil is not so great in England; but it is even there universally looked on by the profession as a most crying grievance, a piece of enormous injustice, which the public are called on by every principle of right, and every feeling of humanity, to rectify.

If the whole number of students is small, that of the candidates for the degrees in the universities is incomparably less; and I was astonished to learn that the University of London does not graduate more than ten or eleven annually. I was told that, in all London, there were probably at no time more than

from eight hundred to a thousand students of medicine; and of these but a small proportion is engaged in attendance at the same time upon all branches; so that, divided among the thirteen recognized schools, the average class of each individual teacher must be small. I do not know that it is a legitimate matter of boasting; but the fact is certainly worthy of notice, that, while London, the metropolis of the world, with two millions of inhabitants, has little more than eight hundred medical pupils, Philadelphia, with only one-sixth of the population, counts her thousand or twelve hundred every winter.

It may be expected that I should detail the qualifications deemed essential for admission into the different classes of practitioners respectively; but time is wanting, and I must be content with stating that, in relation to preliminary education, length of study, amount of knowledge, and age of admission, the requisitions for the highest class are much greater than with us, while, for those of a lower grade, they are about the same. Thus, four years of study are demanded by the University of London as preliminary to the degree of Bachelor, six years to that of Doctor of Medicine; the Royal College of Physicians and that of Surgeons require, the former five and the latter four years; and the Apothecaries' Society exacts of every candidate for their license, which constitutes the only legal authority of the general practitioner, besides an apprenticeship of five years with an apothecary, an attendance upon not less than three winter and two summer sessions of lectures.

Notwithstanding these higher requisitions upon paper, were I called on for an opinion as to the relative qualifications of the medical men in England and the United States, though confessedly not possessed of all the means of forming an accurate judgment, I should say, from what I have observed, that, if the higher grades of English physicians are superior in education to ours, the case is reversed in relation to the great mass of practi-

tioners. The main cause of this superiority on our part, admitting it to exist, is probably that the American practitioner reads much more, after the nominal completion of his studies, than the English, of which one of the strongest proofs is the comparatively small editions of medical books sold in England. Their own best works are more read in the United States than at home. My friends in England appeared to be astonished when informed of the number of medical books sold in the United States. Perhaps one cause of this difference may be, that the great body of English practitioners, being apothecaries, have their time too much engrossed by the pursuit of two distinct branches of business to allow much of it to be devoted to further study.

It remains only that I should give a hasty sketch of the organization of the profession in other parts of the United Kingdom. In Ireland, it is almost an exact copy of that existing in England: the same classes of practitioners; the same licensing and graduating authorities; the same system of medical instruction. There are in Ireland, as in England, physicians, surgeons, and apothecaries. Dublin has its King and Queen's College of Physicians, its Royal College of Surgeons, and its Apothecaries' Hall, closely analogous in their constitution and privileges to the corresponding institutions in London. There is also the Dublin University or Trinity College, which confers degrees in medicine; but differs from the English universities in having a completely organized school of medicine connected immediately with it; in this respect, resembling the Scotch universities and our own. But there are numerous other schools in Dublin, private or connected with the hospitals, in which the large classes of the surgeons and apothecaries mostly receive their education; but they neither confer degrees, nor give any license to practise. Most of the students who aim at the medical degree resort, or until recently have resorted, to the Universities of

Edinburgh and Glasgow. I was told that the class of apothecaries or general practitioners are not equal in attainment to the English; as the Dublin Apothecaries' Hall is less rigid in its examinations, and less exacting in its requisitions than the analogous society of London. The two degrees of Bachelor and Doctor of Medicine are conferred by the Dublin University, the former being regarded as a sufficient license to practise, and the latter merely as an honour.

In relation to Scotland, I confess that I have less precise information than of the two other sections of the kingdom. My journey through North Britain was so rapid, and my attention so much engrossed by other objects, that I failed to make full inquiries. But, from what I did see and hear, and from the comparative facility with which the degree of Doctor of Medicine, hitherto, I believe, the only one conferred by the Scottish schools, may be obtained, I have inferred, that physicians, or, in other words, graduates in medicine, are much more numerous proportionably in this than in the southern section of the island, or in Ireland; and that, as with us, they perform all the offices of the profession; some directing a more exclusive attention to the pure practice of medicine, others to surgery, and others again to obstetrics. There is, however, a distinct body of surgeons, who practise under the license of the Edinburgh College of Surgeons, the Glasgow Faculty of Physicians and Surgeons, or some similar institution, without having obtained a degree. I heard of no class precisely analogous to the apothecaries or general practitioners of England.

The bodies having the right to confer the degree of Doctor of Medicine in Scotland, are the Universities of Edinburgh, Glasgow, Aberdeen, and St. Andrews, and the King's College of Aberdeen. Of these, the Universities of Edinburgh, Glasgow, and Aberdeen, have medical schools connected with them, exactly as the University of Pennsylvania. All profess to require

four years of attendance upon medical lectures; and most of the courses of lectures are required to be of six months' duration, which is the case also in the English schools. Besides these graduating institutions, there are three which have the power of licensing; namely, the Royal College of Physicians and the Royal College of Surgeons of Edinburgh, and the Faculty of Physicians and Surgeons of Glasgow. There is a respectable medical school in Glasgow, connected with the institution called commonly, from its founder, the Anderson University, which has not, however, I believe, any legal collegiate powers.

The observations, already incidentally made, will spare me the necessity of speaking further of the general character of the medical profession in the British Islands. Upon the whole, I presume, their relative social standing is equal or superior to that of the profession in any other country in Europe, though inferior to that which is enjoyed in the United States, where, I am proud to say, the medical men as a body maintain a position with the highest, whether we take, as a measure of elevation, extent of attainment, sentiments of honour and of humanity, cultivation of manner, or the respect of the community.

There is, however, one point of which I would speak before I close. I wish to call your attention emphatically to the hospitable qualities of the medical practitioners of the United Kingdom, and especially to their kindly disposition towards their professional brethren in this country. Wherever I went, throughout the islands, it was only requisite that I should be known as a physician from the United States, of ordinary repute at home, to secure me the kindest reception; and the want of time often compelled me to forego hospitalities that were urged upon me. I may be allowed, perhaps, to mention one instance in proof of what I have stated. Arriving towards the close of the day at one of the chief cities of England, I left my own card with another of introduction at the door of a physician of the

place. After dark, he called upon me, stating that he had come immediately after receiving my card ; and, having been told that we should depart on the following morning, insisted upon taking me at once over the town, and showing me as much of it as could be seen by the light of a beautiful moon, which had risen. I agreed to the proposal, and together we wandered through the streets and lanes, and about the walls of the city till it was nearly midnight. In the course of our peregrinations, I observed that remarkable respect was everywhere paid to my companion by the police ; and, before returning to my quarters in the hotel, learned that I had been under the guidance of the mayor of the city. This act of extraordinary courtesy, with others which greatly facilitated my objects in travelling through that section of the country, I shall always bear in very pleasing remembrance.

All of you know of the meeting of the American Medical Association at Baltimore in May last. At that meeting, a delegation was appointed to represent the body in the British Provincial Medical Association which was to assemble at Bath in August. Among others, I myself, being in England at the time, was named upon the delegation ; and, wishing to give effect to the intentions of the Association, I made arrangements, though at the expense of my previous plans, to be present at the meeting. My reception was, beyond all expectation, kindly and respectful. The credentials were read ; resolutions of the most flattering character were passed unanimously ; and the whole meeting rose to greet the messenger of good-will and brotherly sentiments from beyond the Atlantic. I was of course gratified ; I can hardly express how highly gratified ; not so much at the honour done to me, as to my country through me. These expressions and evidences of mutual good-will are of the highest national importance. A reciprocity of kindly feeling can scarcely actuate distinct masses of intelligent men, such as compose the medical profession in England and America, with-

out radiating more or less through their respective communities, and thus serving as a bond of peace and amity between two nations, whose mutual good-will is essential to the prosperity and happiness of both, and which, if united in the prosecution of the great object of human advancement, will exercise the most happy influence over the destinies of the whole earth. Let me urge upon you, gentlemen, to do all that lies in your power, by the cultivation of this friendly spirit towards your British brethren, to further so desirable a consummation.

LECTURE II.

DELIVERED OCTOBER 14TH, 1853.

The Medical Profession on the Continent of Europe.

GENTLEMEN:—

MOST of you are probably aware that I have been spending the season just passed in a tour upon the Continent of Europe. From the relations subsisting between us, you may very reasonably expect from me some fruit of this journey, that may be useful to you in your capacity of students of medicine. You will not, therefore, I trust, ascribe it to presumption on my part, or an overweening disposition to obtrude myself on your notice, if I attempt to answer such an expectation by offering to you some of the observations and reflections, of a medical character, which I have had occasion to make in the course of the journey. Should you discover signs of haste and carelessness in my communication, I must beg of you to remember that it has been prepared in the course of a few days, amidst crowded occupations, and immediately upon returning from a long absence, and to make all due allowances.

You will, I hope, excuse me, if, in the first place, I give you a very brief sketch of my route, so that you may know what have been my opportunities of observation, and thus be able to estimate more accurately than you otherwise could do the value of

my statements and opinions. It is proper to say that I was accompanied throughout the journey by my friend, Professor Franklin Bache, of the Jefferson School, and have consequently had the advantage of an excellent auxiliary judgment, in considering the various facts that came under our joint notice.

Having made a rapid passage to Liverpool, and remained a short time in London, we reached Paris early in May, and, about the middle of the month, left that city for the south of France. Upon our route in this direction, we visited Bordeaux, Montpellier, and Marseilles, and afterwards, entering the dominions of the King of Sardinia, passed through Nice, Genoa, and Turin, and crossed Mont Cenis, then covered at its top with snow, though so late as the seventh of June. I would here incidentally remark that, during almost the whole of our journey, the weather was unusually cool, and at the very time that, here at home, you were scorching with the intensity of the heat, we found fires in the evening necessary to comfort, on the shores of the Mediterranean. I was told at Nice that the coldness of the weather was almost unprecedented at that place. The chief interest of this fact is the evidence it affords, so far as it goes, of a compensating influence in the distribution of terrestrial temperature, by which what is lost by one part of the earth is gained by another; so that the invalid may indulge the hope of escaping an uncongenial season in his own country by a voyage over the ocean, now reduced to a mere trifle, in point either of time or trouble. From Savoy we entered Switzerland, and, having visited Geneva, Berne, Zurich, and other noted towns of that glorious region, crossed the Lake of Constance, and prosecuted our journey through Augsburg, Munich, Saltzburg, etc., to the Austrian capital. From Vienna, where we spent a few busy days, we proceeded northward through Bohemia, Saxony, and Prussia, to the shores of the Baltic, giving, as we passed, a short time to the cities of Prague, Dresden, and Berlin. De

scending the Oder from Stettin, we steamed over the Baltic to Stockholm, visited the famous Upsala, once the capital of Sweden, and long the site of its most famous school, then returned to Stettin, and took a fresh start thence up the Baltic and Gulf of Finland, to St. Petersburg.

An interesting medical fact, in connection with this part of our tour, was that, notwithstanding the existence of quarantine regulations, enforced with extreme strictness, between Sweden and all the ports of the Baltic where cholera was known to have appeared, the disease, nevertheless, entered Stockholm, and had begun to spread with considerable violence before we left the north of Europe. Sweden is, I believe, at present the only country in Europe where quarantine laws are enforced against the disease; as experience has shown that they are altogether futile for any good result, while they prove of great inconvenience to the traveller, and the source of much commercial loss.*

Another medical fact of some interest is the prevalence of a mild form of intermittent fever in the neighbourhood of Stockholm, in the latter part of summer and beginning of autumn. I was much surprised at this; for, though the country is full of lakes and inlets from the sea, and shows upon the map almost as much of water as of land, yet the region is, I believe, wholly granitic, and the latitude is considerably beyond the highest point at which marsh miasmata are usually supposed to be generated.

But to return to my narrative, which was broken in upon by these reminiscences, I will merely further state that, having made a short visit to Moscow, we left Russia, and returned southward through Germany, Holland, and Belgium, to Paris, visiting by the way, among other cities, those of Frankfort-on-the-Main, Cologne, Amsterdam, the Hague, Leyden, Antwerp,

* I have been informed that, since the period of our visit, the quarantine laws, so far as they related to cholera, have been abolished.

and Brussels. From Paris, we came homeward by the route of London and Liverpool, and, after a stormy passage of nearly twelve days, reached New York on the second instant, rejoiced once again to be in our own land, which all that we had seen abroad had but taught us to love and esteem the more.

During the journey, of which I have thus given a very brief sketch, we availed ourselves of every offered opportunity of examining the medical schools and hospitals, and making ourselves acquainted with the state of the profession in the several countries visited. I owe it to the medical men whom we met to state that, almost without exception, they treated us with courtesy and even kindness, and took apparent pleasure in facilitating our inquiries.

The great rapidity of our progress, and the numerous objects of interest unconnected with medicine, which met us at every step, and required a portion of our attention, precluded a minute investigation; and it is, therefore, general views rather than detailed statement, or elaborate description, which I have to offer. Fortunately this corresponds with the requisitions of the present occasion, wherein time is not allowed, and attention could scarcely be commanded for minute and copious details.

In a former address to the medical class, which they did me the honour to publish, I presented some views of the state of the medical profession in Great Britain, which render further reference to that subject unnecessary now. The observations I am at present about to make will relate to the continent, and to that portion of it only through which our route lay; the Spanish, Italian, and Grecian Peninsulas, and the European dominions of the Sultan, not being included.

The first and most important element in the consideration of the subject is *medical education*. No course of argument is required to show that this must lie at the foundation of the professional character in every country; and that, according as it

is well or ill conducted, and to the special manner in which it is conducted, must, in great measure, be the condition of the profession itself, in regard not only to its general efficiency and repute, but also to its peculiar and characteristic traits.

Throughout all those parts of Europe referred to, medical education is carried on essentially in the schools. These are never, so far as I had the opportunity of noticing, independent establishments, like many existing in our own country, but are always connected with some great general school or university, from which the honours emanate, after compliance on the part of the candidate with certain regulations, among which the most important are a particular duration of study, and examinations at fixed and frequently recurring periods.

The laws of the country have an important bearing upon medical education. In general, no person is allowed to practise, who has not obtained a license or degree from a university or other analogous institution. This gives great authority to the schools, enabling them to make and enforce regulations, and exact an amount of attainment on the part of the candidate, which they could do in no other way so efficiently. Even with this advantage, however, they do not always succeed in making good and accomplished practitioners. Competition, so useful when properly restrained and regulated, becomes here, as in almost everything else, when left to an unrestricted course, the cause of some evils. In the large states, where one will, whether that of a despot or of a constitutional authority, controls all things relating to education, it is comparatively easy to proportion the number and extent of the schools to the wants of the community; but the case is far otherwise when many small independent governments exist, each with the power to establish as many schools as it may see fit, but often not possessed of the resources and materials requisite for the support of one. In instances of this kind, the school must depend for

its success upon a reputation extended beyond the limits of the state in which it has been established, and upon the inducements it can offer to students from all quarters. Now, such is the condition of things in Germany, where a large number of small sovereignties exist, each ambitious to distinguish itself by its scholastic institutions, and greedy of the advantages of various kinds which these institutions, when successful, yield to them. So far as the competition is limited to the earning of a reputation for efficiency of system, or excellence of instruction, it is productive only of good; but, unfortunately, all cannot win for themselves such a position, nor, having gained it through the extraordinary efforts of gifted men, can they retain it when no longer supported by the same talent and energy. Under these circumstances, the temptation is sometimes irresistible to compensate for deficiency of merit by a reduction of the standard of qualification, and, if the enterprising and highly gifted cannot be attracted, at least to secure the economical advantages by filling the rooms with materials of a lower order, and sending forth into the world, with the stamp of the school, unqualified men, who are more able or willing to pay for their honours than to earn them. I was informed, in Russia, that throngs of the inferior graduates of some of the German schools make their way into that country, and that it had become necessary there, though, from the vast extent and population of the empire, there is an almost unlimited field for the exercise of competent medical abilities, to guard the public against this sort of regular charlatanism, by a rigid system of examinations, to which every one must submit, before he can be permitted to practise.

The long duration of the term of study in the European schools is one of their important characteristics. So far as my information extends, this varies from four to six years, being in no instance shorter than the former of those periods, which, as all of you know, is one year longer than the longest with us.

This is certainly an advantage which they possess over us; and it might be inferred, with apparent reason, that, supposing the capacity and industry to be equal, the result must be a great superiority of professional qualification in the European graduate. Yet, when examined in all its bearings, the longer period will not be found to possess all the practical advantages which, on a superficial view, might be ascribed to it. The system of instruction in the schools of Europe embraces, not only the studies having a close and essential connection with medicine, but also various accessory sciences, which, though creditable accomplishments, and to a certain extent useful to the physician, have little or no direct influence either in improving our knowledge of disease, or rendering us better able to treat it successfully. The various branches of natural history, included under the titles of mineralogy, botany, and zoology, are of this kind. The excess of the European period of pupilage over ours is, in a considerable degree, occupied with such studies as these; and thus the real difference, so far as concerns strict medical science, is less than at first sight it might seem to be. Upon the whole, probably, the tendency of the European plan in this respect is to produce graduates of higher scientific attainments, and probably of more thorough anatomico-pathological knowledge than ours, but little, if at all, superior as practical physicians.

Another highly important feature of the European system is the succession of studies, with periodical examinations. The whole period of instruction is divided into annual or semi-annual terms, to each of which are ascribed certain branches of study; and, before advancing from one of these terms to the next, it is required that the pupil should submit to an examination as a test of his proficiency. This is clearly the proper method of teaching. The pupil begins at the foundation, and regularly proceeds with the structure of knowledge, until the whole original design is completed. He does not, as is too fre-

quently the case with us, attempt to carry on all parts of the edifice at the same time, or, as we sometimes do, begin at the top and build downwards. The study is thus rendered at once more easy and more fruitful. In the United States we pursue to a certain extent the same plan, when the student resides for the whole period of instruction in the near vicinity of the schools. But coming, as most of you do, from a distance, and spending but the half of each year in the schools, it would not be practicable to carry the plan into full effect, unless by a prolongation of study, and amount of pecuniary outlay, which would be extremely inconvenient, and for many next to impossible. In a considerable degree, this inconvenience may be obviated by the system of private office instruction established in this country, by means of which the pupil may be carried through a regular course of studies and examinations upon the elementary branches in their due succession, and may thus come to the lectures, prepared to understand and avail himself of what he may hear upon all the branches. It is true that this, even when well carried out, is but a partial substitute for the plan of regular and successive attendance upon public instruction from the beginning; but it is the best that can be adopted for the great mass in the circumstances of our country; and it is very important that private teachers everywhere should feel themselves under a conscientious obligation to give it full effect, by a proper guidance of the studies of their pupils, and frequent and thorough investigations into their proficiency.

Still another characteristic of the European schools is the importance attached to clinical instruction. Instead of being, as with us, a subordinate and, as it were, incidental branch, generally more or less defective, and sometimes altogether neglected, it is there recognized as indispensable, and, indeed, constitutes one of the most prominent features in the system of the schools. On this account, hospitals are considered as essential acces-

series; and in all Europe I did not see a single medical school, which had not one or more of these establishments associated with it. In some instances, indeed, the hospital is the chief part of the school, and the only practical lectures given, whether in medicine or surgery, are within its walls. In general, however, it is subordinate, and made by legal arrangements dependent on the scholastic institution. I need not dwell on the vast advantages of this method of teaching medicine. The importance of demonstration in lectures upon all medical subjects is now almost universally admitted. It is the main point in which a system of oral instruction is superior to one of mere private reading or study; and surely no mode of demonstrating disease is so effective as that of exhibiting the patient himself in all the different phases of his disorder, and in all the modifications of his condition produced by treatment. Every method of demonstration is more or less useful; and hence, what have been erroneously called school-clinics, which have for some years past been in such great favour in this country, are not without their advantages. But it would be a great mistake to consider them as sufficient substitutes for hospital instruction. It is impossible by means of them, to demonstrate satisfactorily severe acute affections, the regular progress of disease from beginning to end, or the morbid anatomy of cases terminating in death. It is mainly in consequence of the number and easy accessibility of the hospitals, that Paris has gained its present enviable position as the great world-centre of medical instruction. In other respects, I could not discover that the student enjoyed better opportunities there than are offered to him in Philadelphia. In Paris, the hospitals not only serve the purpose of medical and surgical demonstration, but afford also extraordinary facilities for the prosecution of practical anatomy, both normal and pathological. There were few things in that magnificent city which more struck and interested me than the establishment denomi-

nated "The Amphitheatre of the Hospitals." It consists of buildings admirably arranged for the purposes of *post-mortem* examination and anatomical dissection, whither are brought all the unclaimed dead bodies from all the hospitals of the city, preparatory to interment. Students, who have been regularly enrolled in the "School of Medicine," have the privilege of gratuitous admission to these rooms, where to every class of five one body is given every ten days, as I was informed; thus affording them ample opportunities not only for pathological investigation and for dissection, but also for surgical improvement by the frequent performance of operations on the dead subject. So complete are all the arrangements, that a small plot of ground, in the immediate neighbourhood of the dissecting apartments, has been planted with trees, and furnished with seats; so that in the summer, the student, when tired of his work, may seat himself under the shade, in the cool air, and, while enjoying his rest, may add the luxury of a cigar, if it please him. Imagine him to yourselves leaning backward in one chair, with his legs, *more Americano*, stretched out upon another, and, as he puffs forth the smoke from the corner of his mouth, watching its curling ascent with a placid air, that speaks volumes of interior contentment. I think, gentlemen, if you ever visit Paris for the purpose of professional improvement, you will not overlook the Amphitheatre of the Hospitals.

I will take my leave of the subject of the hospitals for the present, by remarking that it is impossible to value them too highly as auxiliaries to a course of medical instruction; and what we most need in this country is a more thorough union, or at least a more hearty and full co-operation of these institutions with the schools.

The plan of private medical tuition in vogue throughout the Union has a tendency, in some degree, to supply the want of hospital opportunities. The student in the intervals between the

courses of public instruction, may often see and even manage cases of disease under the guidance and oversight of his preceptor, and, if both perform their parts diligently and conscientiously, may gain much in the way of practical experience; though an impartial judgment will still pronounce in favour of the hospitals, where disease may be seen in much greater variety than is possible in the practice of any one man, and where, besides, the pupil has generally the advantage of instruction from men of experience, trained in the art of communicating knowledge by the bedside.

I have before referred to the successive examinations in the European schools, each examination being as it were a sentinel placed at the door of admission into the several higher grades of study, and guarding them against intrusion from the incompetent pupil. I cannot, however, help believing that these examinations are in many instances not very strict, and are employed rather as implements of terror to alarm the idle or careless, than as real and effective tests of attainment. The same, however, cannot be justly said, as a general rule, of the final examination which is to determine the fitness of the candidate for the license of the doctorate. This is usually performed in public, and invested with formalities which may even sometimes impress upon it a character of solemnity. In most of the schools we visited, a large apartment is appropriated to this special purpose, and is generally more elaborately furnished than any other public room in the building. Not unfrequently its walls are hung with portraits of the deceased professors, perhaps from the origin of the school, who may be supposed to be looking down on the proceedings, prepared to frown upon any dereliction of duty, that may tend to lower the dignity of the school which they had founded or adorned. I remember well, at Leyden, having my attention especially engaged by the portrait of the famous Boerhaave, which hung with many others upon the wall, and both to my-

self and my companion recalled strongly the features of our great Franklin. In the medical school at St. Petersburg, I was much pleased with a method which had been adopted to stimulate the student to extraordinary efforts. In the hall of examination, which is a magnificent apartment, a large marble tablet has been set into the wall, in a conspicuous place, with the names, graven in gilt letters, of those candidates who had most distinguished themselves from the foundation of the school. There was generally one name for each year; but in some years there were two, and in one at least none at all.

Much importance is attached, in Europe, to the examinations. They are almost exclusively relied on as the test of fitness. The student, after having inscribed his name upon the catalogue of the school, is left to his own course. He may attend what lectures he pleases, or none at all; but he must, in some way or another, qualify himself for answering the interrogatories that may be put to him, whether in the preparatory or the final investigation. This, I think, is a defect. A certain amount and character of attendance upon the means of instruction provided should always be required, without which, admission to the examinations should be refused. These are not always reliable criteria. The student may be fortuitously examined on points with which he may happen to be familiar, though generally ignorant; or he may be drilled by persons who have made themselves acquainted with the routine of questions into which the several examiners are apt to fall, and may thus be enabled to answer tolerably with little real knowledge; or, finally, the examiners may, from various interested motives, contrive that the candidates shall be successful, however incompetent. If attendance upon lectures be exacted preliminarily to the examination, the student will at least have been in the way of acquiring knowledge; and some additional guarantee of fitness is thus obtained.

In some, if not in most of the schools, besides a series of questions to be answered, and a theme to be written on, a patient is put before the candidate, who is required to investigate the case, to make a diagnosis, and to indicate the proper treatment. Clinical observation and experience are absolutely necessary here to enable the candidate to acquit himself satisfactorily.

In consequence of the successively advancing steps of instruction in European schools, and the long duration of the whole course, it happens that the classes of any one teacher are seldom large, probably never so large as they often are in some of the most successful schools in our own country. I do not think I heard of one instance, in which the class exceeded three hundred in attendance at the same time on one professor; and this number is very rare. Much more frequently it is less than one hundred, even in the flourishing schools, where the whole number of matriculants may be not less than five or six hundred; and I think I have heard of classes consisting of not more than one or two listeners. As the pupil is not bound to attend particular lectures, he makes a choice among several, and, of course, the most popular professors command the largest attendance. It is not always the man of highest scientific reputation who has the greatest talent of teaching; and, not unfrequently, they with whose names the world resounds are compelled to address their great thoughts to empty benches.

The number of professors is usually large, sometimes a dozen or more, and the subjects to be taught are consequently much subdivided. This is another reason for the frequently slender attendance on the lectures.

The lecture-rooms are generally small, and poorly furnished, even in the most celebrated schools. In the great school of medicine at Paris, the seats of the chief lecture-room are little more than an ascending series of narrow steps, arranged amphitheatrically, from the floor upwards, and I have no doubt are each

day trodden by many feet, before they are occupied in the legitimate mode by their ultimate possessors; and, in the largest room I saw at the University of Berlin, the seats of the audience were all placed upon the floor, and on the same level with that of the lecturer.

Another remark I made in relation to the lecture-rooms was, that the benches frequently exhibited evidence of the use of the knife, showing that the whittling propensity is not exclusively American; but I do not remember ever to have noticed an adornment of the floors so common in our country, arising from the use of tobacco; this luxury being enjoyed in Europe much more in the way of smoking than of chewing.

I was, I confess, surprised at the moderate scale upon which the lecture-rooms of the European schools were planned, in reference both to size and arrangements. On all the continent, I did not meet with an apartment of the kind comparable to that in which I am now speaking, however moderate it may seem to you.

In all the schools we visited, the professors receive fixed salaries from the government. In some, as in those of Paris and St. Petersburg, these salaries constitute the whole emolument of the professors, as such; in others, as that of Berlin, there is an additional income from the students, which is proportionate to the popularity of the lectures. The latter appears to me the best plan of compensation. The professor is secured against absolute want by the fixed salary, which is, however, too small for his comfortable support, so that he is stimulated to exertion in order to supply the deficiency; and this exertion is beneficial to the pupil and the school, as well as to himself. I met with no instance in which, as with us, the whole compensation of the teacher was derived from the students.

There is probably nothing in which Europe appears to greater advantage than in the number and character of the hospitals.

This is one of the great triumphs of Christianity, and in itself an evidence of the superiority of our holy religion over every other faith that now prevails, or ever has prevailed upon the earth; I may say, moreover, a strong argument in favour of its divine origin; for it seems to have been a conception above the weakness and selfishness of the natural man, that society owed a debt to the poor and the helpless; and that, instead of treading the feeble under foot, in the headlong rush of our passions and interests, we are bound to halt in our course, and, at the sacrifice of our own pleasures, to support the weak, to heal the sick and wounded, and "bind up the broken-hearted." Every large city, and very frequently, also, towns of little importance, are supplied with one or more hospitals, many of which are on a magnificent scale, and conducted in the most admirable manner. Those of Paris, Vienna, and St. Petersburg more especially engaged our attention. If I were called on to decide the question of precedence between these hospitals, I should be inclined to say that those of Paris and Vienna accommodate the greatest number of patients, while those of St. Petersburg are superior in the style of the buildings, and in their interior arrangements. Two of the hospitals of that great city are peculiarly worthy of notice, that of St. Peter and St. Paul, and the General Military Hospital; the former of which is exclusively civil, and the latter, as its name implies, exclusively destined for the army. The Military Hospital is a vast structure of brick, stuccoed, and is completely fire-proof from within and without. That of St. Peter and St. Paul is provided, in addition to all the usual conveniences, with a broad hall of great length, into which the wards open, which is kept perfectly warm in the winter, and intended for a place of exercise for the convalescents, who are precluded from exposure to the open air, in consequence of the intense coldness of the weather. A peculiarity of both these hospitals is the connection with them of a

slighter building or buildings, admitting of a freer entrance and circulation of the external air, into which the patients are transferred during the hottest weather of summer. Throughout the interior of both, the greatest attention is paid to neatness, cleanliness, and the comforts of the inmates; and, from what I witnessed of the ordinary condition of the lowest orders of the Russian population, I should suppose that they would deem admission into one of these establishments as a foretaste of Paradise. Yet I owe it to my own country to say that, in all Europe, though there were many institutions vastly larger, I saw none which, in the propriety, neatness, and I might almost say elegance of its interior, surpassed our own Pennsylvania Hospital.

Having heard what I had to tell you on the subject of medical education, and the medical institutions of Europe, which might readily have been expanded into a volume had time permitted, you may perhaps expect to hear something upon the character and condition of the profession itself. It would be quite presumptuous in me, with the comparatively slender opportunities which a rapid journey through the continent afforded me, to attempt to give you any very precise or positive information on the subject. I may, however, be permitted to state, in a few words, the general impressions I have received.

In the first place, it cannot be doubted that the great mass of the physicians and surgeons of the continent consists of men well educated, both professionally and otherwise. In both these respects, they are probably superior, on the whole, to the medical men of our own country. But I must repeat what has been already said, that I do not consider them better practitioners. In Europe, value is attached to science for itself alone, independently of any practical benefit to accrue from it to mankind. This is true of medical science as well as of general knowledge. In this country, on the contrary, we seek especially what is

practically useful, and that of which the utility can be readily appreciated. We are apt to neglect those kinds of knowledge which cannot be brought to bear upon the great end of life, that of success in the business or profession we may have chosen, and give the time, which these would consume in their acquisition, to the means of fitting ourselves quickly for entering upon our practical career, and afterwards of pushing our fortunes in that career as rapidly as possible. This being the general feeling, and general practice, individuals who might be disposed otherwise, did circumstances permit, are compelled to give way to the current. They who amuse themselves with the refinements of knowledge, and consume time in storing up facts of no present value, will find the paths to success preoccupied by the more energetic and practical. In the vast competition, and eager haste towards their objects, which characterize the people of this country, the votary of pure science, if not independent in his circumstances, will feel himself jostled in every direction, and in danger of being thrown off by the wayside, if not trodden under foot. The remark is not less applicable to the medical than to any other profession or pursuit. Hence it is that the American physician is the more practical, the European the more scientific. The latter understands better the intimate nature of structure, and the changes produced by pathological influences, and is probably better acquainted with, or at any rate studies more profoundly the laws of our physical being as exemplified both in health and disease; but, devoted as he has been to these investigations, he gives less attention to therapeutics, is apt to be skeptical in everything which rests upon testimony, and turns out a comparatively inefficient practitioner. The American, on the contrary, is apt to cast a careless eye upon the obscure depths where he can see no bottom, passes unheeding by the curious and beautiful results of minute investigation, which, whatever may hereafter be the case, have yet, as he is disposed to

think, yielded no practical fruits, and devotes himself to those inquiries by which he can most surely make the sick man well, and thereby at once satisfy his conscience and benevolence, and secure that good-will and favourable opinion upon which he hopes to build his fortunes. In making this contrast, I wish to be understood as by no means exclusive. There are a great many exceptions on both continents to the general rule, and not a few instances in which it is reversed. But I believe there really does exist a general difference, such as I have stated, between the medical profession of continental Europe and that of America; the former having a greater predilection for the abstractions of science, the latter for the practical realities of life, and both exhibiting the results of this predilection in their whole professional course.

There is another circumstance which, I think, tends to make the American physician, other things being equal, a better practitioner than the European. In his eagerness for success, the former is seldom content with what he learns in the schools, but, throughout his whole active life, prosecutes his studies in a therapeutical direction, and reads diligently everything upon which he can lay his hands having such a bearing; being impelled thereto not only by his sense of right, but by the absolute necessity of not permitting his neighbour to outstrip him in the race. The European, on the contrary, is apt to content himself with what he has learned, and makes little comparative effort for self-improvement, because he finds all things around him moving in fixed courses; so that, if young, he may await quietly the movement which is to advance him; if old and established, may rely with confidence upon the steady order that retains all in their due places. Whatever may be thought of the theory in this case, the fact is as I have stated. It is proved, I think, beyond reasonable doubt, by the vast difference in the sale of medical books on the two continents. While in France, or Ger-

many, a meritorious medical work may sell at the rate of from five hundred to one thousand copies annually; in the United States, though with less than two-thirds of the population of either of those countries, the sale of a similar work, in the same time, will amount to two or three thousand.

In their social relations, I do not think that the members of our profession stand so high relatively on the continent as the higher ranks of the physicians and surgeons do in England; and certainly we have the advantage over them in this respect in the United States. In France, until a comparatively recent date, physicians were upon a footing in general society by no means favourable; and, though the profession has, during the present century, been illustrated by many great men, who have much elevated their calling in the eyes of the community, yet practitioners of a high grade in Paris still eschew their distinctive title, and use upon their cards the same mode of designation as other men.

Among the Germans, great scientific reputation, or the professorial office, gives a respectable position to medical men as to all others; but I am inclined to think that in itself the profession is not specially honoured, though I confess that my means of information on this point were limited.

Upon the whole, it appeared to me that the medical profession in Russia, confining the term to the educated class exclusively, were upon a better social footing than in any other country of continental Europe. This opinion derives much support from one interesting fact, which is true of no other country, not even our own, where we claim social equality with the highest. In the army, which is the most honourable body in Russia, giving increased dignity to the nobles, and raising its officers, even those of humble birth, to a level with nobility, the surgeons have the same rights as the other officers, rising like them through successive grades of rank to the highest, with corresponding emolu-

ment. Thus, I knew in St. Petersburg a surgeon of one of the regiments of the guards, who, though yet a young man, had the rank of colonel; and Sir James Wylie, who is medical inspector-general in the army, has the grade of general in the third degree, which, I believe, is equivalent to that of lieutenant-general in the British service.

As another evidence of the position of the profession in Russia, I would adduce the fact, that great attention has been paid by the government to the subject of medical education. Not less than seven schools have been established by law in different parts of the empire, all of which are mainly, if not exclusively, supported by funds from the imperial treasury. Of these schools I had the opportunity of seeing only that of St. Petersburg; but, if the others are to be judged by that example, there is assuredly no part of Europe, where more munificent provision has been made for the education of those to whom the health of the community is intrusted. The Imperial Medico-Chirurgical Academy of St. Petersburg, as this establishment is officially designated, far exceeds in its visible arrangements any other medical school that I have seen. Time is not left us for a detailed account of this school; but a few words will serve to give you some idea of its character, and consequently of the liberal views of its founders and supporters in regard to our science. An oblong plot of ground, within the limits of the city, having a large front on the river Neva, and extending, I presume, more than half a mile in depth, is devoted to the purposes of the institution. Within these limits are several large buildings, two of which especially are magnificent in extent and proportion. In one of these, two vast wings are devoted to the accommodation of three hundred young men with gratuitous lodging and boarding; while the central portion is mainly occupied with one great hall, beautifully finished, which is appropriated to the purposes of a library, of public examinations, and of ceremonial observances in con-

nection with the school; and opening into it is a neat chapel for the religious services of the establishment. This edifice has its front on one of the longer sides of the oblong plot of ground before referred to. The second great building, scarcely less magnificent, presents a beautiful front on the Neva, and forms one of the most prominent objects in the view of this part of the city. It is occupied by the lecture-rooms, and the various illustrative cabinets or collections of the different professors, some of which are copious, and all finely displayed in consequence of the ample space allotted them. A separate building is appropriated to dissections; and there are on the ground several low, isolated, wooden houses, which are employed for lodging-rooms, during the summer, of such of the students as do not take advantage of the vacation to scatter themselves over the country.

Besides all these appliances, there is a very large hospital, situated on the opposite side of the grounds to the edifice first described, the patients in which, numbering more than a thousand, are at the disposal of the professors of the school for the purposes of clinical illustration in medicine, surgery, and obstetrics.

In addition to the three hundred pupils supported and educated within the walls of the establishment, four hundred others, who live in various parts of the city, have gratuitous access to the courses of instruction, and are admitted to all the advantages and honours of the school. The only prerequisites to admission are that the applicant should be a freeman, and should prove himself, on examination, to have had a sufficient preliminary education.

The examinations, I was told, are strict; and, of the seven hundred pupils in various stages of instruction, only about sixty or seventy graduate annually. The Emperor, who has educated them, considers himself entitled to their services; and, after completing their course of study, they enter the army in

their medical capacity. This, however, instead of being a hardship, is a privilege; placing them at once in a respectable position, and opening a field of indefinite advancement for the future.

After this favourable view of the medical profession in Russia, I should be guilty of injustice did I not call your attention to a great man still living, though in the extreme of old age, to whom much of the good that I have referred to, with a great deal more that I have been unable to notice, is to be ascribed. This man is Sir James Wylie, of St. Petersburg. All the medical men with whom I conversed upon the subject in Russia united in the statement, that the profession in that country owed almost everything to him. Withdrawn from active life, though still holding some of the highest official dignities, he is looked on as a man of the past, and spoken of almost with the impartiality of history. We were happy enough to form his acquaintance, and to receive various kindnesses at his hands. A word from him was sufficient to open the door to us of all that it was desirable to see in Russia; and our very limited time in that country would have been much less profitably employed had it not been for his friendly aid. Perhaps it is the grateful recollection of his kindness that in some degree prompts me to speak of him on this occasion; but a stronger inducement is that I may bring before you the example of one who, by his own merits, has risen from an humble beginning to the summit of wealth and honour, and thus stimulate you, now in the very opening of your career, to take the steps which he took under the same circumstances, and without which he could never have risen, and no one can rise to eminence.

Sir James Wylie was the son of a farmer in Scotland in very moderate circumstances. He managed, I know not with what aid, to obtain a good education, and to complete a course of medical studies in the University of Edinburgh, the honours of which school were conferred upon him when he was about

twenty-one years of age. Immediately afterwards, in the spirit of bold adventure, he sailed for Russia, with nothing to depend upon but his own merits, and a determination to use every honourable effort to advance himself in the new field he was about to enter. He had been extremely diligent in his studies, had employed his time to the greatest possible advantage, and now went forth confident in himself, and prepared to seize upon and make the most of any offered opportunity. As one of my colleagues* said, the other day, in his elegant and truthful sketch of our common friend, the late Dr. Horner,† such opportunities come to all men, and the great point is to be prepared to take advantage of them. They will come to you, my friends; and whether you shall avail yourselves of them, and, like the two men referred to, rise to usefulness, fortune, and eminence, or shall let them pass unimproved, and consequently remain in mediocrity all your lives, or sink into utter insignificance, will in great measure depend upon the course you may now adopt. Resist, like them, the seductions of idleness and of pleasure; employ all your time sedulously, with a due attention to the preservation of health, in the acquisition of professional knowledge; avail yourselves to the utmost of the advantages now offered to you; and, having obtained the honours of the school to which you may belong, persevere in the same course of self-denial, industry, and energetic use of opportunities; and depend upon it, should your health and lives be spared, though you may not become, like one of these exemplars, professor of anatomy in this school, or like the other the friend and counsellor of emperors, and the acknowledged head of the medical profession in a great country, you will, each in the sphere of his action, attain

* Dr. Samuel Jackson, now Emeritus Professor of the Institutes in the University.

† Dr. Wm. E. Horner, late Professor of Anatomy in the University.

an equally desirable position, with the added consciousness that you have performed your parts well in the world, and the reasonable hope that a happy future may await you when called upon to leave it.

Upon his arrival in St. Petersburg, Dr. Wyle found a field of action adapted to his attainments and powers. Having entered the army, he soon distinguished himself both as a physician and surgeon, and at the end of nine years was employed in both these capacities in the imperial family, being especially attached to the person of the Grand Duke Alexander, then a young man of about twenty-two, whose friendship and entire confidence he won, and continued to enjoy after he had become emperor, and throughout the life of that distinguished ruler. Thus favoured, he advanced rapidly to the highest medical posts in the army, and was intrusted at various times with most important functions in reference to the medical concerns of the empire. He was present at most of the great battles fought in that tremendous struggle which ended in the first overthrow of Napoleon; and, after the entrance of the allies into Leipsic, had under his care at one time, as he himself assured me, 40,000 wounded, as well of the French as of the allies, the former having been left on the field of battle by Napoleon. It would be impossible, in the brief space allowed me, even to enumerate all the military engagements in which he participated from 1793, when simply surgeon of a regiment, up to 1828, when he attended the army in the campaign against Turkey in the highest medical capacity. Probably no man living has had under his professional care one-quarter of the number of wounded, whom it has been Sir James Wylie's lot to superintend.

The confidence reposed in him by the Emperor Alexander, who consulted him on all occasions, enabled him to carry into effect the most important measures for the amelioration and improvement of the medical institutions, and in general of all

that concerned the subject of health, whether in the army or the empire at large. He held the high posts of inspector-general of the health of the armies, director of the medical department of the ministry of war, president of the medical council of the same ministry, and president of the Imperial Medico-Chirurgical Academies of St. Petersburg and of Moscow. Through these positions he could bring his plans to bear upon every department of his profession; and it is reasonable to suppose that the present excellent position of the medical officers of the army, the general regulations of the medical military service, the very satisfactory condition and arrangement of the hospitals, and the superior character of medical education as conducted in the schools, have all owed much to his sound judgment, enlarged views, and almost unexampled opportunities. In his anxiety to produce regularity in the pharmacy of the army and the hospitals, he prepared a copious pharmacopœia, composed in the Latin language, which has gone through several editions, and is, I presume, of legal authority in the empire.

Sir James Wylie never relinquished his rights or allegiance as a British subject, and, consequently, notwithstanding his numerous offices and great influence in Russia, never became a subject of the Emperor. He could not, therefore, receive a Russian title of nobility, which, under other circumstances, would undoubtedly have been at his command. But on the occasion of the visit of Alexander to England, George the Fourth, then Prince Regent, at the request of the Emperor, conferred on him the rank of Baronet, whence he derives the title by which he is generally known. Honorary presents and orders have been showered upon him, not only by the Russian Emperors, but by various other sovereigns; and, if I do not mistake, he received from Napoleon the insignia of the Legion of Honour, in consequence of his attentions to the wounded French soldiers that fell under his care.

Sir James was never married. His fortune is immense; and, as I was told in St. Petersburg, he has made his will, leaving it mainly to the Emperor, having, as he says, derived it from the favour of the imperial family.* To the members of this family he appears to have the attachment of a friend; and he spoke with a faltering voice, and tears in his eyes, of the recent decease of the Grand Duke Michael, the brother of the present Emperor, with whom he seems to have been upon terms of affectionate intimacy.

The greatest merit of Sir James, in my eyes, is the conscientiousness with which he directed the influence he possessed with the Emperor to the elevation of his profession in dignity and usefulness, and to the general good of the country in which he had taken up his abode. On this account, much more than for his wealth and honours, he is held at present in the very highest estimation; and on this basis will rest his fame with posterity, who will appreciate in their own advantages the good he has done, while they will care nothing for mere personal possessions or endowments, which will have perished with the owner.

In this point, also, my friends, I could wish you to imitate the example that I have placed before you. Do not live solely for yourselves. Do not seek wealth, station, influence, merely for your own personal gratification; but consider them as means for doing good, for spreading benefits around you, and for making an impression on the world, which, when you are gone to your rewards, will cause grateful recollections to cluster about your memory, and your example to be held up to the young for imitation in all future time. Especially forget not your noble profession, and so act and so live as to increase its respectability

* Sir James died not a great while after our visit, and is said to have bequeathed his fortune, as it was presumed that he would do, mainly to the Emperor Nicholas.

and real worth, and thus render it an instrument of greater and greater good, not only to those who may enrol themselves in its ranks, but to the whole human family.

If I have been able to derive, from my recent journey, any facts or considerations that may be useful to you now as students, or hereafter as practitioners of medicine, and if I have in any degree succeeded, according to my wishes, in placing these facts and considerations effectively before you, I shall consider the result as a great addition to the gratifications of the journey itself. Allow me to take an affectionate leave of you for the present, with the expression of the sincere hope that, in all our future meetings, we may co-operate cordially to the great end of our labours here, that of fitting you to become accomplished physicians, an honour to the school in which you will have been educated, and a source of unalloyed good to those among whom your lot may hereafter be cast.

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ADDRESSES
TO
THE MEDICAL GRADUATES
OF THE
UNIVERSITY OF PENNSYLVANIA.

ADDRESSES

THE MEDICAL CHAIRS

OF THE UNIVERSITY OF TORONTO

ADDRESSES
TO
THE MEDICAL GRADUATES.

Prefatory Remarks.

MOST of my readers, I presume, are familiar with the fact that, in the University of Pennsylvania, which has been followed in this respect by most of the other medical schools, an address is delivered by one of the professors, at the time of the commencement, to the graduating class. The three following addresses had their origin in this rule. The first, prepared at the special request of the Medical Faculty, is occupied chiefly with an account of the history and character of the medical department of the University.* In the others, my aim was to impart lessons to the young men, which might be useful in their professional life. It may, perhaps, be thought by some that the expressions in rela-

* It was long after the delivery of this address that Dr. Jos. Carson, now Professor of Materia Medica in the University, prepared and published his elaborate history of the Medical Department of the School. To that work I have pleasure in directing the attention of any reader who may desire to inquire further into the subject. For fulness and accuracy of detail, it is all that can be desired.—
Note to the second edition, Feb. 1872.

tion to quackery, employed in these addresses, and in some of the preceding lectures, are unnecessarily strong; but they convey my real sentiments; and it must be remembered that they were addressed to students, or recent graduates, with the view, not of exciting hostility against irregular practitioners individually, but of guarding the young men themselves against the possibility of falling into an empirical course, by placing its degradation in true and strong colours before them. I have always, too, endeavoured to make a distinction between the irregular practitioners who have a more or less full faith in what they profess, and those who act against better knowledge, with the sole view of making money, no matter at what cost to those whom they deceive. Any self-appropriation, therefore, of language referring to the latter set of practitioners, must be received as a confession of membership in the class; and I presume that there are few honest persons, of any profession, who would not admit the justice of the severest possible expressions of censure in such a case.

ADDRESS I.

DELIVERED AT THE MEDICAL COMMENCEMENT, HELD MARCH 26TH, 1836.

Sketch of the History of the Medical Department of the University of Pennsylvania.

GENTLEMEN :—

IT is by the appointment of the Medical Faculty of the University, that I now have the honour of addressing you. I should be proud, on any occasion, of acting as their representative; I am peculiarly so on the present, when the object is to welcome your entrance into the ranks of our profession. Allow me, on behalf of my colleagues, as well as for myself, to express a cordial sympathy with you in this most important era of your lives. We participate in the satisfaction of your retrospective view; in the delight of your present relaxation from toil and anxiety; in the buoyant gladness of your new independence; in the lofty aspiration, the hope, the confidence, the joy of your eager glance into the future. We have the whole picture of your emotions indelibly traced upon our memory. In our sympathy with you, we live over again one of the happiest and most exciting moments of our own existence. Our congratulations, therefore, are not the mere expressions of cold formality; they are the overflowings of a real participation in your feelings, and of a sincere interest in your welfare.

It is true that the relations which we have hitherto borne towards each other are dissolved. You have grown in knowledge beyond the need of our assistance, and are about to take your flight into the world of action, each trusting to his own strength, and selecting his own course, in the broad expanse before him. But, though we can aid you no longer, our earnest wishes for your true good will follow you always. One parting word of counsel, dictated by these wishes, will be received in the same spirit of kindness in which it is given. Let it enter deeply into your convictions, that your success in life will depend mainly on yourselves. Trust nothing to fortune, or to the fancied advantages of your position. Labour diligently, in your intervals of leisure, to render yourselves more competent to the performance of your professional duties; guard your sentiments and conduct so as to command the respect of honourable men; and endeavour to cultivate such an exterior deportment, as may render your presence not unacceptable to those into whose society you may be thrown. Thus accomplished, if you watch diligently the current of affairs, neither imprudently rushing into the midst of adverse events, nor allowing any favourable opportunity for honourable action to pass unimproved, you will as certainly prosper in the world, as the seed, sown in a good soil, and nurtured with due care, will spring up and ripen into harvest. The moral world is governed by laws not less uniform in their operation than those which regulate the physical. Much less is justly ascribable to accident than men are usually disposed to imagine. The successful often feel a pleasure in considering themselves the favourites of fortune; while the unsuccessful are always willing to shift off from their own folly or carelessness the responsibility of their failure. But there are few men so purely fortunate as to be unable to point to some prudent forethought, or wise decision, or prompt action, as the real origin of their success; and perhaps not one wretched man

exists, who cannot recall numerous instances, in his experience, of time misspent and opportunities neglected. With this maxim always before you, that you must rely upon yourselves, and with the stern resolution to leave no honourable means untried of promoting your advancement, you cannot fail to attain, if not the pinnacle of your ambition, at least a respectable station in life, with a competent provision against all ordinary mischances.

But, gentlemen, your attention will not be occupied exclusively with your own worldly prospects. You will not compress the whole current of your soul within the narrow and turbid channel of selfishness. By a wise ordinance of Providence, the exercise of an expanded benevolence is not incompatible with our true interests. If it turns away the thoughts for a moment from schemes of profit or ambition, it more than repays the loss by its cheering effect upon the heart, and its ennobling influence on the character. The overflow of kindly feeling, at the same time that it enriches the soil upon which it spreads, clarifies and sweetens the stream from which it proceeds, and to which it returns again. If actuated, therefore, by no higher motive than a regard for our own happiness, we should cultivate good-will for others, multiply friendly relations with objects around us, and throw out in all directions the cords of endearing association, by which we may reciprocally draw and impart refreshing sympathy and useful support.

Among the moral associations which are least tinged with selfishness, and therefore tend most to elevate and refine our nature, are those which continue to connect the pupil with his preceptors, after the immediate tie between them has been severed, and he has been borne by the current of time and events far away into some new scene of action. I cannot doubt that you feel at this moment, in some measure, the force of such associations. You will probably feel it more, when the trivial pains

and anxieties which have intermingled with your recent labours shall have faded from your memory, leaving only the recollection of benefits received, strengthened by daily increasing experience of their value. Often, hereafter, you will throw back your thoughts from the turmoil of business into the quiet scenes of your professional study. The familiar countenances of your preceptors will then rise, with renewed freshness, before your memory. You will dwell with feelings approaching to those of filial affection upon their efforts to interest and instruct you; at once to inspire you with a taste for knowledge, and to furnish the means of its gratification; to prepare you, in fine, so far as in them lay, for the high duties to which you are destined, and the noble reward to which the performance of these duties will entitle you.

The school in which you were instructed will share in these feelings of affection. In the warmth of your imaginations you will inspire its corporate existence with the attributes of real life, will interweave into its character your conjoined estimate of all its teachers, and will love it as the centre of numerous pleasing recollections, the witness of your earnest labours and ultimate success. In order that you may know it more thoroughly, may appreciate its real deserts, and may thus be enabled to render it an enlightened support in the struggle of competition in which it is engaged, I propose to lay before you, on this occasion, a brief account of its origin, progress, and present condition. I can, perhaps, do this with greater propriety than my older colleagues; as, from the shortness of the period during which I have been officially connected with it, I cannot be supposed to appropriate to myself personally any of the credit which may be found to belong to the school.

The first conception of a plan for establishing a medical school in this country appears to have been formed by Dr. William Shippen and Dr. John Morgan, both native Americans, while

prosecuting their studies in Europe. If it be desirable to live in the memory of those who may come after us, the names of these gentlemen occupy a most enviable position. Placed at the source of a stream which must continue to flow on through ages, they will be a point of search for future inquirers while civilization lasts. Hundreds of men of brilliant endowments, after filling the ears of their contemporaries with their renown, and by the impetus of their great minds forcing themselves far into the memory of posterity, will, in the course of time, drop one by one into oblivion until all are forgotten. But the future historian, though, in threading his way through the past, he may sweep multitudes of once great names as rubbish from his path, must at least preserve those which stand at the commencement of any great course of action. The fame of Shippen and Morgan will, therefore, continue to be cherished in this country, so long as its inhabitants shall be subject to physical infirmities, and the healing art be deemed worthy of cultivation.

So early as the year 1762, Dr. Shippen, in the introductory to a private course of lectures on anatomy, announced his belief in the expediency and practicability of founding a medical school in Philadelphia. In 1765, Dr. Morgan, upon his return from Europe, laid before the trustees of the College of Philadelphia, which had then been in existence as a collegiate establishment about ten years, a plan for the institution of medical professorships in connection with the seminary under their direction. The plan, which came strongly recommended by several influential friends of the College in England, was adopted by the trustees, who immediately appointed Dr. Morgan to the chair of the theory and practice of physic. In the same year, Dr. Shippen was chosen professor of anatomy and surgery. For a short time, lectures were delivered by these two professors on the various branches of science, then deemed essential in a course of medical instruction. In 1767, a system of rules was adopted

for the organization of the new school; in 1768, Dr. Adam Kuhn was appointed professor of materia medica and botany, and Dr. Thomas Bond of clinical medicine; and, on the 21st of June, 1768, a medical commencement was held for the first time in America, at which the degree of Bachelor of Medicine was conferred upon ten individuals. The chair of chemistry was added in 1769, and was filled by the appointment of Dr. Benjamin Rush.

Such, gentlemen, was the germ of that school, which has been so long scattering its fruit over every part of our vast country, and under whose broad shade we are now assembled, more than seventy years from its origin, to celebrate the return of its annual season of productiveness. Not less than three generations have partaken of its benefits; for, in the catalogue of its first graduates, is the name of the grandfather of a young gentleman who now most worthily receives its honours, and whose father was also a graduate of the school.* It is beginning to be venerable in the eyes of men; for it is associated with the gray hairs of their fathers. But age, which has given it dignity, has taken nothing from its strength; and it still stands erect and prominent among the numerous offspring which have risen up around it. Its growth at first was not rapid. Humble in its original organization, it gradually expanded with the increasing wants and resources of the country, and thus acquired a solidity and permanence which it would have failed to attain, if forced by injudicious management into a precocious increase.

* Dr. Wm. Elmer, now a highly respectable practitioner of Bridgeton, Cumberland County, New Jersey. His father, of the same name, was also a graduate of the medical department; and his grandfather, Dr. Jonathan Elmer, at one time Senator of the United States from New Jersey, was, as mentioned in the text, a member of the first graduating class.

In the year 1769, when the Medical Faculty was fully formed, it consisted, strictly speaking, of only four professors; for the chair of clinical medicine appears to have been little more than nominal, and was abolished after the death of Dr. Bond. You will easily understand how imperfect must have been the courses of instruction, when the three branches of anatomy, surgery, and obstetrics were taught by one professor. With this deficient organization the school continued till 1782, when botany was separated from materia medica, and erected into a distinct professorship.

In the mean time, however, a great change had taken place in the government of the College. In the violence of political excitement, its charter had been abrogated by the State legislature, and all its rights and property transferred to a new institution, which was dignified with the title of University of Pennsylvania. But this event, which took place in the year 1779, does not appear to have affected the Medical Faculty, which continued, in the new school, to be constituted in the same manner as in the old. In 1789, ten years after the act of abrogation, the legislature, admitting its injustice and illegality, restored to the College, by a new act, all its former privileges and possessions; so that two institutions now existed, distinguished by the titles of the College and the University. The Medical Faculty was thus, for a time, thrown into disorder, one portion attaching itself to the old school, and another to the new; and some modifications were made in the arrangement of the professorships, which, however, as they were of short duration, do not appear to merit particular notice. Happily, the two institutions were soon afterwards reunited by a voluntary agreement, which received the sanction of law; and an opportunity was thus afforded, in the year 1791, for a new organization of the medical school.

Six professorships were now recognized, under the titles re-

spectively of 1. anatomy, surgery, and midwifery, 2. theory and practice of medicine, 3. institutes and clinical medicine, 4. chemistry, 5. materia medica, and 6. botany and natural history. But this arrangement was dictated by the necessity of combining two faculties, and supplying places for the members of both, rather than by a sense of its general propriety. Hence, the chair of the institutes and clinical medicine was afterwards united to that of the theory and practice; and the chair of botany and natural history ceased to be considered essential, when the opportunity was offered of transferring its occupant to that of materia medica.

In the year 1805, a great improvement was made by the establishment of a chair of surgery, and another scarcely less important, in 1810, by the separation of obstetrics from anatomy, and its elevation to the dignity of a distinct professorship. From the latter period no material change took place in the organization of the school, until, by a recent regulation, the institutes were again separated from the practice, and placed upon an equal footing with the other important branches.

From this hasty sketch you may perceive that the school has been gradually expanding from the time of its foundation; and that at no former period has it presented an organization, so nearly in accordance with the just demands of medical science, as at this very moment.*

It would be a pleasing task to go up with you again to its origin, to introduce you to a more intimate acquaintance with its founders, and then, descending along the course of its history, to make you familiar with each of the great names successively that have illustrated its various departments. But the attempt

* I would call attention again to the date at which this address was delivered; in the spring, namely, of 1836; at the end of the first course of lectures delivered by myself in the school.

would be vain to compress so many merits within a space so short as we could now allot to them. Perhaps, moreover, the task would be useless. What name is there among the worthies who elevated and sustained this medical school, that is not in the memories and the mouths of all who have any pride of profession? What medical man, who has at heart the honour of his country, is ignorant of the names of Rush, Barton, Wistar, and Physick, not to mention others, both dead and living, who have been associated with these great men in their labours and their fame? With two only of those I have mentioned has it been my good fortune to have any personal intercourse. One of these is now beyond the reach of human applause or censure; and the other stands so high in personal dignity, fortune, and the respect of men, and is so far removed from the business and agitations of ordinary life, that sentiments of admiration may be allowed ample scope in their expression, without affording ground for dishonourable imputations. You will excuse me if I yield for a moment to the impulse of my feelings, and throw in my mite of tribute to their deserts.

The name of Wistar must have called up a train of affectionate and touching remembrances in the minds of many who are now present. They can recall the affable and courteous manner, the heart full of kindness, the tear for distress, the cordial smile of sympathy or welcome, the open hand, the generous, noble spirit that shone in every feature, and spoke in every act. They can picture him in their imagination, as he formerly stood in his lecture-room, full of his subject, inspiring into all the interest which he felt himself, unravelling intricacies and lighting up obscurities by an almost magic touch, with a countenance beaming with intelligence and affection; himself the centre of a love and respect which amounted almost to reverence. I might speak of his general knowledge, his scientific attainments, his professional skill, the large space which he filled in the society and business of the

city, the esteem in which he was held in all parts of the Union. I might dwell also on that sensitive delicacy of conscience which he exhibited on all occasions, whether as a teacher considering himself answerable for the ignorance of his pupils, as a judge deciding upon their claims to a recognition of their capacity to practise, or as a physician, lavish of his time, attention, and labour upon the sick, without reference to their ability to afford him pecuniary compensation, and perhaps without a thought upon the subject. But even an outline of the qualities of his heart, mind, and conduct, would extend beyond the limits which I could here devote to them; nor do I feel myself adequate to their just representation. The sketch I have attempted is but a faint copy of the vivid impression, which must be stamped on the memory of all who knew him. It is far from doing justice to my own recollections of his rich and beautiful character.

Not less impossible do I find it to embody in words the sentiments of respect which are entertained by myself, in common, I am sure, with the whole of this audience, towards another illustrious supporter of the school, the last survivor of those upon whom its fame was built, and now looked up to as the acknowledged patriarch and head of the medical profession in this country. I need not mention the name of Physick. There is but one man in the Union to whom all would concede this pre-eminence. Who is there in this assembly, in this city, I might say, what intelligent man in the country, who is not familiar with his admirable skill in operative surgery, and with the numerous improvements which the art owes to his genius? What medical man, who has had the opportunity of professional intercourse with him, is unacquainted with those high qualities which have placed him at the head of American practitioners? his keen insight into disease, united with the spirit of minute and patient inquiry; his inexhaustible copiousness of expedient; his undaunted resolution, which never wavered under a sense of personal accounta-

bility; his persevering adhesiveness to an approved plan, alike against the remonstrances of the patient, the discouragement of medical associates, and the weariness of his own disappointed expectations. Hundreds are now living who owe life or limb to the exercise of these rare qualities, under circumstances which would have apparently justified despair. Consider him as a man, without reference to his professional merits. What dignity of character and deportment! what scrupulous regard for the just claims of others! what perfect self-command!—qualities which have placed their possessor upon an unassailable eminence, and have precluded the least show of disrespect unless from audacity itself. But it was, perhaps, in the lecture-room that Dr. Physick appeared to most advantage. Those of us who have listened to his instructions in surgery can well remember how impressive was the dignity and earnestness of his manner, how clear and forcible his flow of fact and illustration. We can recall the absorbed attention, the profound respect approaching almost to awe, which sat habitually upon the countenance of the class; we can recall too the delightful emotion, the almost electrical thrill of pleasure, which flashed through every breast, when his features relaxed, during the relation of some pleasing incident, from their usual earnest sobriety into the bright cheerfulness of a smile. With the title of *Emeritus Professor of Surgery and Anatomy*, Dr. Physick still lends to the school the influence of his great name, though prevented by feeble health from an active participation in its affairs. Long may the evening of his days continue to shed its mild radiance upon our walls! Long may he live to fill a place in the profession, in which he can have no successor!*

* The following note was addressed to the author by Dr. Physick a few days after the delivery of the lecture. It will be readily conceived that it was received with great pleasure, the greater, perhaps, because wholly

The school has in general been fortunate in enjoying, through a long series of years, the services of those among its teachers who were best able to advance its interests. One striking exception, however, is afforded in the instance of the highly gifted Dorsey,* whose meteor course was suddenly quenched in death at the moment of its greatest splendour. He lived, however, long enough to add one flower at least to the wreath of fame which encircles the history of the institution, and to prove that, had life been spared to him, he would have earned for himself a place in the memory of men, scarcely less elevated than any now filled by his predecessors.

Deweest† also had a professorial career too short for the good

unexpected. It should be remembered that I was a comparatively young man at the time.

PHILA., 6th April, 1836.

DEAR SIR,

I did not receive a copy of your address lately delivered to the medical graduates in the University of Pennsylvania until last evening, when I had the pleasure of finding that you had mentioned my name with the most gratifying approbation.

For the honour of this notice, and for the kind feelings evinced in the manner of it, allow me to express my warmest acknowledgments.

I remain, dear sir, most respectfully and sincerely your friend and servant,

P. S. PHYSICK.

To GEORGE B. WOOD, M.D.,

Prof. Mat. Med. in the University of Penna., etc.

* Dr. John Syng Dorsey, chosen first as the adjunct of Dr. Physick in the Chair of Surgery, afterwards as successor to Dr. Chapman in that of *Materia Medica*, and finally, upon the decease of Dr. Wistar, in the year 1818, as Professor of Anatomy. He had, however, but just entered upon the duties of the last-mentioned office, when he was cut off by death; so that he never delivered a course of anatomical lectures.

† Dr. Wm. P. Dewees, who was appointed, in 1825, adjunct to Dr. Thos. C. James in the professorship of Obstetrics, and became full pro-

of the school, though sufficient to connect his name indissolubly with its history, and to entitle it to claim his ample honours as among its own brightest ornaments. It is no mean boast of the institution to have ranked among its officers the man to whom all agree in assigning the highest place among American obstetricians, whether in relation to practical skill, to merits as an author, or to diffused reputation both at home and abroad. Of his kind and amiable nature, his unaffected simplicity of character, his cultivated taste for the fine arts, even of his abilities as a teacher, I do not intend to speak. They are too well known to you all to require any comment from me. The affecting testimony of friendship and esteem spontaneously offered him by the class, on the eve of his departure for a foreign land, must be still fresh in your memory. What a noble scene was your last meeting with your venerable preceptor! I can still see him seated in the midst of the assembled throng, in the very scene of his former labours, enfeebled alike by disease and by the crowd of emotions which pressed upon him; come to receive your parting token of affection, and to bid farewell alike to you, and to the place in which he had so often before met you in the full vigour of his powers. Every breast was filled with sympathy, every eye was moist with compassion; a deep silence evinced the absorbing interest of the scene; and when the last thanks and the last blessings, which his feeble lips were unable to pronounce, were read by a mutual friend, one common feeling of sadness and solemnity overshadowed the assembly, and one common prayer went up from the deepest recesses of the heart, that the remaining path of his life might be smooth, and the evening of his days unclouded and serene.

fessor in 1834, on the resignation of Dr. James. He was seized with paralysis, as he was about to enter upon his course, in the autumn of 1835; and, being unable to make himself heard by the class, resigned the professorship.

In these brief sketches, I have not pretended to offer a history of the Medical Faculty from its first institution. In such a history, it would be unpardonable to pass over names, which on the present occasion have not been mentioned, or to give a subordinate place to others which have been merely alluded to. My object has been, in the utter impossibility of presenting a complete picture, to touch off simply some points which were prominent in my own experience or recollection, and to which, therefore, however imperfectly executed in other respects, I have at least been able to give the impress of truth.

Before the present audience, it would be superfluous to speak of the general prosperity of the school. It may be interesting, however, to trace its gradually increasing success, as indicated by the number of those who received its honours, at different periods, from its foundation to the present time.

I have already stated that the number of graduates, at the first public commencement in 1768, amounted to ten. This was exceeded only on three occasions during the remainder of the century, on one of which, in the year 1797, the graduating class consisted of fifteen. The average annual number from the origin of the school to the year 1800 was only seven. From this period it appears to have rapidly increased. In 1810, the annual list of graduates had swollen to sixty-five, in 1819, to one hundred and two, and in 1831, when it attained its maximum, to one hundred and fifty-one. Dividing the present century up to 1830 into periods of ten years, we find that the average number yearly in the first period was about thirty-three, in the second seventy-one, and in the third one hundred and seven, and since 1830, it has been one hundred and thirty-two.* But the number of graduates is not an exact criterion of

* From 1830 to the present date, A.D. 1859, the average number of graduates has been 154. The highest number was in the session of

the relative prosperity of the school at different periods; for, from a combination of various circumstances, it has happened that the proportion of those who have annually received the honours of the institution to those who have merely attended upon its courses of instruction, has been gradually augmented during the latter years of its existence; so that its early success was in fact greater than might be inferred from the statement just made.

Originally, two degrees in medicine were conferred, corresponding with those in the arts. The prerequisites to the lower degree, or that of *Bachelor of Medicine*, were the possession of a competent knowledge of the Latin language, mathematics, and natural philosophy, the serving of a sufficient apprenticeship with some respectable practitioner of medicine, a general knowledge of pharmacy, and an attendance upon at least one complete course of lectures, and upon the practice of the hospital for one year. The higher degree, or that of *Doctor of Medicine*, was conferred on the Bachelor at the expiration of three years, upon the conditions that he should have attained the age of twenty-four, that he should write a thesis, and should publicly defend this thesis in the College. This system was found inconvenient in practice, and, as it was productive of no counterbalancing advantage, was abandoned for that now in operation, upon the union of the schools in 1791. The regulation formerly existed, that the thesis of the successful candidates should be published; but this too has been very properly abandoned, as an unnecessary impediment in the way of graduation.

We have thus, gentlemen, taken a rapid glance at the past

1848-9, when it amounted to 190; the matriculating class of the preceding session, that of 1847-8, having numbered 509, the largest in the records of the school, up to the present winter, when it is exceeded.—
Note to the first edition, Dec. 1859.

history of the medical school whose honours you now receive. May I ask your further indulgence, for a few minutes, while I attempt to represent to you the advantages of its present position, and the claims which it advances to a continuance of the support which it has hitherto both merited and received? I am sure you know me too well to suppose, that, in thus assuming the office of its advocate, I am actuated by any sordid views of personal profit. I wish you also to understand, that, in the remarks which follow, the Faculty of the University have not the least disposition to undervalue the merits of the numerous sister institutions throughout the country. A race is before us; a noble prize is to be won; we hail every honourable competitor with a friendly spirit. The very excitement of a fair and open contest is equivalent almost to the pleasure of victory. Let each school present its advantages in the strongest light, and exert its own strength to the utmost, leaving to its neighbour the same privilege unmolested; and, whichever may maintain precedence in the struggle, no just or honourable spirit will complain.

Not the least among the advantages of this school are those connected with its locality. The city of Philadelphia, centrally situated in regard to latitude, far enough from the ocean for perfect security, yet not so distant as to be of inconvenient access from abroad, sufficiently populous to insure ample opportunities for anatomical and clinical illustration, well supplied with libraries and cabinets of specimens, salubrious as a place of residence, and richly furnished with all the necessaries and comforts of life, is peculiarly adapted to become the resort of medical students, and the focus of medical instruction for the whole Union.

Another advantage of the University, and one peculiarly its own, is its relative antiquity, and the number of great names connected with it in the capacity of teachers or of pupils. The principle of association by which we appropriate to ourselves a

portion of the credit or censure attached to any cause, or set of men, or institution with which we are connected, a principle rooted in the very foundations of our nature, and the source of some of the noblest feelings with which it is adorned, extends in its influence not less to the past than the present. Who does not experience a glow of satisfaction at the mention of the virtues or praiseworthy deeds of his forefathers? Who does not glory in the former honours of his country? Is there one of you, gentlemen, who does not value his degree the higher, as proceeding from the oldest medical school of this continent, as connecting him with the illustrious names of those who raised it into fame, as ranking him in that band of three thousand graduates which embraces so large a portion of the medical reputation of our country for the last seventy years? Is it not something to have frequented the same halls in which your fathers were initiated into the profession, to go out to the contest under the same flag under which they triumphed? These are not fugitive or barren associations. They will attend you through life; they will intermingle in your whole course of medical duty; they will elevate your tone of professional feeling, and serve as a light and guard to your path when beset with doubts and temptations. Your eyes will be constantly directed to the bright examples of those into whose fellowship you have been admitted; and, while spurred on by an honourable emulation to imitate their course, you will feel an additional obligation to avoid any disgraceful act, lest it may in some measure sully their fair fame. There is, therefore, something more than the mere gratification of feeling; there is positive benefit in a connection with the age and reputation of the University; and few, I will venture to say, have ever repented the choice which led them to this connection.

But do not imagine that I recur to the past from any consciousness of present weakness. The University has not yet arrived at the period, when it will be compelled to resort to its hoarded

capital of reputation. If success be accepted as a criterion of merit, it can still boast, amidst the powerful efforts of numerous rivals, a degree of support, not inferior, upon the average of a few years, to that which it enjoyed when it stood comparatively alone. It cannot be denied, that the new institutions which have struck their roots deeply into the soil once exclusively its own, have drawn off much nutriment that would otherwise have contributed to its further expansion; but, though thus checked in its growth, it has lost none of its ample proportions, and still throws out its undiminished limbs, the pride and boast of this continent. If it be judged by the character of its fruit, it has still less of which to be ashamed. Search for the rising professional merit of this country, the budding of future professional reputation; where will you find it if not among the pupils of this school? When did classes ever proceed from its walls, more rife with the seeds of honour and usefulness to their country than those of the last few years?

Consider now the organization of the school. Has it not been advancing with the general march of improvement, and is it not at this moment more perfect than at any former period? You are all aware of the addition of a new and most important professorship, that of the institutes, made before the commencement of the late session. What school in the Union can boast at present of so extensive a course of instruction? Little more is wanting to render its organization entirely equal to the present advanced state of medical science, so far, at least, as accords with the institutions and habits of our country. But it has been deemed safest to proceed cautiously with changes; to allow the new work to become consolidated by time, before venturing upon further additions. In the mean while, the attention of the Faculty has been directed towards the improvement of the several courses which enter into its present plan; and as one of the means of such improvement, they have now under considera-

tion the propriety of extending the winter session to five months, thereby relieving the pupil, and at the same time affording scope for more ample instruction.

The resources in possession of the school for the illustration of the various demonstrative lectures, have accumulated beyond all example in this country. The chemical apparatus is probably inferior in variety, splendour, and costliness to none in the world. The anatomical museum, commenced by Dr. Wistar, has been augmented by the indefatigable industry of the present professor to an extent which leaves little to be desired. You can all bear witness to its richness in every variety of specimen, drawing, and model which can serve to illustrate the obscurities of anatomical structure; and it would be impossible anywhere out of Europe to find an equal collection of pathological specimens. Surgery also is illustrated in every mode of which the subject is susceptible; and the magnified drawings connected with this branch, independently of their merit as pictorial representations, are worthy of notice as specimens of art. The same spirit of improvement has been carried into the obstetrical chair; and you have been presented, during the last winter, with illustrations in this department such as have never before been witnessed in our school. It does not become me to speak upon the subject of *materia medica*. I may, however, be permitted to say, that my object has been to place this among the demonstrative branches; and that, if I have failed to render the subject interesting and impressive, it has been from deficient ability, not from the want of assiduity in providing the requisite means.

It is unnecessary to call your attention to the ample accommodations of the present hall for every department of medical instruction. Among its recommendations, not the least is the opportunity afforded by its open precincts for free ventilation, and the consequent prevention of that injurious influence upon

the health which always results from the confined air of close and crowded apartments.

The system of clinical instruction, which, in its present form, owes its origin to the professors of this school, has been carried to a perfection before unknown in the United States. By the ample arrangements of the two hospitals, particularly of that attached to the Philadelphia Almshouse, it has been found possible to afford the advantages of practical illustration in medicine and surgery to the largest classes; and you must all be sensible, from your experience during the past winter, of the benefits which flow from this mode of instruction.

To complete a view of the present condition of the school, it would be requisite to portray the qualifications of the several professors; but upon this subject I am not permitted to speak. Were I to express all that I think in relation to my colleagues, I should incur the suspicion of being influenced by the partiality of interest or of friendship. This much, however, may be said, that one common feeling animates all the Faculty; a disposition to promote, so far as lies in their power, the usefulness of the school, and a determination to exert, to the utmost, whatever abilities they possess, to render their courses instructive and interesting to the pupil, and honourable to the institution.

I have addressed you on the subject of the school, without reserve. By the possession of its honours, you have become, in some measure, partners in its fame. Sympathizing with those who have its prosperity at heart, and disposed to participate cordially in the furtherance of their honourable views, you have a right to all the information which it is in our power to communicate. The Faculty rely on your good-will. They leave their cause confidently in your hands; and I am much mistaken in the nature of those feelings which serve as the bond between you and them, if they will ever have occasion to repent the trust.

You are now about to leave us, in order to enter upon the

active business of life. I see a varied scene before you; but hope at present sheds her bright sunshine over all. I would not damp by one word the ardour of your young wishes, or the warm energy of your resolves. I would not repress, if I could, that eagle gaze into the future, which pierces through cloud and storm, to fix upon the bright sun beyond. The loftier your aim, the more vigorous and sustained will be your flight, and the higher your ascent into the fortunes and honours of this world. But there is one point of the utmost importance to your happiness, wherever your course may lie, whether high or low, in light or obscurity, among abundance or want; a strict observance of the rules of honour and morality. Without this, your greatest success will be nothing more than a splendid failure. A secret consciousness will poison every pleasure, mingle a sense of disgrace in every triumph, and darken the whole soul, even amidst the sunniest fortunes. With it, on the contrary, scarcely any condition can be absolutely desperate. The storms of adversity will never find you without a cloak to protect, nor the fiercest assaults of grief without a solace to comfort you. But, while such are the advantages of an upright life in the lowest extreme of fortune, it very seldom happens that they who adhere to it have occasion to invoke its consolations under such unhappy circumstances. The scriptural declaration, "never have I seen the righteous forsaken," is but the expression of a general law of nature. The exercise of a conscientious guard over our propensities to evil, will be found an almost certain road to respect and confidence; and, united to a spirit of enterprise and the habit of industry, will prove a powerful instrument of elevation to the highest stations attainable in well-regulated communities. In your pursuit, therefore, of fame and fortune, never lose sight of this polar star. Turn not to the right or the left at the bright but delusive promise of the meteor lights which will entice you. In the path of your ambition, if

duty or honour place but a straw in your way, pass not regardless by, but remove it before venturing to proceed.

We feel a deep interest in your honour and success; we point to the path in which you may almost surely prosper; and if, in this parting moment, our wishes and admonitions assume a character of solemnity, it is in accordance with the occasion; the last of our meeting together, after a long and satisfactory intercourse. Yes, gentlemen, it is a solemn occasion. In thus parting forever, we stand, as it were, upon the brink of eternity; and our thoughts irresistibly rise up to that power which rules the vast obscure into which we are about to enter. If, weak and faulty as we are, we may venture to approach the pure majesty of His presence, we would earnestly ask for those who are about to embark upon the untried ocean of active life, a long course of virtuous prosperity; a career full of happiness to themselves, and of blessings to their fellow-men. Gentlemen, farewell.

ADDRESS II.

DELIVERED TO THE GRADUATING CLASS AT THE COMMENCEMENT
HELD APRIL 2ND, 1841.

GENTLEMEN:—

IN compliance with custom, and with the dictates of their own feelings, your teachers propose to address to you a few words of congratulation, of counsel, and of good wishes, before they and you part, never to meet again in the same relation. We have endeavoured, to the best of our ability, to aid you in preparing for the duties upon which you are about to enter; we have carefully and solicitously examined your qualifications for these duties; and we have had pride in presenting you to the authorities of this school as meriting its formal testimonial in your favour. That testimonial you have received in the degree of Doctor of Medicine which has just been conferred upon you. We congratulate you upon your honourable entrance into the ranks of our profession, and gladly offer you the hand of fellowship. But we shall not have fully discharged our obligation, without adding to the lessons you have already received some hints out of the stores of our experience, which may be found useful in the long and arduous course of life you this day commence.

You have gained one great requisite to success; a good starting-point from which to throw yourselves forward into the future. With the aid of your teachers, you have risen above the obstruc-

tions which impede every attempted flight from the surface, and have reached a spot in the ascent of knowledge, whence enterprise may boldly spread her wings in the air, and be assured of support. But it would be a great mistake to content yourselves with this advantage. No error is more fatal to the young physician, than the notion that the period of study is passed, and that hereafter he has only to act. To sustain a vigorous advance, it is necessary that, to the store of intellectual strength which he has accumulated in youth, he should make incessant additions at every stage of his progress. His ascent, unlike that of the projectile whose velocity diminishes constantly as the original impulse upon which it depends is exhausted, should rather resemble the flight of the eagle, who draws in new strength with every inspiration, and mounts steadily towards his goal. The knowledge which you have acquired should be considered only as a key to the vast storehouse whose riches are now open to you. If you aspire after excellence in your profession, merited success in life, and an honourable distinction; and there is probably not one among you who does not cherish such aspirations; you will look upon the present merely as a period of holiday relaxation, to be followed by renewed labour in the attainment of medical knowledge.

It is not probable that your time will for some years be quite absorbed in practical duties. The course of things, in this world, is much better ordered than if left to our own wishes, which, in the eagerness of pursuit, would leap over all obstacles, and if possible annihilate time and space. Existence, under our own guidance, would be nothing more than a rapid succession of wish and fruition; a thunder-storm in the night, with its flashes and its peals, and darkness between. We should lose the gentle excitement of alternate hope and fear, the pleasingly changeful sunshine and shadow of the landscape of life. We should lose the sweet reward of mental and bodily toil; the

sense of enjoyment, namely, which Providence kindly mingles with the cup of labour which he gives to all men to drink. We should lose, moreover, those luxurious intervals of repose, when, seated beneath our own arbour, at our own household door, with all that is most dear about us, we look out upon the green, the blossoms, and the fruits, and feel that they are all ours, and that we have earned them. Be assured, gentlemen, that rapid and unearned success in life is not desirable. It is well, therefore, in reference merely to your own good, not to speak of the good of others, that you should have further time for preparation; that the practical business of your profession should come gradually, so that while your circle of duties is widening, you may have the opportunity of extending equally that of your qualifications.

You may ask for instruction as to the course of study best calculated to advance you in the knowledge of your profession. In the first place, it is highly important that you should proceed with system. Desultory medical reading may furnish you with a mass of rich materials; but they will be irregularly heaped together in your memory, and mingled, moreover, with much that is merely rubbish; so that, in answering the demands of practical emergencies, you may ransack your store in vain for the desired object, and, in your haste and confusion, will even be liable to draw forth for use something wholly inapplicable to the end proposed. There is, moreover, in this sort of reading a dissipation which, as in every other pursuit, whether mental or physical, enervates the faculties which are called into play, and, if long indulged, unfits for any steady and laborious effort. In your medical studies, therefore, we would advise you to fix upon some systematic course, beginning with those elementary subjects which lie at the basis of the science, and, in your progress upwards, endeavouring always to master first those points in the ascent, the possession of which will facilitate your attainment of something higher.

But our science includes several distinct practical departments, in all of which it is scarcely possible for any one individual to attain great proficiency. We may err almost as much by perseveringly endeavouring to carry more than our arms will hold, as by being content with less. The greedy little child, who, unwilling to relinquish any portion of the desirable things within his reach, finds one thing after another falling from his arms as fast as he fills them, and at last, after repeated efforts, lets them all drop and begins to cry, is but the miniature of the ambitious student who wishes to learn everything, and, failing in the attempt, gives up in despair, and abandons study altogether. The best course is that each one should consult his peculiar turn of mind, and, as far as possible, his capacity, and give a corresponding direction to his studies. In medicine, a certain degree of acquaintance with all the branches is desirable, and to one whose sphere of action may lie in the country, is indispensable; but special skill is attainable only by a concentration of effort; and he who wishes to excel should push his investigations preferably along some one route, though he may profitably cast his eye over the neighbouring tracts as he proceeds, and may occasionally diverge so as to get a general view of the whole region.

The steady pursuance, however, of a certain course of study should not prevent you from paying a particular attention to those forms of disease which may happen to come under your notice. We always read more intelligently, and better remember what we read, when the object of study is before us. Whenever, therefore, a case may occur to you, upon which you may be conscious of insufficient information, suspend for a time your regular plan, until you have investigated, in relation to the complaint, all the authorities within your reach. Such interruptions, though they may break the continuity of the stratum of your studies, will, like cross-veins of some precious metal,

greatly enhance their value. In exploring your memory for resources in any case of difficulty, you will find these deposits at once most obvious to your researches, and most productive of the aid you seek for.

I cannot leave this subject, without again endeavouring to impress upon you the importance of devoting the early years of your practical life to the continued prosecution of your medical studies. The physician who considers his degree as a dispensation from future intellectual labour, and henceforward looks only to the fruits of his profession, will be apt to reap but a scanty harvest; or, even should fortune cast his lot on some rich prairie soil, which yields abundantly to a very careless culture, he will find himself unprepared to gather in the abundant crop, which may thus perish upon his hands. It will be in vain, when he begins to experience the want of more ample professional resources; when he finds the magic stream which he has set in motion by an accidentally discovered word, flowing in upon him, and threatening to overwhelm him, because unprovided with that other word which would enable him to control its movements; it will be in vain, at this late period, that he may strive to repair the consequences of early neglect, and seek safety for his reputation, and peace for his conscience, by a late pilgrimage to the shrine of science. Knowledge, like the fabled Roman sibyl, makes the offer of her treasures once, twice, thrice, on each successive occasion diminishing the amount offered, and at length threatening to withhold all if her last offer is rejected. As we advance in life, we find it impossible to break through the crust, which early neglect may have allowed to gather around our faculties, and which has become hardened by habit. It is only by a constant expansion that, like the young growing shellfish, the intellect can prevent that concretion which is ever disposed to form about it, from becoming so firm as to restrain all future increase. A neglect of your early opportunities will

prove in great measure irreparable, when time and experience shall bring with them a due sense of their importance. On the contrary, by cultivating assiduously those opportunities, you will find your knowledge growing with the growing demands upon it; you will experience a happy harmony between your avocations and your capacity; and, when in the full career of business, with the life and temporal happiness of great numbers in your keeping, though you may feel sensibly the deficiencies even of the highest knowledge, you will at least escape the ever-present and ever-gnawing consciousness, that your capabilities are not only beneath the level of your times, but also far beneath what nature and opportunity would have enabled them to become.

The point, perhaps, next in importance to the acquisition of a due store of medical knowledge and skill, is the cultivation of a proper professional spirit. This is to the physician the very soul of his occupation, which, without it, would be a mere lifeless instrument for the supply of his necessities, a dead compost to quicken and nourish the crop of his sordid enjoyments. He who considers his profession as an avenue to nothing higher than pecuniary gains, and limits his efforts accordingly, will find his capacity, and, unless under strong religious influences, his conscience also dwindling to the measure of his views. Next to an ever-present feeling of responsibility to a higher power, there is no principle so influential in promoting every liberal and useful effort, in restraining every irregular or sordid act, in giving a high tone at once to sentiment and conduct, as a true professional spirit, which looks beyond personal profit to the respectability, honour, dignity, and general usefulness of a calling.

But this principle should not be confounded with the *esprit de corps*, which is nothing more than a sort of cohesive affinity between the constituent particles of an aggregate body, a selfish principle which yields for the sake of receiving support, which

has no reference to the aims of the mass which it actuates, and is quite as efficient for evil as for good. The true professional spirit forgets the individual in the great objects of the profession ; the *esprit de corps* thinks of the calling only from its connection with the individual. The former can exist only where there is something great, or noble, or useful to support it, and breathes most freely in a pure atmosphere ; the latter lives as well on garbage as on luxuries, and finds a congenial air wherever there is a crowd. The *esprit de corps* requires no cultivation. It springs up spontaneously in the soil of association, and flourishes vigorously upon the passions, the interests, and the selfish calculations which are everywhere abundant. The true professional spirit, on the contrary, is a delicate plant, which is developed only under the warmth of generous feeling, requires the careful nurture of good principles and dispositions, and is in constant danger of being choked by the sordid growth around it. But then it is exceedingly sweet and beautiful ; and its fruit is honour to the profession and benefit to mankind.

This feeling naturally arises in a well-constituted mind, upon the perception of an elevated character, and of noble and beneficent objects in the profession to which it is attached. Let us examine how far the profession of medicine offers such claims to the devotion of those who have enlisted themselves under its banner. You will surrender yourselves with a more complete and more hearty self-abandonment to the service of your new mistress, should she be found worthy at once of your highest esteem and your warmest affection.

In estimating the character of a profession, we should consider the nature of the qualifications required for its due exercise, the end towards which it is directed, and the influence it is calculated to exert upon its votaries. Deficiency in any one of these respects would be a serious drawback to its merits ; while excellence in all would give it a claim to the very highest considera-

tion. A few words on each point will serve to indicate the proper position of our profession.

I know of no calling which requires a wider extent of knowledge for its due exercise. The study of medicine considers man both physically and morally, both in a healthy and diseased state, and in all those relations which have any bearing upon the soundness of his body or mind. It goes out into exterior nature, and investigates intimately every agent which has the power to produce, to prevent, to cure, or to alleviate disease. It inquires into the mutual action and reaction of bodies, and into the changes in nature, form, or position resulting therefrom, so far at least as these circumstances are connected with the functions of the human system, the operation of exterior agencies upon that system, or the modification of such agencies by natural or artificial causes. Anatomy, physiology, pathology, psychology, botany, mineralogy, zoology, chemistry, and natural philosophy, are but a portion of the sciences which contribute to the constitution, or themselves form a part of the complex science of medicine. The accomplished physician is also expected to have some acquaintance with the languages of Greece and Rome; and, if he wish to avail himself of all the resources within his reach, must cultivate also those modern languages, such as the French and German, which are the most frequent vehicles of new medical thoughts, facts, and disquisitions. As a gentleman, moreover, associating intimately with the best instructed and most polished members of the community, he should be more or less conversant with polite learning, and familiar with the various topics of the day, whether literary, scientific, or political.

But knowledge is not his only essential qualification. He should possess, in addition, a practical skill derived from a close personal observation of disease, and of the application and effects of remedies. He should have the graces of a gentlemanly deportment, and familiarity with the conventional forms of good

breeding; so that he may avoid wounding the often morbid delicacy of his patients, and adding the irritations of an offended taste, or ruffled temper, to the evils of the disease. He should be endowed, in an eminent degree, with the qualities of a good heart, rectitude of principle, and firmness of purpose; for in no profession are the temptations to a relaxation in the performance of duty stronger; and in none are the consequences of such relaxation so fatal to comfort and happiness in this world. I need scarcely say, in fine, that a good, native intellectual basis, is essentially requisite for the erection of that superstructure of knowledge which is expected of every physician; and that the faculties of a quick perception, good judgment, and accurate reason, are indispensable to a just solution of the intricate problems, which disease frequently presents both in its nature and mode of cure. It is a great mistake to select medicine as a sort of hiding-place for deficient intellect; for, though a solemn exterior may for a time impose upon the public, it cannot long conceal the vacancy within from penetrating eyes; and the mischief which may have accrued, in the mean time, is incalculable and irremediable.

Such, then, are the qualifications in knowledge and character which the accomplished physician brings into the practice of his profession. Let us inquire whether the objects for which he employs them are of equivalent importance. These objects are the preservation of life, and the restoration and maintenance of health. None, certainly, can be of higher value in reference to this world alone. But the mere mention of them produces little impression. When life first opened upon us, there seemed about it a holiness, like that of the ark, which it was sacrilege to touch. We shrank with a shuddering fearfulness from the thought of its extinction; and the word which spoke of our mortality, thrilled through us like a summons to judgment. Language was then a true picture of reality. But we have subsequently heard so

much of life, death, and futurity, that our sensibility to the awful import of these sounds has become exhausted. Like the oft-repeated tolling of the church bell in our vicinity, they fall upon our ears, but we do not hear them. We are told of the value of life, and readily admit the fact; but it makes no impression, and we turn away to some indifferent object. We acknowledge the great importance of the profession whose business it is to save life; but we do not feel it. To realize its importance we must be, or imagine ourselves, in a situation to require its aid. Let this touchstone be applied to the profession of medicine.

Suppose yourselves upon a sick-bed, in the crisis of a very dangerous disease, with the full consciousness of your condition. You look through the portals of eternity, and view an awful obscurity before you. The past, with its joys and its troubles which now seem joys, its hopes and fears, its host of things done and undone, its certain faults and doubtful virtues, whirls through your recollection like a long dream of enchantment, from which you are about to awake into some dread reality. The sweet affections of this world entwine about your retreating form, and strive to hold you. Connubial and kindred love cling with fond arms around you, and with tears entreat you not to desert them. But an irresistible force seems to impel you onward. You are on the brink of the abyss; a dizzy mist comes over your senses; you are on the point of falling. But the eye of professional skill is watching over you, and, at the moment of despair, an arm is extended to save you. With its support and guidance you return to life and health; and, oh! what joys attend your path. How beautiful is every object; how balmy the air; how delicious the fragrance; how sweet the music around you! Nature springs with radiant smiles and extended arms to meet you. Every sense appears to have been baptized into a new and exquisite susceptibility of enjoyment. Life and its affairs have acquired

new interest to your regenerated feelings. Your bosom swells with kindly emotion towards every animated thing; and your thoughts ascend, from the midst of the temple of your enjoyment, with deep humility and ardent thankfulness, to the author of all. This is no fictitious picture. Thousands and tens of thousands are realizing it every day.

But it is not our own lives only, with all their renewed enjoyments, that we sometimes owe, under Providence, to the skill of the physician. We are often in want of the same aid for those most dear to us. There are many present, I have no doubt, who have sat by the bedside of some near relative in alarming illness, watching with anxious eye each movement of the patient, fearful that every breath might be the last, and longing, with a scarcely repressible impatience, for the approach of him upon whom every earthly hope depended. And when at last the physician came, with what trembling eagerness was he greeted! How intensely did the strained eye scan his features, to gather from their expression the message of hope or despair! What relief, what joy, when the inquiring gaze was answered by a smile of encouragement and confidence! How did the heart overflow with gratitude for that kind watchfulness, that unwearied attention, that skill, which had brought the tempest-tossed bark, laden with so many hopes, once more to a safe haven! It is in such moments as these that we feel the full value of medical services.

Even when the efforts of the physician are unsuccessful, there is a priceless consolation to the survivors in the reflection, that nothing has been left undone which skill could accomplish. The practitioner, indeed, often finds, with some surprise, that his warmest and firmest friends are those who have lost some dear relative under his care. His kind attentions are indissolubly associated with the memory of the dead; and no petty feeling of self-love, which too often endeavours to lighten a burdensome sense of obligation by undervaluing the favours received, can,

in this instance, mar the first impression of affectionate gratitude.

Were our profession unable to prolong life, were its only service to shorten and alleviate disease, and render life more comfortable, it would still be the instrument of great benefit to mankind. How often do we see pains almost beyond human endurance, which extort groans and even cries from the strong man, retiring at the command of the physician, and leaving the patient, to use a frequent expression of his own, in a heaven of relief! How often are the discomfort and unfitness for any useful exertion, which have been running through months of some chronic malady, cut short in a few days, or in a few weeks, by medical interference! Not to speak of the immense mass which is thus, in the aggregate, taken off from the load of human wretchedness, the contribution which is made to the productiveness of human industry, in all its forms, by augmenting the time and capacity for labour, is altogether incalculable. Not only, therefore, does our profession accomplish its own immediate ends of preserving life and health, with all their abundant blessings, but it indirectly also promotes the ends of every other profession, by augmenting the agency through which these ends are attained.

It yet remains to inquire what are the influences of our profession upon its own members. At the very threshold of this inquiry we are met by two notions, to a certain degree prevalent, that the study of medicine disposes to infidelity, and its practice to disputation and strife. That there have been many unbelievers among physicians, and that public attention has been occasionally called to our disputes, is not denied. But of what profession or pursuit in life cannot the same be said? The chief cause of our peculiar reputation in these respects, is probably the circumstance that we are distinguished by a peculiar designation, which reflects more or less upon the whole class the credit or discredit of each individual. If a lawyer, a soldier, a merchant,

or a gentleman without profession, should happen to be an unbeliever, or should be so unfortunate as to quarrel with his neighbour, the imputation rests with himself, and no one thinks of inquiring to which of these several classes of men he belongs, much less of fixing his fault or his misfortune upon his calling. But if a physician fall into the same predicament, his title of doctor directs the public attention at once to the great body of doctors, and we are compelled to pay for the very doubtful honour of our distinctive designation, the very extravagant price of public odium. Nay, the faults and follies of those who bear the same title as ourselves, without belonging to us, go to swell the charges against our profession; and I doubt not that, by many, the crimes of the late notorious Dr. Francia himself are laid at our door. The truth is that, among physicians as among other men, there are believers and unbelievers; and that, as other men, we occasionally differ among ourselves, and are so unwise as to bring our differences before the public; but that there is any peculiar tendency in the profession to either of these results, is altogether a mistake. On the contrary, the natural tendency of medical studies, by bringing before the mind innumerable instances of the wisest and most benevolent design, is to impress strongly upon the conviction the existence and attributes of Deity; and, at least within the circle of my own observation, a remarkable harmony prevails in the profession, even in instances where there is an apparent opposition of interests.

It scarcely consists with the occasion to enter into a philosophical disquisition upon the influences of profession in the formation of character; otherwise it would not be difficult to prove, that each practical pursuit has a tendency to stamp its own peculiarities, in a greater or less degree, upon the individual; so that, if the course of study be comprehensive and liberal, and the course of action nobly directed, the intellectual and moral character will be in a corresponding degree expanded

and elevated. Now, it has been shown that the study of medicine covers a vast tract of human knowledge; and it may be said to join, by an indefinite boundary, many of those departments which do not absolutely fall within its limits. It has been shown, also, that its practice is directed to the noblest results of human pursuit, short only of those which are to be found in a future existence. If, then, there be truth in human reason, the general character of the profession, wherever circumstances admit of its legitimate and full development, should be at once liberal and exalted, embracing a wide expanse of diversified interest, and elevated above mean and sordid views and calculations. And are not the deductions of reason justified by observation? In those countries where medicine has been duly cultivated, do we not find physicians prominent among the competitors for honour in almost every branch of literature and science? Are not their names enrolled, in large proportion, in the catalogue of every learned society? Is there a feasible project of public usefulness which does not receive their support? Is there a charity to which they do not contribute largely out of their comparatively slender means, and still more largely by their services, professionally and otherwise? Most assuredly there is no profession which gives up more of its time, and labours more assiduously, without reference to pecuniary compensation, than the medical. Endowed by its very constitution with peculiar faculties for the relief of human misery, it is impelled to the exercise of these faculties whenever occasion offers, and is thrown, almost by the necessity of the case, into a course of benevolent action. I presume that I am rather falling short of the truth than exceeding it, when I state my impression, that at least one-half of the time and service devoted by physicians to practical professional pursuits, at all events in large cities, is entirely gratuitous. It is indeed a question whether this disregard of their pecuniary interests is not carried by physicians to the very verge

of injustice; whether they have not so long accustomed the public to expect gratuitous service, that it has at length come to be considered as a right; whether, in fine, the readiness, I had almost said eagerness, with which they seize upon every opportunity for the charitable exercise of their skill, has not produced a general impression that, on all such occasions, they, and not the public, are the favoured party.

Nor is it only in the prompt surrender of their time and efforts at each call of duty, irrespective of all direct emolument, that physicians illustrate the generous and liberal spirit of their profession. In the ordinary avocations of life, a useful invention or discovery is considered as a just title to peculiar emolument; and no one hesitates to avail himself of the law which secures to him, for a limited period, the exclusive control of the new source of profit which he has created. But it is not so with physicians. The results of their labour and genius, whether new views of disease, new remedies, or new processes of cure, though years, nay a lifetime of labour and research may have been devoted to their discovery and elaboration, are unhesitatingly thrown into the lap of the profession, and made the common property of all. It is considered altogether unprofessional to keep secret, with a view to pecuniary advantage, any valuable remedy; and few regular physicians or surgeons have deigned to resort to the protection of the patent law. The only legitimate advantages to the individual, according to the strictest professional code, are the credit of the discovery, the consequent probable increase of profitable occupation, and the heartfelt satisfaction attendant upon the consciousness of having contributed to the honour of the profession, and to the general good.

Such, gentlemen, in its character and tendencies, is the profession to which you now belong. It is a profession of which you may well be proud; affording scope for the exercise of your

best faculties and affections; tending by its noble purposes to elevate you above all that is low and sordid; and making you the honoured instruments of the greatest earthly good to your fellow-men. Open your hearts, gentlemen, to the spirit which it would breathe into you, and cherish this spirit, like a sacred fire, by the vestal ministration of your highest and purest feelings. Commingled with your moral sense, it will shed a bright light about your steps, which in the darkest period of temptation will enable you to keep in the true path of honour and usefulness. Before this light, the phosphorescent splendour which often beautifies corruption itself will fade away, and you will see the rottenness as it really is. The glittering exterior of dishonourable success, which so often reflects the images of proud triumph to the eyes of the multitude, will be found a mere tinsel cover to self-reproach and conscious degradation. What if, under a system of false pretension, of unworthy contrivance, of tortuous policy winding itself into every opening however foul and crooked, a physician should attain a certain amount of temporary success; what if, in opposition to better knowledge, he should trim his sail to some popular breeze, and, raising the flag of homœopathy, Thompsonism, or some other folly of the day, should glide out of the obscurity, in which he may hitherto have been concealed, into a short-lived notoriety; what if, abandoning all regard to decent appearance, he should hang out the meretricious allurements of the vender of secret nostrums, and gather wealth and splendour by the wages of his professional prostitution; is all the success, or ten times the success which he may meet with in the world, the slightest remuneration for that self-loathing with which he must look into his own corrupt interior, for that pity or scorn with which he is conscious that he is regarded by his former professional brethren, and by the most enlightened individuals of the community which he disgraces? But I wish not to be misunderstood. It is only those

who sin against better knowledge that are here referred to. Conscientious convictions should be respected, even though based upon ignorance and delusion; and, so prone is the human intellect to every kind of aberration, that we may readily admit the possibility of an honest conversion from orthodoxy in medicine to the wildest creed that ever sprang from a deluded imagination. We can even suppose that an educated physician may become a convert to some Mormonism in medicine, and, under the scourge of public contempt, feel all the consolations of a martyr. For such delusions there should be no other feeling than compassion, as there is no other cure than time. That the public should suffer is a misfortune; but this is equally the result of ignorance and delusion on their part, and is probably one of the means, in the wise course of Providence, for the eradication of error, and the ultimate diffusion of light and truth.

Imbued with the true spirit of the profession, you will be elevated above all these sources of error in conduct and judgment. In shaping your own course, you will always have reference to the honour of your calling, which, as it is based upon truth, and aims only at the good of mankind, will, in your relations with one another, with your patients, and with the world, have a tendency to keep you within those great ethical rules which have the same origin and object. Under this influence, you will, in every doubtful case, ask yourselves the question, whether the proposed course will conduce to peace and harmony among physicians, to the welfare of those intrusted to your charge, to the general good of society, and to the due estimation and consequent influence of your profession among men; and, according as this question is answered affirmatively or negatively, you will unhesitatingly advance or recede, even though your apparent immediate interests may suggest a different conduct. Nor, in the end, will you ever have occasion to repent the seeming sacrifice. The instances are few, indeed, in

which perseverance in a strictly honourable professional course, with a due degree of enterprise and industry, has not led to ultimate success ; while, in our voyage through life, we are constantly passing the wrecks of hopes once as fair as our own, stranded upon the shoals of temporary interest and disreputable expedient.

We have thus, gentlemen, in taking our last farewell of you as a body, endeavoured to leave with you, as a parting gift, some thoughts for your professional guidance, which I have no doubt will be received in the same kindly spirit in which they are offered. It gives us great pleasure to present you, in addition, with the acknowledgment of our entire satisfaction with your deportment and exertions during the past winter, and with the general success which has crowned your efforts. From the peculiar relations of our school towards the country, and towards the sister schools which have sprung up everywhere in such rapid succession, it has happened that a progressive improvement has been observable in the classes of graduates who have annually left our walls ; and I am authorized by my colleagues to say, as their united sentiment, that the present class constitutes no exception to the general rule. We have, indeed, been exceedingly gratified by the result of the recent examinations, which, though assuredly not less rigorous than those of preceding years, have evinced a degree of preparedness on the part of the candidates, which has been equalled on no former occasion within our recollection. We send you forth, therefore, with entire confidence that your future course will be creditable to yourselves, and to the institution whose honours you bear. It is scarcely necessary to say that, wherever you go, you will carry with you our warmest sympathies. We have a personal interest in your conduct and success. Scattered over every part of the country, you will be the standard by which men will judge of the merits of the school in which you were instructed ;

and we are willing to abide the test. Whether your present grade of character and professional attainment, or the position you are hereafter to occupy, be regarded as the criterion, we are willing to rest our claims to public approval upon the result of an impartial judgment. Perhaps, the very consideration that the reputation of your *ala mater* is in some measure in your hands, may add a generous and effective impulse to the other motives which urge you onward in the course of honourable exertion. There is no purer source of satisfaction, in this world, than so to stand in the eyes of men as to reflect back honour upon those to whom we have been in any degree indebted for early culture.

But, gentlemen, we must bid you farewell. Crowds of thoughts and emotions press upon us at this moment of separation, which time is wanting to express. We must content ourselves with referring to your own good sense for all of counsel, and to your own hearts for all of feeling that we are compelled to leave untold. May the divine blessing attend you throughout this life, and follow you in the life to come.

ADDRESS III.

DELIVERED TO THE GRADUATING CLASS AT THE COMMENCEMENT,
HELD MARCH 29TH, 1856.

GENTLEMEN :—

YOUR state of pupilage is now passed; and, by the solemn act just performed, you have been admitted into full membership in the great medical body. We, your late teachers, congratulate you on this fulfilment of your wishes, and receive you heartily into professional brotherhood. Custom, as well as our own feelings, prompts, along with the most kindly greetings upon the occasion, a few words of friendly suggestion, such as age and experience, and an interest scarcely less than parental, may perhaps be admitted to warrant.

But first we have the pleasing duty to perform, of awarding to merit its just meed of commendation. The Faculty are united in the statement, that with no class which has ever assembled, under their tuition, have they had better reason to be satisfied, whether in relation to general demeanour, or industrious application to study. For some years, it has seemed to them that, in both these respects, a gradual advancement in successive classes has been observable; and the present assuredly affords no example of retrogression. It is due to the students of medicine who now annually flock to our city, that we should perform our part towards placing them erect, as they deserve to be, in public

opinion. There is, perhaps, still lurking in our community some residue of that old prejudice, if prejudice it was, which regarded the young devotee of medicine as a little given to wildness; as disposed to qualify the sobriety of his daily routine by an occasional effervescence of conduct, not strictly in accordance with the rules of law and good order. Now, whatever may have been the truth in relation to past times, I do most sincerely express the conviction, that the students of the present day are characterized by a regard for the proprieties of life, even beyond what is generally observable of young men of the same age; and that an equal number of any other calling whatever, not bound by peculiar religious obligations, collected under the same circumstances of freedom from restraint, would offer more frequent occasion than they for complaints of irregularities, and various indecorums. The very nature of their position has led to this result. With the increase of professional competition, and the widening of the circle of medical knowledge, there has been an increased necessity for exertion; and the student feels that, to secure the attainment of his objects, he must work more, and amuse himself less than his predecessors. That he does labour diligently; that the scholastic hall and the quiet chamber are more familiar to his experience than the theatre and the bar-room; that his feasting is mainly at the board of knowledge, and his intemperance that of study and not the bowl; are sufficiently evinced by the contrast between what he is in face and person when he arrives, and what he becomes before departing. With this contrast I have often been struck. Fresh from active pursuits, he comes ruddy or embrowned, full of health, spirit, and physical energy. Five or six months of confinement and hard mental work follow; and, when he goes, he carries with him not unfrequently pallid cheeks, a wasted body, and a spirit worn by anxieties and fatigue. How often have I been consulted for dyspeptic symptoms, headache, mental dejection or disquietude,

and various nervous disorder, for which I have been able to hold out the termination of the course of study as the only cure! It is no dispraise to you, young gentlemen, to appeal to your present looks as confirmatory of what I have said. If your fair friends do not see in you all the bloom and rotundity which may please the mere physical eye, I will venture to pay them the compliment to believe, that they see and appreciate the deeper intellectual accomplishment, which has been gained at the expense of the outer man. Let them look on you some twelve months hence; and, unless my observation in similar cases has been strangely fallacious, they will discover no deficiency of health and manly vigour. But, with my opinion of the sex, I would infinitely prefer, to the mere admiration of external form, that feeling of inward approval, of respect for labours achieved and honours won by meritorious effort, which woman is so apt to evince, and which speaks so strongly of her own pure and noble nature. If, then, I may be permitted to turn for a moment from you to those who have honoured you and us with their presence this morning, I would beg of them to join us in the effort to give the character of the medical student that place in general estimation which it merits. They will thus not only be doing an act of justice, but will contribute to the still further elevation of that character, by offering to those who may hereafter come among us the strongest inducement to support and improve the reputation which their predecessors left them, and sedulously to avoid everything which might fix the least stain upon it.

But let us return from this little digression into which the occasion tempted us, and set out upon a brief anticipatory journey through the future that lies before you. The dreamer crowds the events of years into a few minutes. Let us dream ourselves on the path of life together. Perhaps we may be able, by a rapid course, to reach the end of it before we part. Per-

haps, too, some thoughts may spring up, some hints be gathered by the way, which may remain when the dream is over, and serve a useful purpose on the real journey which is to follow.

Your first steps are those of exultation and gladness. You have aspired, have laboured, have denied yourselves, and have won. The goal is reached; the prize is in your hands. And now for home, sweet home! Ah! the delight of returning once more to assured affection. The father's benignant greeting; the deep tenderness of the mother's eye; the mingled smile and tear of the sister; the boisterous glee of the young brother; and, it may be, the warm blushes of one not less loving or beloved; what is there in life more delicious? All nature exhales sweets for you in this morning of your journey. Earth, air, and water; the field and the stream; man and his works; and lovely woman, the crown and the charm of all, spread for you the feast of enjoyment everywhere upon your way. Soul and body expand under these genial influences. The sickly hue and languor of study give way to the bloom, the vigour, and activity of health.

But this stage of excitement passes. Man was not made for self-indulgence. Your long labours have gained for you a brief period of exuberant gratification. It is the reward of toil. But nature has paid her dues, and in her turn puts forward the inevitable claim, either labour or suffering. We have been gifted with powers mental and bodily. These powers were given to be used; and the penalty for not using them is pain. The limb always at rest suffers with an aching void; the body unexercised is punished with the tortures of dyspeptic and nervous disorder; and mental inertness is almost surely attended with the horrors of ennui. But nature is not unkind; though she exacts labour under the penalty of suffering, she repays it with enjoyment. Every faculty has connected with it a chord, that incessantly vibrates pleasure when the faculty is duly exercised. Paradoxical as it may seem to you, I believe that the purest and most

lasting gratification in this world, is that which waits upon the full and even laborious exercise of each faculty to its legitimate end; whether of the bodily powers to their ends, the intellectual to theirs, or the moral, including the conscience, to theirs. The commencement of laborious efforts may be distasteful; there may be frequent occasions for painful self-denial; and the firmest control of the passions may sometimes be necessary to restrain their irregular tendencies; but a balance fairly struck will show a great preponderance in the scale of enjoyment.

The point in your life-journey that we have now reached, is one at which you are called on for a decision, upon which must turn the happiness of your whole future. Too many, intoxicated by the brief draught of pleasure, and indisposed to relinquish it, attempt to supply the first vague uneasiness of satiety, and to quiet the troublesome calls of conscience, by the aid of artificial excitement, of the short joys of intemperance, the delirious excesses of the passions, or the scarcely less noxious influence of mental dissipation. They fall off by the way. Some are lost, and heard of no more. Others linger out a miserable existence, with health destroyed by excess, and minds dead to enjoyment, useless to the community, and a burden to themselves. A few are arrested in their downward course of dissipation, vice, and wretchedness, and succeed in regaining the starting-point, after long and uncertain struggles, to begin anew the great work of life, with powers rusted by neglect, and feelings blunted by premature indulgence. Oh! gentlemen, may no one of you incur this sad fate! May yours, one and all, be the choice of prudence and wisdom!

Most happy is it for many of you, that you are not overloaded with this world's treasures; that necessity will come in aid of your better resolutions, and urge you on in the right path. There are few misfortunes greater for a young professional man than to be independent of the world. The temptations to self-

indulgence are almost too strong for those not aided by long habit to resist. I have greater respect for no man than for him, who, with all the pleasures of the world at his command when young, holds a firm rein over his propensities, and mounts the laborious ascent of honour by his own determined efforts. He richly merits whatever eminence he may gain. But, in the mean time, those of you who are not exposed to his temptations, instead of repining at your lot, should congratulate yourselves on your exemption, and on the greater probability it affords you of one day attaining all that an honourable ambition can hold out as desirable in this world. Be assured that, if you consult those who have preceded you, and reached the eminence at which you aim, the great majority of them will tell you, that one of their greatest causes of thankfulness is to have escaped the dangers of wealth, and even of competence, in early life.

Well, gentlemen, you are resolved to struggle manfully for professional success. But, you may ask, how are we to struggle when there is nothing for us to do? Now, here again is a blessing in disguise. One of the worst results for you would be to rush at once into the full tide of business. Employed in practical duties, you would have no time, and probably no disposition for self-improvement. You would be arrested at the point of progress at which you stand; and, though a certain amount of income, and a certain professional position might be attained; yet these would fall far short of the highest; and you might, as you advanced in life, have the mortification to see yourselves outstripped by those who had, in their early career, enjoyed and availed themselves of the opportunity of enlarging their store of professional and general knowledge. The first few years of a physician's life, during which he is awaiting the slow incomings of a regular business, are a precious opportunity, upon the proper use of which much of his subsequent prosperity must depend. In the schools, and the regular course of study, you have acquired

the elements of your profession. You have had a foundation laid, upon which you are yourselves to build. Instead, then, of folding your arms in listless idleness, or dissipating your time in irrelevant pursuits, or repining in moody inertness over the slowness of your success, bend your energies to the acquisition of knowledge and skill; study the records of the past; by a close observation, make the experience of your older contemporaries your own; seize every opportunity which the sufferings of the destitute may afford you of improving yourselves, while you extend aid to them; even wander out occasionally into the regions of general literature, and garner up thoughts, facts, and feelings, which may tend to enrich and adorn your mental structure, and give your whole character, both in itself and in the eyes of the world, the amplest development and fairest proportions. Depend upon it, your labour will not be thrown away. Opportunities occur to all men. They occur in vain only when there is a want of disposition or qualification to make use of them. Be prepared to meet the advances of fortune, and she will be sure to befriend you. The great danger is of premature discouragement. Many a professional man has thrown himself away, when approaching success was almost within sight; when it was about to turn the very corner, upon which his despairing eye had just taken its last look, before his departure into other scenes and struggles.

Let me tell you of another rock on which young men too often split. It is the rock of false pride. Nothing is more disgusting than an over-pushing disposition, resolved to gratify itself at any sacrifice of honourable feeling, independence of character, or regard for the rights of others. But distaste for such an exhibition does not justify that absurd pride, which shuts itself up in its own shell, and expects the world to approach, and beg that it would come forth, and warm itself in the sunshine of its favour. The world has a right to expect that we should make

known our ability to serve it; and he who neglects all honourable opportunities of favourably impressing the community in which he lives, has no right to expect its aid in the furtherance of his own purposes.

I repeat that, with qualifications improved by culture, with all due personal efforts, and with a proper perseverance, you can scarcely fail of success in the end. It may be that all of you have not resources upon which you can rely until success may come. But there are honourable means by which an energetic young man may supply the deficiencies of professional income; and rigid personal economy, with a prudent avoidance of premature responsibilities, will always enable him, if in health, to supply his essential wants, if not exactly on the spot which he might prefer, yet in some part or another of this vast country. Determine only that you will not live on the future, that you will not allow yourselves to enjoy pleasures that you have not earned, that you will not fall into the fatal error of supposing yourselves entitled to begin life, with all the comforts and indulgences which your parents may have won for themselves before its close; determine thus, and I can almost guarantee you against ultimate failure.

But should your expectations be disappointed, should it seem evident to you, after due patience, whether with or without fault of your own, that satisfactory success in your profession is unattainable; do not, I beg of you, in your despair, descend into any degrading practices. Leave the whole ground of quackery free to ignorance and imposture, without competition from you. Some regularly educated physicians, I say it with shame and sorrow, have deserted the banner under which they had enlisted, and thrown themselves recklessly into the empirical ranks. They may, in some instances, have received the pecuniary recompense they sought for; but I need not tell you of the consciousness of merited contempt, and of the self-loathing which

fester under the gilded exterior of their fortunes. Ignorance may plume itself upon success in the stratagems and impositions of quackery; but intelligence never can sink to that miserable level, without an inward contempt and scorn of the baseness, which, brazen-faced as it may be before the world, will forever cling to the innermost conscience with a vulture-like tenacity. Anything but this, gentlemen! If you cannot succeed regularly in your profession, leave it; seek your fortunes in some other honourable or honest calling; become lawyers, merchants, manufacturers, farmers, mechanics, labourers; if necessary, stitch, or cobble, or dig for a living; nay, starve, if it must be so; but never turn to quackery. There is, however, no danger. You cannot be guilty of the baseness. I do not know whether an apology is not due to you for the mere hypothetical supposition.

We will take it for granted that you have succeeded in your profession. You have merited and gained the confidence of your neighbours. Hundreds look to you as the guardians of their health, their main earthly hope in the agonies and dangers of disease. Here is an immense responsibility. The sacred ark of human life has been intrusted to your keeping. You are an anointed priesthood in its service. How important that your hands should be clean, your hearts pure, and your souls deeply reverent in your ministrations! This, gentlemen, is the light in which you should habitually view your profession; not as a mere business; not as a mere avenue to competence or wealth; but as a covenant with the Most High, by which you are devoted, soul and body, to the good of your fellow-men, so far as that may depend on life and health. The ox, however, must not be muzzled that treadeth out the corn. You have a right to expect from your labours a support equal to the dignity of your calling. But this should be looked on as incidental; as an important, or even essential accessory, if you please; but not as the great end

and aim. He who enters the medical profession with a mercenary spirit, will almost necessarily come short of its highest requirements. Aiming at the appearance rather than the reality of skill, he will think more of the impression he may make on others, than of a proper understanding and treatment of the disease. Where nothing is to be gained but the consciousness of duty fulfilled, he will be little apt to spend time and labour, which might yield him more if applied elsewhere, or at least would be abstracted from his pleasures. For the frequent self-denial, the steady devotion of thought and energy, the unwavering guard over his precious charge, as well when unseen as when seen of men, which characterize the right spirited practitioner, he has no sufficient inducement. He will be almost necessarily more or less superficial. He never can be the true model physician. Just in proportion as medicine is cultivated in the mercenary, or in the pure professional spirit, will be its decay or advancement in efficiency, real dignity, and acceptance with God and man.

Be this, then, gentlemen, your great care—to establish and cultivate proper notions of your high calling; to fix in your innermost convictions the truth that you are engaged in a great mission, and responsible to Him who sends you forth for its due discharge. This feeling will be the best preservative against every temptation; against the solicitations of indolence or pleasure; the hateful suggestions of envy; the unkindly influence of opposing interests; and the irregularities of all sorts that spring up, like noisome weeds, in the rotten soil of an avaricious or grasping spirit.

Time is not left to sketch that round of duties, of things to be done and avoided, of feelings to be cherished or subdued, of relations to be preserved with the public, the sick, and your medical brethren, which constitute the ethics of your profession. But they all fall within the great general principle already referred

to. Get the true professional spirit, and all else that is needful or desirable will be added unto it. Nevertheless, you will find great aid from the study of those written rules, which the wise and good among your predecessors have deduced from an ample experience, cultivated judgment, and enlightened conscience. Such a code of ethics has been adopted by the great national medical association, and published as a guide to the whole profession. I would urge on you to study it thoroughly, and make its rules the laws of your professional life. Based, as they are, upon sound morals and a lofty feeling of honour, they cannot but lead, if duly observed, to the elevation of our calling in usefulness, dignity, and respect, and consequently to the personal advantage of every conforming member.

Before coming to the closing scene, let us picture to ourselves your position, when, in the middle or decline of life, having struggled manfully through early difficulties, you are firmly fixed in the confidence of the community, with a consciousness that you have lived up to the capacities with which Heaven has endowed you, and endeavoured, so far as is compatible with human infirmity, to make your conduct conform with your convictions of social and professional duty. Let us see whether there is not something in such a position worthy of the aspirations of the young, and calculated to encourage them in a course of honourable effort, and virtuous self-denial.

You are in the midst of those who feel themselves indebted to you, either in their own person, or that of their nearest friends, for the continuance of life and health, or associate you affectionately with the memory of lost relatives, whose sufferings have been alleviated, and their last moments cheered by your kind and indefatigable attentions. If a soured temper, or perverted heart, may occasionally seek satisfaction in misinterpreting or misrepresenting your best exertions, it is only an evil which is incident to humanity in every station; a slight mixture of bit-

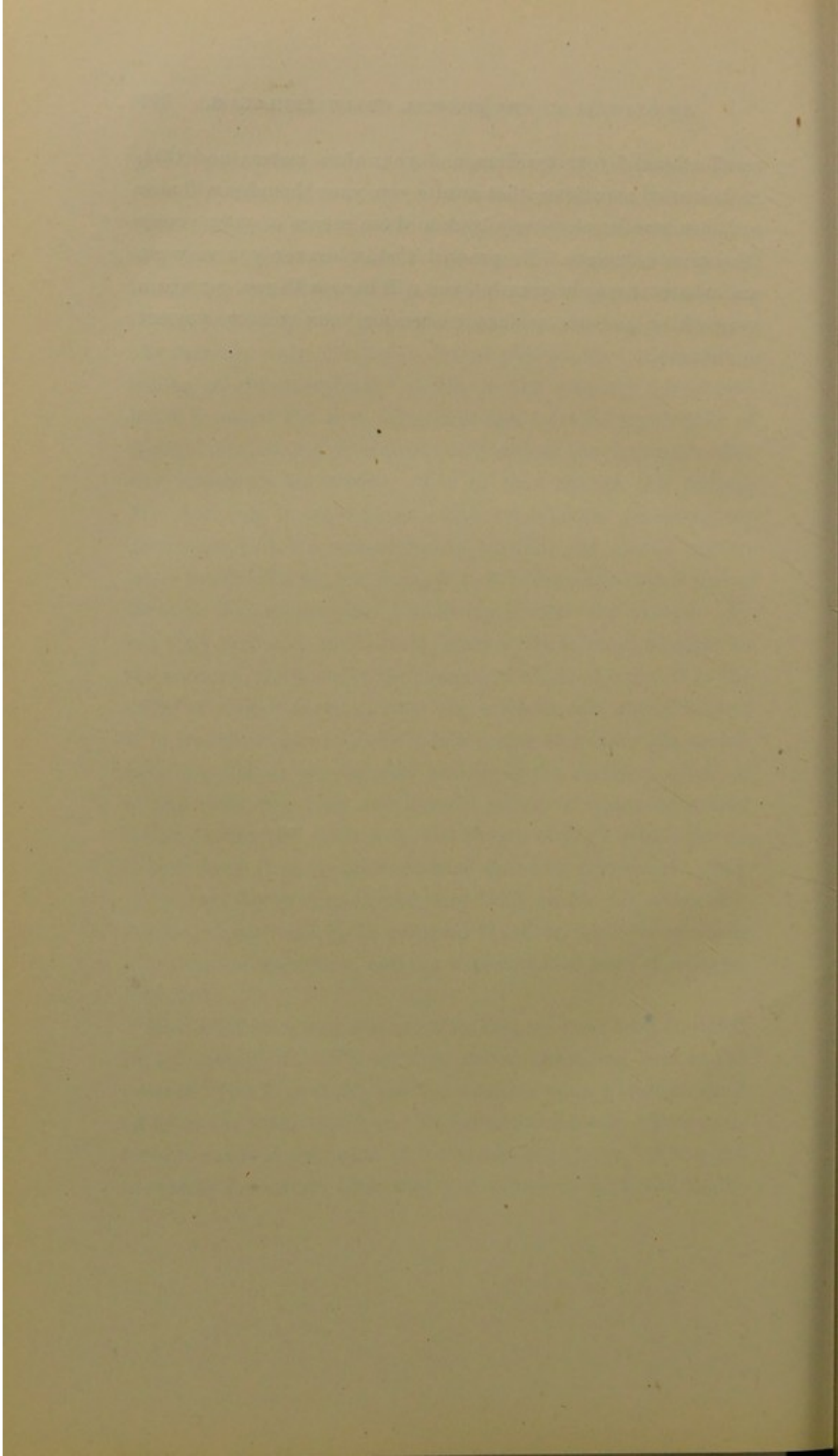
terness in your cup, which, though not agreeable to the taste, may have an invigorating influence on the mental health. No profession probably offers less occasion for unkindly feelings. You thwart no interests in your progress; your success is not attained at the expense of others; yours is not the reckless course which crushes under its iron wheels whatever of respect, competence, hope, enjoyment, or any other pleasant or valuable thing, may lie in its ambitious way. Your aim is always the good of others; your triumph is also theirs. Wherever you go, you scatter hope, or joy, or consolation. Not only affection, but respect and esteem attend you. Social influence, and the power to do good in other walks than the purely professional, are yours. The comforts of life, and not unfrequently even its elegancies and superfluities, are at your command. If without political power and station, it is only because these are incompatible with your pursuits, habits, and tastes. The highest in the world deem themselves not dishonoured by your association and friendship. Your name and character are a rich inheritance for your descendants for generation after generation. Is not this a position fully worth all its cost? Is it not a sufficient compensation for the early labours, the trials, the patient waiting, the watchings, fatigues, anxieties, for all, indeed, but the awful responsibilities of a physician's life? For the burden of these responsibilities, an approving conscience, and the trembling hope that the most merciful may overlook the shortcomings of human weakness, are the only adequate recompense.

And now, gentlemen, we have come to the last scene of life. This is usually looked on as an occasion from which the thoughts are to be turned away as from some fearful object, the contemplation of which is calculated to throw a shade of gloom over every present and coming enjoyment. But this is a great mistake. Death is inevitable; and it is cowardice not to be willing to look it steadily in the face. In the physician especially, whose

path it constantly crosses, who cannot hope to exclude its presence, it is extreme weakness to shut the eye against it, and thus endeavour for a brief space to dream of an impossible exemption. We should accustom ourselves to regard it firmly, to strip it of imaginary terrors, to see in it whatever there may be of good or of evil, and calmly to prepare ourselves accordingly. This is the part not only of religion, but of philosophy. An habitual feeling of the uncertainty of life, in the properly constituted mind, is one of the best safeguards against all irregularities of thought or deed, and the surest guide back to the right path after any temporary wandering. Let us then cherish this feeling. We shall find it incompatible with no innocent pleasure; we shall even find it a consolation in trouble; and should misfortunes overwhelm us, we shall see in it at least one star beaming through the tempest, and betokening a clear sky beyond. To the duly prepared mind, death, come when it may, whether in the morning, the noon, or the evening of life, is no evil. If in the midst of joys, it saves us from the sorrows that surely follow; if in trouble, it gives relief; if in a course of honourable usefulness, it embalms our memory sweetly in the common mind; if at the close of a long and upright career, it comes as a kind friend, to free the spirit from the burden of flesh, which can no longer serve it as an instrument of action or enjoyment. May yours, my young friends, and may ours be the lot, when this messenger shall call, to be prepared to follow, with the calmness of a peaceful conscience, and the well-grounded hope of a happy futurity!

But, gentlemen, you may recollect that we have been occupied by a dream of life. We are now awake again, and back in the present. This is probably the last occasion upon which we shall all be in one place together. To-morrow; and you will be scattered towards every corner of our common country. Allow me to express the sincere hope that you will carry with you kindly

recollections of your teachers, and your alma mater; and that, in the varied experience that awaits you, your thoughts will now and then wander pleasingly back to these scenes of your young labours and success. Be assured that, wherever you may go, and whatever may be your lot, you will have with you our warm sympathies, and our zealous wishes for your welfare, present and eternal.



BIOGRAPHICAL MEMOIRS.

THE UNIVERSITY OF CHICAGO

A MEMOIR
OF
THE LIFE AND CHARACTER
OF THE LATE
JOSEPH PARRISH, M.D.,
READ BEFORE
THE MEDICAL SOCIETY OF PHILADELPHIA,
OCTOBER 23^d, 1840.

THE office assigned me by the Medical Society of portraying the life and character of the late DR. JOSEPH PARRISH, is a trust most grateful to my feelings. To be appointed to speak of such a man before such an audience, is a mark of respect which no one could fail to value; but a still higher source of gratification, in the present instance, is the opportunity afforded me of giving utterance to those sentiments of esteem and warm affection which I ever cherished for the deceased, and which I still cherish for his memory.

I do not propose to enter into much minuteness of biographical detail. This is forbidden by the necessary brevity of an address like the present, and by the nature of the occasion, which calls less for a narrative of the ordinary incidents of life than for the just representation of a medical character, pleasing by its beautiful traits, and useful as a rare pattern of what is

most praiseworthy in our profession. The man, however, was in Dr. Parrish so intimately blended with the physician, his professional excellencies flowed so directly from the qualities of his heart and intellect, that no portrait of his medical character would be recognized, which should not also present the striking lineaments of his moral nature. In the following sketch, therefore, having offered some notices of his parentage, education, and general course of life, and especially such as may illustrate his character, or may appear to have had any influence in its formation, I shall endeavour to revive in your recollection his distinguishing moral and intellectual peculiarities, and then to trace those qualities as a physician and medical teacher which rendered him so extensively useful, and so highly esteemed in this community.

Dr. Parrish was descended from one of the early settlers of this country. His great-grandfather, John Parrish, who was a native of England, though of Dutch extraction, commanded a merchant vessel trading to the Chesapeake, and afterwards became surveyor-general of Maryland, where he took up considerable tracts of land, on a portion of which some of his descendants still reside. He perished in a storm by which he was suddenly overtaken while in a small boat on the Chesapeake, returning from a visit to a ship sailing up the Bay. The grandfather of the Doctor, also named John Parrish, died in possession of a landed estate, on which a part of the city of Baltimore now stands. This, however, was lost to his family, though the title to it is said never to have been surrendered; and application was made, at a comparatively recent period, to the subject of the present memoir, to join in an effort for its recovery, with the assurance that there were good grounds to hope for a successful result. The determination of Dr. Parrish, on this occasion, was strikingly characteristic. He promptly declined the proposition, on the ground that no advantage which could

accrue to himself or his family would counterbalance the uncertainty, inconvenience, and positive distress into which numerous individuals might be thrown by the agitation of the subject, who had honestly acquired their titles, and were now relying on them with undoubting confidence.

Isaac Parrish, the father of the Doctor, was one of a considerable family, who, upon the death of their mother, were left almost destitute, and were sent to Philadelphia, in compliance with her request, to be placed under the care of some near relatives of hers residing in this city. He had been intended by his parents for a physician; but the means for carrying their intention into effect were found to be wanting after their death; and he was placed as an apprentice with a very respectable hatter, whose daughter he afterwards married. Honest, frugal, and industrious, he succeeded well in his business, supporting and educating a numerous family, and retiring, in the decline of life, upon a decent competence, with the respect of all who knew him. He was especially esteemed in the Society of Friends, of which he was a consistent member, and in which both he and his wife held highly respectable stations. The reward of a virtuous life has seldom been more happily exemplified than in the old age of this venerable couple. They lived sixty-six years together in unbroken harmony, and died within a short period of each other at a very advanced age. Their last years were cheered by the affectionate attentions of their few remaining children. They who enjoyed the familiar intimacy of Dr. Parrish cannot but vividly remember his beautiful deportment towards his aged parents. The youngest of eleven children, of whom the greater part died early, he was their joy and consolation throughout life; in youth obedient, in manhood affectionate and attentive, and, when the weakness of old age came upon them, all that was tender and respectful; so that, when he finally closed the eyes of his venerable father, he could

say with sincerity that he was not conscious of having ever offended him.

Dr. Parrish was born on the 2d of September, 1779. He received a good English education, and was taught Latin at the Friends' school in Fourth Street, at that time in considerable repute as a place of instruction in the learned languages. He afterwards paid some attention to French, and still later in life to the Hebrew, which he cultivated exclusively in reference to the study of the Bible. He could not, however, be said to have a decided literary turn; and, though he took care to qualify himself well as a physician by a somewhat extensive course of medical reading, and in the few leisure intervals of a very active life, occasionally perused works of general interest, yet he was indebted, as well for his professional skill as for his extensive knowledge of men and things, less to books than to an extraordinary faculty of observation, and a memory unusually tenacious of facts. He nevertheless always attached great importance to mental culture; and, in his last will, while giving directions in relation to the education of his children, he expresses the sentiment, that he would rather a child of his should expend every cent of his inheritance in the acquisition of knowledge, than that he should arrive at maturity, in possession of a large estate, without the advantages of scientific attainment.

The moral and religious education of Dr. Parrish was of the most guarded kind. He was brought up in strict conformity with the principles and habits of the Society of Friends, and early in life received strong religious impressions, which preserved him in a remarkable degree from the temptations of a warm and lively temperament. From some notes which he left behind him, made about the commencement of his medical studies, it appears that, even in youth, he was under the habitual guidance of that inward principle, in which the Friends recognize the Divine Spirit operating upon the mind, and the

reality of which is one of the prominent points of their religious faith. Upon this subject I shall have occasion to speak more fully hereafter ; as there was scarcely an important act or event of the life of Dr. Parrish, which did not receive impulse or modification from his settled convictions in relation to this monitor within him ; and to leave it out of view would be to present an imperfect, if not an inaccurate picture of his character.

But, while thus moral according to the strictest rules of his self-denying sect, he indulged freely in the innocent sports and recreations of boyhood, and was distinguished among his companions by his skill in various athletic exercises. He was a swift runner, a good swimmer, and an excellent skater. In the facility, grace, and rapidity of his movements upon the frozen surface of the Delaware, few if any of his contemporaries surpassed him. This accomplishment he carried with him into manhood ; and it is related of him when in middle age, and in full reputation as a physician, that, having occasion to make a professional visit, during winter, upon the opposite bank of the river, he accepted from a friend the loan of a pair of skates, and astonished the spectators by some of those complicated and graceful evolutions which have now become almost an affair of tradition among us. His aversion to confinement and fondness for the free and fresh air never forsook him. Throughout the whole course of his life, he could not tolerate a close and heated apartment, slept always in summer with his windows up, and even during illness found a degree of coolness essential to his comfort, which was almost hazardous to his attendants. There is no doubt that this personal predilection influenced greatly his course of practice ; and, long before the profession generally, in this place, were prepared to adopt the plan, he had introduced into the treatment of various diseases a system of exercise, exposure to cool air, and free indulgence in cool and refreshing drinks, which, to the great comfort of the patient and success of

the physician, have at length, in many instances, superseded the old system of drugs, warm beverages, and confinement.

His youthful partialities were strongly directed towards the study of medicine; and those among his early friends who afterwards witnessed his extraordinary professional success, took pleasure in recalling many evidences which he had exhibited, even in boyhood, of a natural turn and natural qualifications for this pursuit. He was fond of reading upon the subject of diseases, exhibited an instinctive disposition to visit and nurse the sick, and, in the absence of other modes of indulging his propensity towards the healing art, is said to have exercised his skill upon the inferior animals, and to have exhibited some dexterity in the treatment of their fractured limbs. The fears of his parents, however, were for some time an obstacle to the gratification of his wishes in the choice of a profession. They were unwilling to expose the strictness of his religious principles, the purity of his morals, and the simplicity of his habits and feelings unnecessarily to the seductions of the world; and entertained a belief, much more common at that time than at present among the Friends, that a strict observance of their peculiar views and customs as a sect, was incompatible with the various temptations to which the student of medicine was subjected. Respecting, though not acquiescing in these parental fears, he surrendered his own wishes, and entered into the shop of his father with the view of qualifying himself for conducting the business of a hatter, rather, however, in a mercantile than a mechanical capacity. In the most brilliant period of his subsequent career, he never had the weakness to look back with regret upon the occupation of his early life, or the remotest wish to conceal it from others. On the contrary, he always entertained great respect for mechanical pursuits, and considered a descent from honest and worthy parents, however humble their station, as a juster ground of self-congratulation than the highest splendour of ancestry without the accompaniment of virtue.

In this position he continued till his twenty-second year, when, as his own inclinations remained unaltered, and the objections of his parents had yielded to more mature reflection, and perhaps also to increased confidence in his stability, he felt himself at liberty to engage in the study of medicine, and accordingly entered as a private pupil into the office of Dr. Wistar, at that time Adjunct Professor of Anatomy and Surgery in the University of Pennsylvania. The advice and example of the late Dr. Samuel Powell Griffiths, who was in great esteem as a physician, and was at the same time a strict and conscientious Quaker, had considerable influence in bringing about this result. For this and numerous other friendly offices of that gentleman in promoting his professional interests, Dr. Parrish always entertained the most grateful feelings; and a friendship sprang up between them, which was fruitful in mutual service, and continued without abatement till the death of Dr. Griffiths.

The mode of conducting medical education was in those times very different from that which now prevails in this city. Physicians supplied medicine as well as advice; and it was among the duties of the student to put up the prescriptions of his preceptor as they were brought to his office, and even to carry out the preparations himself in cases of peculiar urgency. I have often heard Dr. Parrish speak of the errands on which he was dispatched, by day and by night, over all parts of the town, conveying the messages of his preceptor, and distributing medicines among his patients. The student also not unfrequently visited the sick, nursing them, sitting up with them at night, and occasionally affording his advice upon emergencies when immediate access could not be had to the principal. In relation to his reading, he usually received some general directions from his preceptor, to whose library he had access; but was seldom subjected to a routine of study and close examinations such as are now common, and was therefore more or less deficient in that precision

of elementary knowledge which characterizes the student of the present day. I am fully convinced that the plan of education which now prevails is the most efficient; as it insures a good foundation, upon which experience may subsequently build, and which, if wanting in the outset, is seldom afterwards obtained. But there were some advantages in the old mode, and among these were greater originality and independence of thinking, greater practical facility arising from frequent intercourse with disease, and a more thorough acquaintance with medicines and the modes of preparing them. The peculiarities of his education were to be traced in the subsequent course of Dr. Parrish; and to this origin we may ascribe the strong bent of his mind towards practical observation and experience, in preference to abstract reasoning and theoretical disquisition in medicine. He certainly availed himself fully of all his advantages, and by his industry and close attention, as well as by a congenial goodness of heart and obligingness of disposition, succeeded in gaining the esteem and entire confidence of his preceptor, who loved him as a younger brother, and treated him throughout life with a kindness which gained in return his whole affections. Those of you who have listened to the medical lectures of Dr. Parrish, cannot but recollect how frequently and respectfully he quoted the sentiments of his old master, as he was wont to call him, and how unreservedly, on all occasions, he expressed his admiration of the character, and his grateful sense of the favours of that good and great physician.

He received his degree of Doctor of Medicine in the University of Pennsylvania in June, 1805, having written an inaugural essay "Upon the influence of the passions in the production and cure of diseases," which was printed, in compliance with a rule of the University existing at the time. This essay exhibits the practical turn of his mind even at that early period, consisting chiefly of a collection of facts, gathered from various sources with no little

industry. After his graduation, he spent a short time in the recreation of travel, and upon his return, about the close of summer or beginning of autumn, entered upon the duties of his profession, as resident physician in the Yellow Fever Hospital. It was under a most solemn sense of his responsibility that he thus commenced his professional career. He felt habitually that he was in the immediate presence of his Maker; and from his private notes it appears that, conscious of his own weakness, he constantly sought for aid from that gracious power, whose will he endeavoured to make the rule of his life, and before whose judgment-seat, in his own breast, he strove to bring up every proposed act for approval or rejection. With such feelings, it is superfluous to say that he distinguished himself in the hospital by a devoted attention to the duties of his station; and his native benevolence co-operated with his sense of right, in leading him to apply every alleviation in his power to the miseries by which he was surrounded.

The favourable impression, made by his services in this situation, was afterwards increased by the publication of some experiments in relation to the poplar worm, which were of great effect in allaying a very singular panic, at that time prevalent throughout the country. An individual was found dead in his bed, and a living worm along with him, of that kind which frequents the Lombardy poplar, and is thence commonly called poplar worm. The public somewhat unphilosophically leaped to the conclusion that the worm and the sudden death were in the relation of cause and effect. Rumour speedily collected numerous confirmatory observations; in the hot-bed of popular fear suspicions quickly ripened into facts; and the belief came to be very widely diffused that this species of worm was exceedingly venomous, and that a frightful death was lurking in every Lombardy poplar in the country. A war of extermination commenced both against the worm and the tree which sheltered

it. The one was slaughtered without mercy, the other given everywhere to the axe and the flames; and our streets would soon have been left without shade, but for the timely publication of the experiments alluded to, which conclusively proved that the worms were harmless, and the Lombardy poplar as guiltless of any noxious influence as it was of any extraordinary beauty.

But the event which, in the early career of our late friend, contributed most to make him favourably known to the public, was the delivery of a course of popular lectures on chemistry, which he first gave in the winter of 1807-8, and repeated twice afterwards in successive years. Popular lectures on scientific subjects were then a novelty in Philadelphia. Their annunciation was much more calculated to attract attention, and a successful essay was much more striking and permanently influential than they would be at the present day, when the public has become accustomed to such claims upon its attention, and one impression is so rapidly followed by another, that a lasting effect is seldom produced. Dr. Parrish knew how to mingle the agreeable most happily with the useful, and his aim was always as much as possible to unite the two. To be merely amusing was contrary both to his principles and his taste; but no one was better aware of the necessity of throwing about dry details the embellishments of happy illustration and a pleasing delivery; and, however strict in his religious opinions, he would have as little thought of denying to his subject whatever interest of this kind he could impart to it, as of stripping a vernal landscape of its leaves and flowers, or a summer shower of its rainbow. He endeavoured to give to his instructions a practical bearing upon the ordinary pursuits of life, mingled with the chemical details various physiological observations calculated to obviate the too natural tendency of the uninstructed to empiricism, and took advantage of the numerous opportunities, offered by his subject,

to illustrate the wisdom and goodness of Providence, and to mingle lessons of piety with those of science. There is no doubt that he contributed by these lectures to awaken that spirit of popular instruction which has not since slumbered in our city; while he earned for himself a reputation, highly advantageous in the prosecution of his professional views.

In the mean time he had been attending diligently to practice, and was acquiring, in the arduous labours of the Philadelphia Dispensary, that experience of disease which was necessary to confidence in himself, and to inspire confidence into those who might from other causes be disposed to favour him. He was chosen one of the physicians of the institution in 1806, and continued to serve it zealously until the increase of his private business compelled him to withdraw. Upon his resignation in 1812, he received the thanks of the managers "for the faithful discharge of the duties of his office for six years and a half." In 1818, he was himself elected a manager, and in 1835 was appointed one of the consulting physicians of the institution; and the latter station was retained by him to the time of his death.

In October, 1808, about three years after he had commenced practice, having been so far successful as to feel justified in incurring the additional expenses of a family, he married a young lady from Burlington, the daughter of John Cox, one of the most respectable citizens of New Jersey, and then as at present a highly esteemed preacher in the Society of Friends. This connection was in every way happy for Dr. Parrish. It threw an almost uninterrupted sunshine over the course of his domestic life, and surrounded him at its close with the consoling sympathies of a large and most affectionate family, whose love and reverence he had earned by a cordial participation in their feelings, and an ever-active yet well-regulated interest in their welfare. His wife survived him, and he never had to mourn the loss of a child. Few men have been more exempt from the

miseries which but too frequently invade the domestic circle, and few have better deserved such exemption.

There has, perhaps, been no example in Philadelphia of more rapid professional success than that which fell to the lot of Dr. Parrish. Various causes contributed to this result. Among them may be mentioned his fellowship with the Society of Friends, always favourably disposed towards their own members, and at that time capable of extending an effective patronage, as there were few physicians among them; and the countenance of Dr. Wistar, who, on frequent occasions, exhibited confidence in the skill of his former pupil, and took every opportunity of promoting his professional interests. But it was undoubtedly to his own qualifications and efforts that he was chiefly indebted. I shall have occasion, in the subsequent part of this memoir, to speak of those peculiarities of manner and of character by which he was so favourably distinguished, and which were so happily in harmony with his pursuit. They were powerfully instrumental to his success by inclining opinion favourably towards him, and thus giving full scope to the influence of his professional excellencies, which might have escaped attention if wrapped in the garb of a repulsive manner, or have been neutralized in their effect if mingled with vicious propensities or opinions.

I have before noticed certain events in his life which had the effect of bringing him advantageously before the public. He had already acquired a large practice, and was growing rapidly in reputation, when, in the winter of 1812-13, the great typhous epidemic, which so long scourged this country, made its appearance in Philadelphia, and elevated him at once into the foremost rank of his profession. At its first appearance, this complaint was not fully understood. Physicians were not generally prepared to recognize a disease of debility, associated with apparently violent inflammation, and were in the beginning too apt

to overlook the tendency to prostration, which lurked fatally beneath the show of excitement. The attention of Dr. Parrish had been strongly directed to the subject by the perusal of a treatise by Dr. North, who had seen much of the disease in New England, and who strenuously advocated the stimulant treatment. His aversion to theory in medicine left him open to the evidence of facts, however opposed to prevailing opinions; and he was quite prepared to encounter the disease by methods which had stood the test of experience, rather than by those which analogy alone would appear to indicate. The epidemic approached Philadelphia through New Jersey, and hung for awhile over the opposite shore of the Delaware, before it burst upon our city. The inhabitants were alarmed by reports of a terrible disease in the town of Camden, which appeared to bid defiance to medicine. Dr. Parrish was called in to the aid of the physicians of the neighbourhood. At the period of his first visit, seven cases had occurred and all proved fatal. He was told that the disease was of an inflammatory nature, and had been treated by the lancet and other depletory measures. Its malignant aspect at once struck his attention. He saw through the veil of inflammation which it had thrown over its ghastly features, and beheld the deadly weakness beneath it. He advised an immediate abandonment of the lancet, and the substitution of an actively stimulant treatment. The effects were most happy. Numbers now got well where before all had died. A disease supposed to be almost incurable was found to be, in the great majority of cases, under the control of medicine. The terrors of the first awful reports gave way before the happier intelligence which followed; and the newly inspired confidence was directed especially towards the author of the change. When the epidemic reached the city, Dr. Parrish found himself in the midst of an ample business; and the devotion which he paid to the sick, and the skill and success which marked his efforts, gave him a place

in the opinions and affections of his fellow-citizens which he did not lose when the immediate occasion ceased. His views of the disease and its treatment met with much opposition; and some decision of character was required to carry them into effect. On one occasion, a physician in attendance with him upon two cases of the disease in the same family, believing them to be highly inflammatory, strongly urged the employment of the lancet, and, upon being resisted by Dr. Parrish, who felt convinced that the proposed remedy would be fatal, retired from attendance, leaving the whole responsibility with his colleague. The ground of difference was known, and the eyes of the whole neighbourhood were directed with intense expectation towards the result. "You cannot conceive," said Dr. Parrish in relating the circumstance to his pupils, "the anxiety I experienced." Happily, however, both patients recovered, and the event contributed to extend his reputation.

But his attention was not restricted to the practice of medicine exclusively. From the commencement of his professional life he had exhibited an inclination toward surgery, which he cultivated assiduously whenever opportunities were offered. Towards the close of the year 1806, he was elected surgeon to the Philadelphia Almshouse, where he had an ample field for observation and experience, especially in that branch of the surgical art, always highest in his esteem, which aims at repairing injuries by a judicious employment of the resources of the system, and, so far from seeking occasion for painful or deforming operations, endeavours to render them unnecessary. His reputation as a surgeon was of slower growth, but scarcely less distinguished in the end than that which belonged to him as a medical practitioner. His skill in diagnosis and judgment in the choice of therapeutic measures were highly appreciated by his medical brethren, by whom he was constantly called into consultation, not only in Philadelphia, but also in the country

for many miles around it. As an operator also he took rank with the most prominent surgeons of the city, and, at the period of life when his physical powers were at their height, was second only to Dr. Physick, either in the number and magnitude of the operations which he performed, or in the extent of his reputation.

In addition to his station in the Almshouse Infirmary, he was in the year 1816 elected surgeon to the Pennsylvania Hospital as successor to Dr. Physick, and continued to discharge the duties of the two offices conjointly for about six years. His place in the Pennsylvania Hospital he retained till 1829, when the state of his health, which was at that time feeble, and a disposition to relinquish the more fatiguing and severer offices of surgery to younger hands, induced him to withdraw entirely from professional connection with the public institutions. He considered the decline of bodily strength in a surgeon as an intimation from nature that the period for active service was passed; and I have often heard him say, that the necessity of using spectacles was regarded by him as a call of duty to shun operations, in which a jet of blood from a divided artery might occasion temporary blindness.

During the whole course of his service in the public hospitals, he was assiduous in the discharge of his duties, not considering the situation as one of mere personal advantage, but as involving higher obligations, and among these a watchful care over the interests of the institution, and a strict attention to the comforts as well as the health of the inmates. I have never heard the breath of accusation against him in relation to the discharge of this high trust. It was in the Almshouse Infirmary that he first attracted notice by his clinical lectures, and laid the foundation of that reputation, as a medical teacher, with which all who now hear me are familiar. In his regular rounds among the patients, both in this institution and the Pennsylvania Hospital, he seldom omitted an opportunity of giving useful practical

lessons to the students who attended him; and, so attractive was his manner, so impressive his instructions, and so obvious the high motives by which he was actuated, that large numbers constantly followed him, who afterwards carried home with them, into almost all parts of the Union, a great and affectionate respect for his virtues, talents, and attainments.

A natural consequence of his growing reputation as a practitioner and clinical lecturer was a great increase of private pupils. He was seldom without one or more students, even from the commencement of his practice; but it was not till the year 1814, or 1815, that their number became considerable. From this period they rapidly increased, till they amounted at length to about thirty; a number at that time quite unprecedented, in this country, among physicians not immediately connected with the great medical schools, and equalled, I believe, only in one instance where this advantage was possessed by the teacher. Young men came to study with him from various parts of the Union; but the greater number were of Philadelphia and its immediate neighbourhood; and, as this was the place where he was best known, and no extraneous motives influenced the choice of the pupils, the fact speaks strongly in favour not only of his reputation, but also of his real merits. Among the present practitioners of this city, there are, I presume, more of his former pupils, than of those educated by any other physician. He was in the habit of lecturing to the young gentlemen in his office twice a week, during almost the whole year; in the winter upon surgery, and in the summer on the practice of medicine; giving in his lectures not so much that elementary knowledge which is to be derived from books, as the result of his own experience and reflection.

About the year 1818, he was induced by the great increase of his pupils, and by his own almost oppressive engagements, to procure assistance in the instruction of his class, especially in

those elementary branches of medicine which, though apt in their minutiae to escape the recollection of practitioners, are nevertheless indispensable to the student as the basis of all professional knowledge. The extent of this aid was gradually increased, till at length courses of lectures were delivered every year upon chemistry, anatomy, and materia medica, to which midwifery was afterwards added; as he himself never cultivated this branch of our art, and did not feel himself competent to teach it. Besides lectures, a regular series of minute examinations upon all the different branches was also instituted; so that a complete system of private instruction sprang up under his hands, which, if not antecedent to others of a similar character, was certainly original with himself and those who assisted him. Dr. Parrish, therefore, may be looked upon as one of the founders of that combined and more thorough scheme of private medical tuition, which constitutes a distinguishing professional feature of our city and our times; and, upon this ground alone, would have claims to a most favourable place in our recollections.*

He sustained this system of medical instruction, with a number of pupils, varying from about ten to thirty, till the year 1830, when he yielded to the influence of an institution conducted upon a plan somewhat similar to his own, but combining the talent and professional weight of some of the most prominent phy-

* I have learned, since delivering the address, that the priority in the establishment of the combined system of private medical instruction alluded to in the text, belongs to Dr. Chapman, of the University of Pennsylvania. He associated Dr. Horner with him in the instruction of his private pupils in the year 1817; while the first step was not taken by Dr. Parrish till 1818, when he engaged my assistance. The statements, however, in the address are, I believe, literally correct; for, to the best of my knowledge, Dr. Parrish, at the time he commenced, was not aware that a similar arrangement had been made by any other individual.—*Note to the address when first published.*

sicians of this city, of whom, moreover, several had the advantage of being connected with the most flourishing medical school in the country.

But his peculiar abilities as a lecturer were not yet lost to the medical community. An association of physicians was formed, called the "Philadelphia Association for Medical Instruction," at the head of which he allowed his name to be placed, and in which he continued to labour faithfully as long as it existed. The object of this association, as many of you well know, was not to compete with the public schools, but merely to afford to the private pupils of the members those advantages which were enjoyed by others, and which it was not in the power of any one individual to bestow. It continued in successful operation for about six years, when it was dissolved in consequence chiefly of the advancing age of its main supporter, who began to feel that he had borne his share in the burdens of the day, and was justified in withdrawing from a portion at least of those labours, which, though they had not surpassed his energies or will in the prime of his life, began now to press heavily upon him.

Let us here pause, for a few minutes, to consider his position at that period when his mental and corporeal powers were in their greatest vigour, his reputation at its height, and all his faculties in the fullest exercise. Few individuals have held in this city a more enviable station. His professional business equalled his highest wishes both in character and amount, lying chiefly among the most respectable inhabitants, and being scarcely short of his utmost physical capabilities. He was in the frequent receipt of letters from various parts of the Union, requesting professional advice; persons often came from great distances on purpose to consult him in obscure and difficult cases; and such was his reputation out of the city, that his aid in consultation was habitually sought by numerous physicians in all directions around Philadelphia, and not unfrequently at such

distances as to render compliance impossible. With his medical brethren at home he was upon the most friendly footing, enjoying in a remarkable degree their respect and confidence, and constantly consulted by them when additional aid was required. When we recollect that, to this great mass of private business, there were added a regular attendance as surgeon in our two great public hospitals, and the delivery of two courses of lectures in each year to his private pupils, we shall be prepared to understand that his time was fully occupied in active duties, and that little opportunity was afforded him for relaxation, or social enjoyment.

But, though occasionally oppressed with the weight of these various cares, he experienced that high gratification which always springs from the full exercise of our powers, when accompanied with the consciousness that they are properly directed, and often observed to his friends that he had never, on occasion of the severest trials, even for a moment, repented that he had devoted himself to the profession of medicine. He was cheered, moreover, by the affectionate kindness which everywhere met him, and which was but a just return for that general benevolence with which his own breast overflowed. Almost universally known, he never appeared in the streets without meeting the grateful and cordial greeting of persons indebted to him for life, or health, or some other blessing; and in every sick chamber which he visited, his own bright smile was reflected from every countenance not overwhelmed with anxiety or grief. Affection beamed cheerfully upon his daily round; and the kindnesses which he scattered like flowers along his path, returned in delicious fragrance to his own gratified sense. He enjoyed exceedingly those intervals of business in which he could unbend himself in the company of his family and friends; and the sweetness of his temper, the cheerfulness and naïveté of his manner, his fund of pleasing anecdote, and the goodness of heart

which shone forth in all that he said and did, rendered him, on such occasions, the source of even greater gratification than he received. The social circle which habitually met at his house was, indeed, a happy one; and they who have mingled in it will often recall its calm and innocent, yet vivid enjoyments, with a sigh that they are passed, and cannot return.

Though occupied as we have seen, Dr. Parrish found time to contribute various medical and surgical papers to the journals, all of which are characteristic of his practical turn of mind, and some highly valuable. They are contained chiefly in the Eclectic Repertory, of which he was one of the editors, and in the North American Medical and Surgical Journal. Among them may be mentioned, as worthy of especial attention, "*Observations on a peculiar catarrhal complaint in children,*" "*On infantile convulsions arising from intestinal spasm,*" "*On affections of the mammæ liable to be mistaken for cancer,*" "*On pulmonary consumption,*" and "*On the connection between external scrofula and pulmonary consumption.*" His remarks on the last-mentioned disease are highly interesting, not only from their intrinsic value, but also from the fact, that his views in relation to its treatment were justified by the result in his own case. Attacked when a young man by a complaint of the chest which he believed to be of a consumptive character, instead of confining himself to his chamber, and going through a long course of medicine, as was then fatally common, he adopted the plan, which he always recommended to his patients, of vigorous exercise in the open air. Most of you recollect the unpretending vehicle, in which he was accustomed to pay his daily professional visits. It was without springs, and its jolting movement over our rough pavements was anything but comfortable to its occupants. This, however, was its recommendation with the Doctor, who thus imitated, as nearly as possible, the effects of horseback exercise, and combined the pursuit of health with that of business. It is

scarcely necessary for me to say that he entirely recovered from his pectoral affection. After his death, dissection revealed tuberculous cicatrices in the upper portion of each lung, and thus proved both the correctness of his diagnosis, and the efficacy of his plan of treatment. Were time allowed me, I might here expatiate with advantage upon his opinions and practice in consumption, and in various other complaints; but this office must be deferred to another opportunity, if not to another hand. It will at present be sufficient to state, in addition, that he republished Lawrence on Hernia, with an Appendix, and, a few years before his death, put forth a work of his own upon Hernia and Diseases of the Urinary Organs.

In the midst of his private engagements, he participated largely in the proceedings of those medical associations whose constitution and objects he could cordially approve. He was long an active member of the College of Physicians, in which he held successively the offices of secretary, censor, and vice-president, and in all whose transactions he took a lively interest. Of the Society, moreover, which I have the honour to address, he was a zealous member, and, at the time of life in which we are now considering him, was one of the most efficient speakers. They who are old enough to remember the highly animating scenes, which took place in the Medical Society about twenty years since, cannot have forgotten the prominent share in the debates taken by Dr. Parrish, nor the life and vigour, yet perfect good nature and amiableness, which characterized his style of speaking. His undaunted opposition to the assaults, which the theory of Broussais was then making upon the old medical opinions, was fruitful in interest and results. It was on one of these occasions that he brought before the Society the stomachs of recently slaughtered animals, to show that those post-mortem appearances which had been considered as proofs of pre-existing inflammation, were often present in cases of violent death, occur-

ring in perfect health. He was for some time vice-president of the Medical Society. That he did not hold a higher station was owing to an invincible repugnance, on his own part, to stand in the way of what might be considered the just or reasonable claims of others; and not only here but in all other places, he would accept of no office, the access to which must be over the disappointed hopes, or wounded feelings of a medical brother.

But his sympathies were not confined within the limits of his profession. He took a lively interest in the concerns of the community in which he lived, and, whenever opportunity appeared to offer for useful interposition, was not slow in contributing his share either of advice, of personal service, or of money. He occasionally sent anonymous communications to the daily papers, in relation to objects which he deemed it important to press upon the public attention, especially such as seemed to fall peculiarly within the province of the physician. Among these communications may be mentioned a series of essays published in the Village Record of West Chester, in this State, in which he endeavoured to point out to the country people the various sources of miasmata existing in the decaying vegetation around them, as well as the best means of preventing the production of these effluvia, and of obviating their effects.

A strenuous advocate, on all occasions, for the rights of his fellow-men, he suffered no motives of present convenience to prevent him from interfering by word and deed whenever he believed these rights to be invaded. The wrongs of the poor Indian were not unfrequently the subject of his pen; and his sympathy for the degraded negro was ever active, though preserved by his sound judgment within the bounds of propriety. Like all the members of his sect, an uncompromising opponent of slavery, he never hesitated to express his sentiments upon the subject, nor to yield his aid and counsel in individual cases. He was long a member, and ultimately president of the old Penn-

sylvania Abolition Society, in which office he had been preceded by Drs. Wistar, Rush, and Franklin; was one of the committee deputed by the yearly meeting of his religious associates, to lay their views and hopes in regard to slavery before Congress; and was selected by the eccentric John Randolph, when on his death-bed in Philadelphia, to be a witness of his last wishes in relation to his slaves, and, as a necessary consequence, to be the organ of these wishes before the courts of Virginia. For the due performance of the offices thus imposed upon him, he was peculiarly qualified; as, with the firmness which enabled him to adhere unswervingly to what he believed to be truth and justice, he combined a suavity of manner, a benevolence of feeling, an openness of character, and an obvious singleness of purpose, which disarmed hostility, and disposed even those who were most averse to his views, to admire and love him as a man.

The same benevolence which impelled him to the relief of the helpless and oppressed, caused him to incline to leniency in punishment; and, ever ready to forgive an injury to himself individually, he was prone also to forgiveness in his social capacity, at least was accustomed, in doubtful cases, to lean strongly to the side of mercy. He shared fully in that aversion to the taking of human life which is almost universal among the Friends, and carried on a newspaper controversy with a learned divine upon the subject of capital punishments, in which he endeavoured to show, by reference to the original Hebrew, that the Scriptural authority claimed for them was without foundation, while he maintained their inexpediency, and their contradiction to the whole tenor of Christian morals. In the cases of individuals on trial for crimes, or already convicted, he was disposed to give the most favourable interpretation to every equivocal point, and experienced the highest satisfaction when able, in his medical capacity, to screen suspected innocence, or conscientiously to interpose between a sentence of doubtful justice and

its execution. In the instance of the maniac Zimmerman, who was confined at Orwigsburg under sentence of death for killing his daughter, he was one of a committee of the College of Physicians, appointed at his own motion, to visit and examine the prisoner; and was thus instrumental in saving a fellow-being from unmerited punishment, and the authorities from the guilt of a judicial murder.*

* The following anecdote is so strikingly illustrative of Dr. Parrish's mode of thinking and acting in criminal cases, that I cannot deny myself the satisfaction of inserting it here in the form of a note. A family consisting of numerous persons became suddenly ill, after partaking of a meal, and exhibited all the characteristic marks of poison. One of the family died, and dissection confirmed the evidence of the symptoms. Suspicion fell upon a female servant, whose character, upon investigation, did not turn out to be in her favour. Though no proof of her guilt existed, a strong disposition was evinced to implicate her in the crime. Such was the hostile feeling excited towards her, that the coroner's inquest, which sat upon the case, needed but the slightest countenance from the physicians to bring in a verdict against her. Dr. Parrish believed it to be his duty to shield her from any possible injustice. He, and another medical gentleman who was in attendance, testified that both the woman and a child of hers were affected in the same manner with the rest of the family. It was urged in reply that she had feigned sickness, and had deceived the physicians. It suddenly occurred to Dr. Parrish that, in all the cases which he had examined, there was a white furred tongue. He stated this fact to the jury, and proposed that they should examine the tongues of all who had been affected. This was assented to, and a display of tongues was accordingly made. It was found that those of the woman and her child were at least as heavily furred as any of the others. The jury was satisfied, and refused to implicate her in their verdict. This, however, did not satisfy the family. Such a statement was made before a magistrate, that the poor woman was arrested and thrown into prison, where she remained several months awaiting her trial. Upon being brought before the grand jury, she was discharged, for want of testimony, on a verdict of *ignoramus*.

—*Note to the address when first published.*

Nor was his attention restricted exclusively to secular affairs. A zealous member of the church to which he belonged, and in which, towards the close of his life, he accepted the office of elder, he participated in all its business, entered with spirit into its controversies, and wrote much in relation to its interests and its tenets. It is well known, I presume, to all who hear me, that not many years since a division occurred in the Society of Friends, and that Dr. Parrish took a decided part with that section of the society to which he attached himself. Yet, amid all the difficulties of the separation, when excitement too often counselled violent measures, he was uniformly the advocate of peace, and, in his writings, sedulously avoided that strain of bitterness which is so apt to infuse itself into theological controversies, and to leaven all truly religious feeling into its own evil nature. It was a source of comfort to him, that most of his nearest relatives and friends were of the same mode of thinking with himself; and that even with such of them as could not coincide with him in sentiment, he yet succeeded in maintaining an uninterrupted harmony of feeling, springing out of a just mutual appreciation of character and worth.

Such as I have endeavoured to represent them were the various engagements which crowded the time of Dr. Parrish, at the period of his greatest activity. As he advanced in years, the burden which had sat lightly upon his vigorous manhood became oppressive; and, as he was in possession of a fortune amply competent to his wants, he began gradually to withdraw from the more onerous duties of his profession, and to confine his attention chiefly to cases, in which there was less demand for active exertion than for the judgment and skill resulting from experience. He could not, however, without doing too great violence to his feelings, abruptly break off from attendance upon those who had long intrusted their lives to his care. I have more than once heard him quote, as in some measure applicable

to himself, a complaint made by Dr. Wistar, when desirous of declining business, yet unable to resist the solicitations of his old patients, that what had in early life constituted his highest hope, was now become his greatest source of discomfort. He succeeded, however, in gradually transferring the most laborious part of his business to younger and more willing shoulders. He first resigned his station in the hospitals, then withdrew by degrees from operative surgery, and finally limited his professional occupation to attendance upon families who had long employed him, to the performance of a few favourite surgical operations, such as those for cataract, strangulated hernia, and diseases of the urinary passages, and to consultations with his brother practitioners, which were always grateful to him, and continued to be numerous up to the time of his last illness.

There was a short period after he had begun to contract his business, during which he again put forth all his energies, and laboured with the spirit and activity of youth. This was during the prevalence of the epidemic cholera in Philadelphia. At the approach of this disease, he felt like the veteran warrior, who, while resting upon his laurels, hears the distant sounds of invasion, and rushes once more eagerly to the contest. He was one of the most efficient members of the Sanitary Committee, took an active share in the organization of the hospitals, and exerted his influence effectively in calming the fears, and overcoming the prejudices of the citizens, which threatened materially to interfere with the requisite arrangements. He had himself the special charge of an hospital, in which he spent much time in a close observation of the disease, in prescribing and even administering to the sick, and in providing in every possible way for their comfort as well as restoration to health. Believing that a cheerful and confident state of mind contributed much to recovery, he endeavoured to remove from around the patients, as far as circumstances would permit, everything of a depressing or

alarming character, and among other means of producing a pleasing effect, procured a number of beautiful plants, which he distributed about the entrance of the hospital, and in the open grounds in the rear. He was at the same time largely engaged with private patients and in consultations; and answered numerous letters addressed to him by his former pupils and other practitioners seeking for advice, so that his opinions were widely diffused, and gave a tone to the practice in many places. But when the danger was over, and the health of the city, purified by the late storm, became sounder even than in former years, he felt himself justified in returning to his previous purpose.

His life, however, was at no time a life of idleness. Few things were more abhorrent to his nature than mental inactivity; and, in his last illness, he considered as among his greatest trials that debility of mind which he felt to be stealing over him, a few days before his close. Even in the intervals of business, his intellect was ever active. He has often told me, that many of his peculiar views, both general and professional, were the result of reflection during his solitary rides from house to house in pursuit of his business. His last years, therefore, though less cumbered by almost overwhelming engagements than those of his earlier life, were still fully and profitably occupied. Besides attending to his restricted practice, to his duties as the father of a large family and a prominent member of his church, and to the care of a not inconsiderable estate, he participated also in various public concerns of a useful or charitable character. He was especially active in the organization and subsequent management of the Wills' Hospital for the lame and blind; and was president of the board of managers in this institution from its commencement to the time of his death. One of his prominent enjoyments, in his declining years, was the superintendence of arrangements for the setting out in life of his adult children, in whose hopes and efforts he largely participated, and in whom he

used to observe that he was living over again his own younger days.

Having now followed the current of his life till near its termination, let us endeavour to sketch his peculiar mental lineaments, and form a portrait of his character, while still fresh in our memory.

Of the moral attributes of Dr. Parrish, which he derived from nature, the two most prominent were, probably, love for his fellow-men, and a desire to stand well in their opinions. His preceptor, Dr. Wistar, who loved and esteemed him highly, used to say, that he had the ambition of Bonaparte and the benevolence of Howard. In the best sense of the word, he was undoubtedly ambitious. It is true that he never sought for power, and was altogether indifferent to the distinction of office, unless in so far as it evinced the good opinion of those by whom the office was conferred. But no man was more desirous than he to stand high in the esteem of others, and none felt more keenly marks of respect and affection on the one hand, or of disrespect and ill-will on the other. Of this trait in his character he was himself fully aware; and we find him in early life, when under strong religious impressions, struggling in secret against its tendencies. Among his private notes is the following reference to himself, at a time when he was endeavouring to bring himself more completely under the influence of that inward light, in the supernatural origin of which he believed as firmly as in his own existence. "Thou hast certainly been at times divinely illuminated; but alas! the cares of this world, not its riches so much as its honours, how does a desire after them eclipse the Heavenly luminary!" He was never unwilling to admit the existence of this love of distinction. It constituted, indeed, one of his most powerful impulses to action; and in his case, as it will prove to be in that of every other person who may possess, and be able to regulate it, was a principle of usefulness both to

himself and others. If, under any circumstances, it exceeded the proper bounds in the case of Dr. Parrish, it was by the pain which it occasioned him when he met with unkind or unjust treatment, or was at any time made the subject of injurious report. He could not, perhaps, sufficiently, and he certainly never pretended to despise unmerited censure. But, though he suffered from this cause, he never allowed it to influence his actions, and few have ever been more ready to forgive an injury, or to return good for evil.

But benevolence was a still more striking trait in his character. His good-will to all around him was observable in almost every movement. Towards those in suffering it was peculiarly conspicuous. Hence the charm of his deportment in the sick chamber. Nothing could surpass the beautiful kindness of his manner towards the sick poor whom he attended. He spoke to them in the most friendly tones, soothed their anxieties, respected their innocent prejudices, and, in his rounds in the hospitals, uniformly had regard to their feelings, avoiding, in his clinical remarks, whatever could wound their sensibility, or excite needless alarm. They who have walked the hospitals with him must recollect how the countenances of the patients were lighted up at his approach, as if they viewed in him not only their physician but their friend. He used to relate frequent instances of their grateful remembrance of his kindness, and never joined in that very common complaint of the ingratitude of the poor for medical services; an ingratitude often resulting from a coldness or harshness of manner on the part of the physician, which leaves the impression that the service was performed merely as a matter of duty, and could claim only a corresponding reward. The practice of operative surgery occasioned him often great distress, especially in children, upon whom he never inflicted pain without appearing to suffer it in his own person; and operations in infantile cases became at length so distasteful to

him, that he avoided them whenever he could do so with propriety.

Nor was the benevolence of Dr. Parrish merely of a passive character. It was, on the contrary, highly practical. Not only was he liberal with his purse on every suitable occasion, which is the easiest mode of charity to one who possesses the means, but contributed freely also his time and service, both professionally and otherwise. No physician in Philadelphia, I presume, has attended more patients gratuitously than Dr. Parrish. He was peculiarly cautious not to burden the slender means of those who, from comfortable or affluent circumstances, had been brought into comparative poverty, and were struggling, on reduced incomes, to sustain a decent appearance in the world. When he had reason to suspect that any of his patients were in this condition, he would often endeavour to satisfy himself of the truth by the most delicate means in his power, and would then contrive, in the manner least offensive to their feelings, to avoid receiving compensation for his services, without leaving behind an oppressive sense of obligation. He never, on any occasion, exacted payment of a medical fee; and so strong was his aversion to compulsory modes of collecting debts of this nature, that in his will he expressly and strictly enjoined on his executors to put no claim on account of medical services into legal suit. He made it a point not to charge for attendance in cases of injury received by firemen in the discharge of their duty. For at least twenty years, he was in the daily habit of receiving patients at a certain hour; and, as he was well known never to refuse advice, and never to charge those who could not afford to pay him, crowds flocked to his house, which, on such occasions, often resembled a public dispensary rather than a private dwelling.*

* The following anecdote, which was told me by an eye-witness, proves that his benevolence of character, though it may have been improved by

His conscientiousness was not inferior to his benevolence, and the two often co-operated to the same end. Hence it was that cruelty, oppression, and every form of injustice were so abhorrent to his nature. Almost the only occasions upon which I have seen him really indignant, were those in which he conceived the rights of the weak to be invaded by the strong, or injuries inflicted where there was no power of resistance or redress. Perhaps his sensitiveness on this point, may sometimes have led him into misapprehension of the motives of others, and a little temporary injustice of opinion; but this was a very slight and scarcely sensible counterpoise to the amount of generous feeling which was called forth. The same feeling was extended towards the brute creation. The animals which he had occasion to use, were always treated with the greatest kindness; and the provision made in his will for the old age of a favourite horse, which had served him long and faithfully, is generally known. Old Lyon was a remarkable brute, and almost as well known in Philadelphia as his master. The dog-like docility with which he followed at the word of the Doctor, and the sagacity with which, when left to himself, he moved off with the vehicle to some shady spot in summer, or to some sheltered position in winter, were subjects of almost universal remark.

In all his pecuniary transactions, Dr. Parrish was scrupulously just. He did not feel himself authorized to take advantage of another in a bargain, and never incurred any responsibility which

cultivation, was innate. The event occurred, if I remember rightly, when he was a boy about ten years old. Meeting a young child in the street, during winter, who was carrying something in his naked hands and crying bitterly, he put his arms about the little fellow's neck, and finding, upon inquiry, that he was suffering from the cold, took his aching hands in his own, and having warmed them, put upon them a pair of woollen gloves which he had with him, and sent him forward comforted on his errand.—*Note to the address when first published.*

he was not fully able to meet. He had insurmountable objections to indorsements, on the score of the temptations which their facility afforded to extravagant risk, and would never lend his name in this way to his nearest friend or relative, preferring a direct loan of the money, if in his power, to the loan of his credit.

His conscientiousness was exhibited also in various other ways. All those who have studied with him must vividly remember the catalogue of evils, incident to the study and practice of medicine, called by him his "black list," which he held up to the view of young men upon their first application to him as their preceptor, so that they might not enter the profession with false views and expectations, or at least that no blame might be imputable to himself for undue encouragement, should their expectations be disappointed.

In his medical lectures he felt himself bound, in detailing his experience, not to conceal his mistakes, so that the pupil might have the benefit not only of his successes as an example, but also of his missteps as a warning. Few are capable of this magnanimity, the great majority being satisfied if they tell only the truth, without in all cases telling the whole truth.

One of the most striking instances of the influence of a sense of duty over his conduct, was in his declining to take the office of professor of anatomy in the University of Pennsylvania, which he believed, and I have no doubt upon the best grounds, to have been at one time within his reach. I have said that he was naturally fond of distinction; and this was a post to which he believed himself competent, and in which he would probably have attained much credit, and a wide-spread popularity. An ordinary person, in his situation, would have seized upon it with avidity. But he regulated his conduct by a higher standard than that of personal gratification. He believed that a station in the University would bring what might be considered his

duty towards the institution into frequent conflict with his peculiar religious sentiments and habits. He was unwilling to expose himself to temptations, likely to loosen his hold upon those principles which he conceived to be the anchor of his safety. To his intimate friends, who urged him to avail himself of this opportunity, he was wont to answer, in his naive and cheerful but impressive manner, by pointing to his breast, and observing that he wished to have all comfortable there; that no worldly advantages would be any compensation for the loss of that heartfelt satisfaction, which attended obedience to the intimations of his inward monitor. This was, indeed, the great rule of his life. Believing most fully in that fundamental Quaker doctrine that the Divine Spirit communicates directly with men, that from this source is the "true light which lighteth every man that cometh into the world," and that consequently every individual has a sure counsellor in his own breast, which, if consulted in the right spirit, will never fail or mislead him, he was in the constant habit of looking inward for intimations of duty, and of submitting to them implicitly, however opposed to his apparent worldly interests. Now, whatever opinion may be entertained of these intimations, whether we agree with the Friends in considering them as of supernatural origin, or believe them, as most men do, to proceed from the natural workings of the mind, under the influence of education, habit, reason, and conscience, it is nevertheless the fact that, in any case of morals, an individual, brought up in a civilized and Christian country, will seldom go far astray, who uniformly consults them with a single eye to the truth. Dr. Parrish believed that he found peace and safety in this rule of action; and no merely worldly temptation was strong enough to remove him from any position which he had taken in conformity with it. The same motives which induced him to forego the opportunity of obtaining a professorship in the University, caused him also to decline offers, and resist sollicita-

tions afterwards made to him to join other incorporated medical schools. "My bark," he used to say, "was made for quiet waters."

Firmness and courage were also among the moral qualities which distinguished Dr. Parrish. With all his kindness of heart and disposition to please, though no man was less tenacious of opinion for opinion's sake, and none more disposed to yield in trifles to the convenience or even caprice of others, yet in all affairs which involved a point of principle he was immovable, and did not hesitate to do or to avow what he believed to be his duty, whatever personal injury or odium might accrue.

Thus morally courageous, he was not wanting in that less noble attribute which leads to contempt of danger. During an intimate intercourse of many years, I do not remember to have seen him, in any one instance, exhibit the least evidence of bodily fear. In pestilence he was among the foremost at the post of danger. During the prevalence of yellow fever, I have seen him by day and by night, without the expectation of pecuniary recompense, and at a period of his professional life when he had nothing further to wish for on the score of reputation, enter the deserted precincts of infection, and expose himself to the most imminent danger, in attendance upon individuals, who had been seized by the disease while lingering behind the fleeing population. He delighted when young in the excitement and hazard of the fireman's duty, and, even at a comparatively late period of life, had not entirely relinquished the habit of exposing his person in great conflagrations. I have known him, in times of public tumult, to venture into the midst of the excited multitude, and fearlessly oppose his personal influence to their mad purposes. On the bed of sickness and death, with a clear knowledge of his danger, he was quite composed, and never exhibited any of those fearful apprehensions which sometimes beset the closing scenes even of those best prepared to die.

Such, indeed, was his natural temperament, that danger, attended with the opportunity for exertion, seemed to have charms for him; and I have heard him more than once say, not in a boastful spirit, but quite naturally, as if merely giving expression to the feelings of the moment, that were he not opposed on principle to all wars and fightings, he should take a stern delight, in a cause which he could approve, in leading the forlorn hope of an assault.

In relation to his intellectual faculties, Dr. Parrish was characterized by quick perception, an excellent memory for facts, and an unusual correctness of judgment. Little that he had the opportunity of hearing or seeing escaped his observation, and what he had once stored up in his mind was ever afterwards at his command. He had, therefore, a fund of anecdote and material for illustration, which rendered his conversation highly interesting as well as instructive, and gave him great advantages as a lecturer. He had little imagination, and was without the taste and perhaps the ability for abstract and speculative reasoning, which too often busies itself in constructing edifices of conclusion upon slender premises, and wastes in vain attempts to establish general truths the time which would be better spent in collecting facts. But he was gifted, in an extraordinary degree, with that practical faculty which turns to useful account whatever comes within its reach; which, by a sort of intuition, distinguishes a truth amidst the rubbish by which it is concealed, and out of a labyrinth of conflicting means selects that which most surely leads to the end in view. His was, indeed, eminently a practical mind, looking always to acts rather than to opinions, and disposed to measure the value of any system or project by its probable bearing on the condition of society or individuals, not by its mere beauty, or the ingenuity displayed in its invention.

But, while thus marked with striking traits, he was not with-

out the graces also of character. His amiableness of temper, candour and openness of heart, liberality of sentiment, charity for the failings of others, warmth and constancy in friendship, and love of order and punctuality, were often beautifully illustrated in his daily intercourse, and contributed to give him the charm of manner which rendered his presence everywhere so acceptable. The real politeness for which Dr. Parrish was remarkable, was in no respect the result of cultivation, but flowed directly from the fountain of his own kindly feelings. It was the genuine coinage of nature, which art may counterfeit, but seldom equals. With a self-possession resulting from his utter want of pretension, and the perfect simplicity of his character, and entirely free from that sort of diffidence of manner which is the frequent result of pride, he was never awkward in speech or movement, and in all the intercourse of life exhibited the deportment of a true gentleman.

To the present audience, it is scarcely necessary to recall the personal characteristics of Dr. Parrish; his fine, open, benevolent countenance, with small but expressive eyes, beautiful teeth, and generally regular features; his form rather below the medium height and slightly stooping, but broad, full, well made, and vigorous; his gait rapid and energetic, as if in the eager pursuit of some important object; his garb, that of the sect to which he belonged, and simple according to its strictest requisitions.

Having thus endeavoured to portray our late friend as a man, we are next to consider him in his professional capacity as a physician and a medical teacher. In the narrative of his progress in life already given, allusion has been so often incidentally made to those traits of his character which distinguished him as a practitioner of medicine, that comparatively little need be said on the present occasion. That little may be included under the several heads of his relations, first, to the disease,

secondly, to the patient, and thirdly, to his fellow-members of the profession.

He was peculiarly skilful in diagnosis. His acuteness of observation led him often to notice symptoms or circumstances, which, though apparently trifling, and therefore liable to be overlooked by a careless eye, were yet of the highest importance towards the formation of a correct notion of the disease. He was at the same time careful not to decide rashly in doubtful cases, and was especially cautious in surgical affections, in which a hasty opinion might lead unnecessarily to serious operations. An instance of his acumen in diagnosis, familiar to most of his pupils, deserves perhaps to be mentioned here. He was invited to be present at an operation for the removal of a cancerous tumour of the breast. The surgeons had met, and the operator was about to proceed, when Dr. Parrish, having made an examination, and been induced to suspect the existence of a deep-seated scrofulous abscess, mentioned privately his views of the case, and suggested that, previously to the use of the knife, a lancet should be thrust deeply into the tumour. This was assented to, as at all events a safe expedient, though rather in compliance with the wish of the Doctor than from a conviction of its propriety. A puncture was accordingly made, and a copious flow of pus followed the withdrawal of the instrument. The patient was thus saved a painful operation, and the surgeon the no less painful mortification which would have ensued, had he attempted the extirpation of the tumour, and found himself in the midst of an abscess.

The extensive experience of Dr. Parrish, and his tenacious memory, enabled him frequently to pronounce promptly, in cases considered doubtful, by recalling others of a similar nature which had occurred to him; and this process of inference by comparison was so rapid, that his conclusions often appeared, to himself

perhaps as well as to others, the result rather of intuition than of an intellectual operation.

A few years since, there appeared in the lower parts of our city numerous cases of a disease, which bore some resemblance to the common nervous or typhoid fever, but was more violent, and presented pathological characters which seemed to mark it as a quite different affection. Dr. Parrish was consulted, and at once pronounced the disease to be the same typhus fever of which he had seen so much when it prevailed here epidemically in 1812, and subsequent years, but which had for a long time almost wholly disappeared. The result of the treatment in these cases confirmed the correctness of the diagnosis. Active stimulation was found to be requisite; while bleeding, which is often well borne in the ordinary typhoid fever, was seldom admissible.*

His correct judgment also was eminently serviceable to him in the investigation of disease. Though few circumstances connected with any case escaped his observation, yet, so far from being embarrassed by the multitude of different and often seemingly conflicting materials for an opinion, he had the talent of throwing out of view all but the important points, and was thus enabled to come to a satisfactory and usually just conclusion, when others of equal or superior knowledge, but less accuracy of judgment, were left in uncertainty, or led into error.

The same good sense caused him to look always to the practical and useful in his estimate of disease. Though willing to explain facts in the manner which appeared to him most conso-

* The diagnosis was positively confirmed by a careful comparison of the symptoms and course of the two affections, and by the results of post-mortem examinations. It was, indeed, through the investigations made at this period, that Dr. W. W. Gerhard was enabled to establish the diagnosis between typhus and typhoid or enteric fever, and to determine the distinct nature of the two affections. (*December, 1859.*)

nant with reason, he was utterly averse to mere speculation, and never allowed a theory, however plausible, to exert any influence over his decisions, when extended beyond the limits of rigid observation into the fields of mere conjecture. To the medical doctrines which arose in rapid succession during his life, and which, in some instances, exerted a wide-spread and not innocuous influence over the profession, he opposed a steady and active resistance, believing it to be his duty to protect not only himself, but others also, so far as lay in his power, from their fascinations. It was not that he disliked them merely as novelties. On the contrary, no one seized on newly-announced facts, or well-attested observations, more eagerly than himself; and ancient hypotheses had no more favour in his eyes than those of recent origin. But he was convinced that no general theory of disease can be true, because we are not yet in possession of the materials out of which to form such a theory, and it has not been given to man to penetrate by conjecture the counsels of creative wisdom; and he believed that false hypotheses are productive of the most dangerous practical results. He was in favour, therefore, of patiently making and recording observations, and only then attempting to deduce general truths, when the facts accumulated were sufficient for the purpose, without the necessity of a resort to supposition or conjecture. Happily, he lived to see this system of prosecuting medical inquiry become the fashion among us; and I have no doubt that, so far as concerns this place, the result may in some measure be ascribed to his efforts.

The peculiar intellectual qualities which aided him in the study of disease were no less useful to him in therapeutics, in which also he exhibited the same preference of experience over the suggestions of abstract reasoning, or the inventions of imagination. Though by no means distrustful of the powers of medicine, he yet had great confidence in the native resources of the system, and was much in the habit of relying on them in his course of

treatment. He watched carefully for the indications which nature might present, and not unfrequently answered these indications, though opposed to general opinion, or even to his own preconceived views. He attached great importance to the constitutional peculiarities of individuals, which he studied with care, and always consulted in his choice of remedies. The ordinary means by which life and health are sustained, such as pure air, cool drinks, wholesome food, a regulated temperature, exercise, etc., frequently became in his hands powerful therapeutical agents, especially in cases which seemed to have originated in the want of them. Yet when medicines appeared to be demanded, he was prompt and efficient in their use; and was often very happy in the selection of those best adapted to the case, being greatly aided in his choice by a peculiar sagacity, which suggested new modifications or contrivances to meet unforeseen emergencies, or unusual states of disease.

To the practice of surgery he was admirably adapted by these same qualities, and, in addition, by those essential physical requisites, a good eye, a steady hand, and general firmness of nerve. I never but once saw his hand tremble under any circumstances of health or sickness. He used to have some pride in this important surgical qualification; and I have frequently seen him, even when exhausted by severe and long-continued illness, hold out his hand in the position in which it was wont to grasp the knife, without the slightest discoverable motion other than that produced by the arterial pulsations. He used to say that, when he should perceive his hand to shake under these circumstances, he should consider it as an evidence that he was near his end; and surely enough, in his last illness, a very short time before his death, while he was almost unconsciously repeating the same trial of his strength of nerve, I observed for the first time that failure which he considered so ominous.

Towards the sick the deportment of Dr. Parrish was most

happy. The cheering smile with which he accosted his patients, his soothing kindness, his encouraging and confident manner while there was still ground for hope, and his affectionate sympathy and consolation when hope was over, remain indelibly impressed on the grateful recollections of thousands in this city. In dangerous cases, he was candid whenever there was not reason to fear that by being so he might greatly aggravate the danger; and he never undertook a hazardous operation, without having previously made the patient acquainted with his condition, and obtained his consent, with a full knowledge of the possible consequences. When thus called upon to be the herald of danger, the kindness of his heart pointed out the mode of proceeding least likely to occasion unnecessary pain; and his well-known character as a pious man enabled him to mingle very effectively the consolations of religion with the gloomy intelligence which he had to announce. He was frequently consulted by his patients, in the capacity of a friend and counsellor as well as physician, and thus became the confidant of many private concerns, which he always considered as a sacred trust committed to his honour. He was scrupulously careful never to violate professional confidence. Nothing ever passed his lips which could affect the reputation of those who had placed themselves in his hands; and, when there was something in a case interesting in a professional point of view, which, however the patient might wish to be concealed, he was most cautious, in relating the fact for the benefit of his pupils, not to mention the name, and even to avoid every allusion which could by any chance connect the event with the individual. When such a connection was unavoidable he was entirely silent; for he considered that no good which might possibly accrue to society from the publication, or promulgation in any way, of any particular case, could justify a physician in violating even an implied trust. Upon his students he was always exceedingly solicitous to inculcate the

great importance of professional secrecy, not only as essential to the respect of the world, but as in the highest degree binding upon their honour and conscience.

I have already spoken of his liberality towards patients of slender means, and the delicacy with which his favours were conferred. This conduct arose from feeling and principle, and not from mere carelessness in relation to pecuniary concerns; for in all his business transactions he was scrupulously exact, and, in relation to his fees for medical services, considered it a duty which he owed as much to his patients and the profession as to himself, to present his accounts regularly once a year, whenever peculiar circumstances did not require some relaxation of his general rule. He always, however, considered these accounts in the light of honorary claims, and not only never exacted payment, but declined it altogether when the patient expressed any doubt of its justice, or any great unwillingness to discharge it. I recollect being present, on one occasion, when a countryman of some wealth, and no less covetousness, called at his house to settle a bill for medical attendance. He was probably not accustomed to the rate of charging common in the city, and demanded some abatement from the account on the score of its extravagance. The Doctor in reply told him that if such were his views, he should decline receiving anything; whereupon the gentleman, commending his liberality, took up his hat and left the house, apparently very well contented.

Perhaps in no respect did Dr. Parrish appear to greater advantage than in his relations with his medical brethren. It was one of his maxims that no physician could have a satisfactory professional standing, who disregarded the good-will and good opinion of his fellow-practitioners. He was, therefore, mindful of their rights on all occasions, never allowing any chance of immediate or prospective advantage to himself to interfere with their just interests, and very often going out of his way to pro-

tect their reputation, and to repair any injury they might have suffered in the estimation of their patients. He held in abhorrence that meanness of spirit which, for a little apparent profit, would insinuate evil of a brother, or even assent by silence to a mistaken estimate of his worth. He was strictly obedient to the ethical code, which wise and good physicians have established for the regulation of their intercourse with their patients and with one another, and which, however liable to reproach from selfishness or inexperience, is yet indispensable to the maintenance of harmony in our profession, and consequently to efficiency for the public good. No medical man could long remain in a hostile attitude towards Dr. Parrish. I do sincerely believe that he never purposely gave cause of offence to a fellow-practitioner; and any temporary ill-will, which may have originated in misconception, soon melted away before his amenity of manner and obvious goodness of heart. He never resented an injury, real or supposed, and not unfrequently repaid unkindness with benefits.

From his regard for his fellow-practitioners, it may be inferred that he had pleasure in meeting them in consultation. He had none of the jealousy which fears a rival in every person with whom we may be associated in attendance, nor of the overweening and arrogant self-esteem which owns no fallibility of judgment. It was his custom, whenever he supposed a patient or his friends might desire additional aid, or when the case was one of a doubtful or embarrassing nature, to offer a consultation; and when a suggestion to this effect came from the patient himself, he always promptly gave his assent, however inferior in age and standing might be his proposed associate.

Another trait, which favourably distinguished his intercourse with the profession, was an extraordinary punctuality in the fulfilment of his engagements. In consultations he very rarely failed to meet at the time appointed; and so jealous was he of

his character in this respect, that it was a habit with him, which most of his medical friends must remember, to present his watch when he was second in entering the house, in order to prove that he was not after his time.

Towards the younger members of the profession, he conducted himself in a manner calculated to win their affection as well as respect. So far from feeling the least touch of jealousy at their success, or exhibiting any of that overbearing temper which sometimes attends an increase in years and honours, he was always gratified with an opportunity of promoting their interests, and regulated his intercourse with them upon the same principles as with his equals in age. He did not consider the tie between himself and his pupils broken, when they had established themselves as practitioners. On the contrary, he felt towards them as towards younger brothers, rejoiced in their professional advancement, aided them by his advice and recommendation, and took every opportunity of causing the superabundance of his own cup to flow over into theirs. It was a fine trait in his character, and one which has endeared him to many now present, that when any of his young friends, through accident or other cause, acquired a footing in families which he had been in the habit of attending, instead of feeling unkindly or endeavouring in any way to interfere with their interests, he seemed to enjoy their success, and took pains to strengthen the impressions in their favour, through the influence which his long professional intercourse with the families naturally gave him. I know that there are many, who will heartily join me in this tribute of acknowledgment to the memory of our deceased benefactor and friend. But I feel that on my own part the tribute is inadequate. When I call to mind his virtues, his many amiable qualities, and his numberless acts of personal kindness; how he took me by the hand when young, admitted me into his intimate confidence, attended me in illness, counselled and aided me when counsel

and aid were needed, and throughout life gave me his warmest sympathy, my breast is filled with emotions which exceed the powers of language, and I cannot but feel, that my efforts to exhibit him to others with all his admirable characteristics as they present themselves before me, are as futile as would be an attempt, without the talents of a painter, to transfer to the canvas the vivid image of his form and features impressed upon my memory.*

A few words in relation to the peculiarities of Dr. Parrish as a teacher, will close this imperfect representation of his medical character. Without having cultivated either rhetoric or oratory as an art, he was a fluent and by no means inaccurate speaker, and, when under the impulse of high principle or strong feeling, was often truly eloquent, attracting the fixed attention of the audience, and carrying their whole sympathies along with him. It appeared as if his own beautiful feelings were personified in the speaker, and that the hearers were listening to the very voice of benevolence, of charity, of compassion for the weak and suffering, of indignation against oppression, or of whatever other emotion was at the time predominant within him. On such oc-

* In view of certain untrue statements which have appeared in print, in relation to my earlier life, I may, perhaps, be permitted here to say that the aid, referred to in the text, was purely professional. I never received, as I never needed, pecuniary assistance from Dr. Parrish. Our relations were as nearly as possible, without any blood-connection, those of an elder and a younger brother; at least my feelings of respect and affection towards him were such as would naturally arise out of such a relation; and I have reason to think that they were fully reciprocated on his side. During our long intercourse, whatever might be our differences of opinion, there was an unbroken intimacy; and, in his last illness, he showed his continued confidence by putting himself under my professional care, jointly with that of our mutual friend, Dr. John C. Otto. (December, 1859.)

casions, as he was under no restraint from the rules of art, and unembarrassed by the consciousness of any evil in his own thoughts, he surrendered himself freely to the current of his emotions, which, as they were themselves pure, threw up to the surface nothing which required concealment.

This pouring out unreservedly of all that he thought or felt, constituted the main charm also of his medical lectures. His instructions did not consist of laboured treatises upon disease, presenting in a regular and compact arrangement all that was known upon the subject. They were rather vivid pictures of his experience, in which the pupil was enabled to see the very events as they passed, and to see them too with the trained eyes of their preceptor. They were made to enter into the very case, to share in the reflections, hopes, and fears of the speaker, and thus to take an almost personal interest in the progress and termination of the disease. His lessons became in fact to his pupils a sort of experience of their own; and I think it probable that many of us, who have been long in practice, would find some difficulty in discriminating between the recollection of what we have ourselves seen, and the strong impressions left upon our minds by the representations of our teacher.

Through his lectures there ran a vein of cheerful good-nature, enlivened with frequent touches of humour, which added much to their attractiveness. By his very mode of accosting his pupils upon entering the lecture-room, he contrived to place them upon a footing of friendly familiarity, which disposed them to attend to his instructions out of personal regard for the speaker, as well as from a desire to learn. "Well, boys," he would say, preparatory to some kindly greeting, or some friendly inquiry, and thus by a few words expressive of his own good feeling, attuned their minds into harmony with his own, and was enabled to carry their hearts, as well as their attention, along with him in his subsequent address.

But the feeling of familiar companionship, with which he inspired his pupils by his deportment towards them on all occasions, never passed the limits of perfect propriety. It was so mingled with reverence for his purity of heart, and elevation of character, that nothing but the spirit of evil could have suggested anything likely to prove offensive to him ; and the guard which the student was thus induced to keep over any wrong propensity, in the midst of the otherwise unreserved intercourse with his preceptor, had the tendency to modify his own character favourably, and to make him in reality what he wished to appear.

In his lectures Dr. Parrish was accustomed to introduce numerous illustrative cases, and endeavoured to strengthen the effect of mere description by the exhibition of pathological specimens, which, in the long course of his practice, he had been enabled to procure in great numbers. Indeed, his collection of diseased bones was probably unequalled in any cabinet, public or private, in this country. He strove also constantly to direct the attention of his pupils to the practical observation of disease, and to the attainment of familiarity with all the instruments and means of cure. With the latter view, he recommended them to spend some months in the shop of an apothecary, in the earlier period of their studies, and to seize every opportunity of performing those minor operations, and exercising those manipulations, a perfect facility in which is so important to the practitioner, and especially to the surgeon. He urged upon them, moreover, a regular attendance at the hospitals, and, in his own private practice, sought occasions to enable them to see disease, to assist at operations, and in various ways to initiate themselves into the practical duties for which they were preparing.

On the whole, few men have, I believe, exhibited a stronger interest in their pupils, or laboured more assiduously to promote their welfare ; and no one, certainly within my own observation, has gained a more ample return of love and respect.

Having thus given a historical sketch of Dr. Parrish up to the period of his last illness, and endeavoured to delineate his character as a man, a physician, and a medical teacher, it now only remains for us to consider him in the closing scene of his life. This is the touchstone which tries the value of the past, and distinguishes what was sterling worth from the false glitter of profession, and the deceptions of self-esteem. He only can be said to have been truly happy in life whose end is happy. To the friends of Dr. Parrish it is a source of the purest satisfaction, that he passed successfully through this last, and severest trial, and that the close of his career was in harmony with its whole course. He was attacked in the summer of 1839 by the disease which ultimately proved fatal, but continued to attend to his various avocations, though somewhat irregularly, till about the beginning of the present year, when he confined himself to his house, on account of a severe bronchial affection superadded to his former complaint. From this he partially recovered, so as to be able to drive out occasionally, and even visit patients; but he suddenly became worse about the close of February, and, taking to his bed, continued to sink gradually for nearly three weeks, and died on the 18th of March, in the sixty-first year of his age. Though somewhat lethargic towards the conclusion of the disease, he was capable, when roused, of thinking with perfect clearness, and of fully appreciating his condition, till a day or two before death. In the midst of much bodily distress, and great derangement of his nervous system, he preserved unimpaired those amiable traits of character by which he was distinguished in health, frequently expressing a grateful sense of the kindness of those who administered to him, and carefully avoiding any expression which could wound their feelings. With the full conviction of the fatal character of his disease, and with the near prospect of its termination, he was perfectly calm and self-possessed, made all the requisite arrangements in his

affairs, spoke to his family as a tender husband and father, solicitous for their present and eternal welfare, might be expected to speak, and uniformly expressed his reliance upon the goodness and mercy of Providence, and his hope of a happy hereafter. Under the feeling of his utter bodily prostration, he used to say to his physicians that he was like a log of wood on the Delaware, floating about at the discretion of the winds and tides. At one of their latest visits, when hearing and sight were failing, and the power of articulation was almost gone, he repeated this expressive figure, and could but just be heard to say in addition, "but even the log on the Delaware has its caretaker." Thus, the reliance upon a superintending Providence, which was one of the governing principles of his life, did not fail him in death; and, if love for his fellow-men, unceasing beneficence, and a reference in almost all that he said and did to the will of his Maker, may be considered as the indications of a spirit prepared for immortality, his friends may confidently indulge the belief, that, in dying, he has but exchanged the uncertain gratifications of this world for the sure happiness of that to come.

The almost unprecedented array of his fellow-citizens of all classes who attended his remains to the grave, the general expression of regret for his loss, and the measures taken by the various bodies to which he belonged, to procure some public commemoration of his worth and services, are evidences of a general esteem and affection such as seldom fall to the lot of individuals, unconnected with public life. Perhaps no one was personally known more extensively in the city, or had connected himself, by a greater variety of beneficent service, with every ramification of society. It is true that no marble has been erected over his remains, and that the very spot where they are laid will soon be undistinguishable to every eye save that of conjugal or of filial love; yet the remembrance which he has left

behind him, the only monument which the rules of his unostentatious sect allow, is far more precious than the praises of carved stone, which gold may purchase, or power command. Should this humble tribute to his worth add in the least to the brightness or the duration of that remembrance, the author will feel the sweet reward of having paid a double debt, to gratitude and to truth.

A BIOGRAPHICAL MEMOIR
OF
SAMUEL GEORGE MORTON, M.D.,

READ BEFORE

THE COLLEGE OF PHYSICIANS OF PHILADELPHIA,

NOVEMBER 3d, 1852.

IN accepting the appointment with which the College honoured me, of preparing a biographical sketch of our late Fellow, Dr. Samuel George Morton, it may be remembered that I requested indulgence on the score of time; as the urgency of my then existing engagements rendered immediate attention to the duty impossible. The delay has been longer than I could have wished; but, happily, there was little occasion for haste, as the Academy of Natural Sciences, with which, through official position and long co-operation, Dr. Morton was more closely connected than with any other public body, had already provided for that commemoration which society owed to him, as to one who had faithfully and honourably served it. In what manner this duty was fulfilled need not be told to those who have perused the memoir, prepared by Dr. C. D. Meigs, so characteristic of the author in its easy and copious flow of expression, its genial warm-heartedness, its glowing fancy, and the cordial, unstinted appreciation of the merits of its subject. It may be

proper to mention here, that to this memoir I am indebted for many of the following facts. Having been prepared under the auspices of an association devoted to the natural sciences, though treating of our departed colleague with greater or less fulness in all his relations, it very appropriately directs a special attention to the scientific side of his life and character. With equal propriety, as appears to me, a professional body like the present may expect a particular reference to his medical history; and I shall, accordingly, endeavour to place him before you, rather as a physician than as a man of general science. It was in the former capacity that Dr. Morton was best known to the writer, who had the honour of aiding in the conduct of his early medical studies, was afterwards for a time associated with him as a medical teacher, and, throughout his whole professional life, maintained with him a frequent and friendly intercourse.

The delineation which follows is necessarily in miniature; for, independently of the comparatively short time which can be devoted to such communications in the business of the College, the pages of our journal, to which it is customary in the end to consign them, are too limited to receive in its fulness a portraiture, which might readily be made to occupy volumes. I shall, however, endeavour, by excluding irrelevant commentary, and by expressing myself as concisely as possible, to introduce within the limits assigned the greatest practicable amount of biographical matter.

Dr. Morton sprang from a highly respectable family, residing at Clonmel, in Ireland. His father, George Morton, the youngest of four brothers, emigrated at the age of sixteen to this country, with another brother somewhat older, who soon afterwards died. He settled in Philadelphia, and, having acquired the requisite experience in a counting-house in a subordinate capacity, afterwards engaged in mercantile business on his own account. Here he married Jane Cummings, a lady having a birthright in the

religious Society of Friends, which, according to a well-known rule of that Society, she lost upon her marriage with one who was not a member, Mr. Morton belonging to the English Church. He died on the 27th of July, 1799, leaving his widow with three children, a daughter and two sons, the youngest of whom was the subject of the present sketch, and at that time an infant in arms. The older boy, James, was soon afterwards sent to an uncle in Ireland, who adopted him; but he died before maturity. The sister still survives to lament the loss of both her brothers.

Dr. Morton was born on the 26th of January, 1799, and was consequently about six months old at the death of his father. In her bereavement the widow sought consolation in religion, and, still entertaining the faith in which she had been educated, applied for restoration of membership in the Society of Friends, and was received. With a view to be near a beloved sister, she removed from Philadelphia to Westchester, in the State of New York, but a few miles from the metropolis, where her sister resided. Wishing that her children should be brought up in her own religious faith, and surrounded in early life by those safeguards which are eminently provided by the discipline of Friends, she sought for their admission into the Society; and they were accordingly received as if members by birth.

Custom, if not positive rule, requires among Friends that children should as far as practicable be educated in schools under the care of the Society, so that their tender years may be protected until their principles shall have sufficiently taken root to resist the seductions of the world. As no school of this kind existed in her immediate neighbourhood, Mrs. Morton felt herself compelled, when no longer satisfied with her own tuition, to send her young son from home; and, for several years of her residence at Westchester, he was placed in one or another of the Friends' boarding-schools in the State of New York, where he acquired the usual rudiments of an English education.

At this early age, the boy evinced a literary turn of mind, being extremely fond of historical reading, and frequently trying his hand in writing verses, an exercise very useful to the young, by giving them a command of language not so easily attained in any other way. I am told that his bent toward natural science was also received at this period. Among the visitors of his mother was Thomas Rogers, a gentleman belonging to the Society of Friends, living in Philadelphia, who had a great fondness for mineralogy, and imparted a portion of the same fondness to the young son of his hostess, whom he delighted to take with him in his exploratory walks in the neighbourhood.

The visits of Mr. Rogers resulted in his marriage with Mrs. Morton, and her return with him to Philadelphia, along with her two children, whom he loved and treated as if they were his own. Dr. Morton always spoke in the kindest and most affectionate terms of his step-father. He was about thirteen years old when this change took place.

After the removal to Philadelphia, he was sent for a time to the famous boarding-school of Friends at Westtown, in Chester County, Pennsylvania; and subsequently, in order to complete his mathematical studies, to a private school in Burlington, New Jersey, under the care of John Gummere, a member of the Society of Friends, and eminent as a teacher.

Having remained for one year under the instruction of Mr. Gummere, he left the school, in the summer of 1815, and entered as an apprentice a mercantile house in this city, in which he continued until the death of his mother in 1816.

His heart was not in his business; and though there is no reason to believe that he neglected the duties of his position, he devoted most of his leisure hours to reading, and gave his thoughts rather to history, poetry, and other branches of polite literature, than to mercantile accomplishment.

The last illness of his mother was protracted, requiring the

frequent attendance of physicians; and several of the most distinguished practitioners of Philadelphia were in the habit of visiting her professionally. Drs. Wistar, Parrish, and Harts-horne were men calculated to impress favourably the mind of a bright, and at the same time thoughtful youth; and the attentions they paid to him, elicited no doubt by their observation of his intelligence and studious tendencies, had the effect of greatly strengthening the impression. His respect and affection for these eminent physicians naturally inclined him to their profession, and suggested the wish that he might be prepared to tread in their footsteps. This, I am informed, is what first directed his thoughts towards the study of medicine; though, as stated by Dr. Meigs, it is not improbable that the reading of the published introductory lectures of Dr. Rush may have been the immediate cause of his change of pursuit.

In the year 1817, being in the nineteenth year of his age, he entered as a pupil into the office of the late Dr. Joseph Parrish, then in the height of his practice, and distinguished as a private medical teacher. It was here that I first formed his acquaintance, being about to close my pupilage under the same preceptor, when he began his. As I was, soon after graduation, engaged by Dr. Parrish to aid him in the instruction of his rapidly increasing class, I had, both as a companion and teacher, the opportunity of witnessing the industry and quick proficiency of the young student, and formed a highly favourable opinion of his general abilities. He attended the lectures in the University of Pennsylvania regularly, and, having complied with the rules of the institution, received from it the degree of Doctor of Medicine, at the commencement in the spring of 1820.

During the period of his medical studies, he continued to reside with his step-father, and to this association probably owed in part his continued predilection for the natural sciences. It was to be expected from such a predilection, that he would give

especial attention to anatomy, which, indeed, he cultivated with much diligence and success. Similarity of taste and pursuit in this respect, led to a friendly association, about this period, with the late Dr. Richard Harlan, who superintended the anatomical studies of Dr. Parrish's pupils, and subsequently became distinguished as a naturalist.

Soon after his graduation, Dr. Morton became a member of the Academy of Natural Sciences, thus commencing his professional career as a member of that body, over which he presided at the time of his death.

Having been pressingly invited by his paternal uncle, James Morton, of Clonmel, before commencing the practical duties of life, to pay a visit to his relatives in Ireland, and eager to improve both his professional knowledge and his knowledge of the world, he concluded to make a voyage to Europe, and accordingly embarked for Liverpool in May, 1820. On arriving in England, he proceeded immediately to Clonmel, where he spent about four months in a delightful intercourse with friends and relatives proverbially hospitable, improving in manners through the polishing influence of refined society, and cultivating his taste by varied reading. It is probable that, in this association, whatever bent his mind may have received, from early education, towards the peculiarities of Quakerism, yielded to the influences around him; for though, throughout life, he reaped the advantages of that guarded education, in an exemplary purity of morals, and simplicity of thought and deportment, he connected himself subsequently with the Episcopal Church, to which his forefathers had been attached.

The uncle of Dr. Morton very naturally valued a European degree more highly than an American, and was desirous that his nephew, before entering on his professional career, should obtain the honours of the Edinburgh University. The Doctor yielded to his wishes, and left his Irish friends, to enter upon a

new course of medical studies at the Scotch capital. In consequence of exposure, in his journey from Dublin to Belfast, on the top of a coach, he was seized with an illness, believed to be an affection of the liver, which confined him for some time to his bed in Edinburgh, and probably served as the foundation of that delicacy of health, which attended him for the rest of his life. On his recovery, he commenced an attendance upon the medical lectures, and at the same time upon those of Geology by Professor Jamison, thus showing that his attachment to natural science still continued.

Another attack of illness, early in the year 1821, interrupted his studies. Recovering from this, he made an excursion into the Highlands of Scotland, and afterwards returned to the relaxation and enjoyments of a residence among his friends at Clonmel.

In the autumn of the same year, he made a journey to Paris, where he spent the winter very profitably in the prosecution of his studies, and in improving his knowledge of the French language.

In the following spring, he left Paris upon a tour through France, Switzerland, and Italy, in which he consumed the summer.

In the autumn of 1822, we find him again at Edinburgh, where he continued through the winter, attending lectures, making up for early deficiencies in classical education by the study of Latin, and otherwise preparing himself for graduation. Having written and presented a thesis in Latin, *De Corporis Dolore*, and undergone satisfactorily an examination on medicine in the same language, he received the honours of the University in August, 1823.

He had thus been six years occupied, more or less steadily, in the study of medicine, carrying on, during the same period, a process of self-education, which more than compensated for the deficiencies of his early life, and attaining a proficiency in various

branches of natural science, which contributed greatly to his future eminence.

In June, 1824, he bade farewell to his friends in Ireland, and, returning to Philadelphia, immediately engaged in the practice of his profession.

His success was gradual. Young physicians are apt to complain of their slow progress in a remunerative business ; but what they consider a misfortune is in fact, if properly used, a blessing. Their early years have been devoted to the acquisition of elementary knowledge, their later will be occupied by practical duties. It is in the intermediate period that the opportunity is offered of extended research into the records of science, of confirming or correcting the results of reading and study by observation, of making original investigations into the worlds of matter and of thought, and thus bringing forth to the light truths which may benefit mankind, and at the same time serve as the basis of honour and success to their discoverer. He who leaps at once from professional study into full professional action, finds all his time and powers occupied in the application of the knowledge already attained, and seldom widens materially the circle of science, or attains higher credit than that of a good, or a successful practitioner. It was undoubtedly fortunate for Dr. Morton's reputation, that his time was not, at the outset, crowded with merely professional avocations. He had thus the opportunity of going out into the various fields of natural science ; and, while he neglected none of the means requisite to the honourable advancement of his business as a physician, he pushed his researches and labours in those fields to the most happy results.

As an aid and stimulus to his researches in this direction, he entered at once into hearty co-operation with his fellow-members of the Academy of Natural Sciences, and took an active part in the affairs of that institution. He was almost immediately made one of the auditors ; in December, 1825, was appointed to the

office of Recording Secretary, which he held for four years; served actively for a long time on the Committee of Publication; aided materially in increasing and arranging the collections; delivered before the Academy lectures on mineralogy and geology during the years 1825 and 1826; drew up a report of its transactions for these two years; and began a series of original papers upon various subjects of natural science, which have contributed greatly to his own credit, and that of the institution.

His first medical essay was on the use of cornine in intermittent fever, and was published in the *Philadelphia Journal of the Medical and Physical Sciences* (xi. 195, A. D. 1825). Under the name of cornine, a material had been given to him, purporting to be an alkaline principle extracted from common dogwood bark, and, having been used by him in several cases of intermittent fever, proved to be an efficacious remedy. Dr. Morton was responsible only for the correctness of his own statements as to the effects of the substance given to him, and not for its chemical character, which must be admitted to be at best doubtful. Positive proof is still wanting of the existence of any such active alkaline principle.

His first strictly scientific papers were two in number, both read on the 1st of May, 1827, before the Academy of Natural Sciences, and afterwards printed in the *Journal of the Academy*. They were entitled respectively, "*Analysis of Tabular Spar, from Bucks County, Pennsylvania, with a notice of various minerals found at the same locality,*" and "*Description of a new species of Ostrea, with some remarks on the Ostrea convexa of Say.*"

These were followed in rapid succession by other scientific communications; and the *Transactions of the Academy* continued to be enriched by his labours from this date till within a short period before his death. There were not less than forty of these contributions, besides others to the *Transactions of the*

American Philosophical Society, and the *American Journal of Science and Art*, edited by Professor Silliman. They were on the various subjects of mineralogy, geology, organic remains, zoology, anatomy, ethnology, and archæology; and, by their diversified character, richness in original matter, and accuracy and copiousness of description, speak more strongly than could be done in mere words of the industry, scientific attainments, powers of observation, and truthfulness of their author.*

But, in this slight sketch of his contributions to periodical works of science, I have been anticipating the course of his life, and must return to a period but shortly subsequent to the commencement of these labours.

He had at that time considerably widened his social circle, had formed intimacies with many persons of distinction in science and in the common walks of life, had become favourably known in the community at large, and was rapidly extending his business as a practitioner of medicine. Only one thing was wanting to give permanence to his well-being, by affording a point towards which his thoughts and energies might ever tend, as the centre of his life. This want was supplied by his marriage, October 23, 1827, with Rebecca, daughter of Robert and Elizabeth Pear-sall, highly respected members of the Society of Friends, originally of New York, but at that time residing in Philadelphia. This connection was, in all respects, a most happy one for Dr. Morton. He secured by it not only a devoted companion, who could appreciate, if not participate in, his pursuits, and lighten by sharing with him the burdens of life, but the blessing, also, of a loved and loving family, which gave unwearied exercise to his affections, and sustained a never-ceasing strain of grateful emotion, that mingled sweetly with the toils, anxieties, and suc-

* For a catalogue of these and of the other works of Dr. Morton, the reader is referred to the Appendix of the Memoir prepared by Dr. Meigs.

cesses of his professional career, and gave an otherwise unattainable charm to his intervals of leisure.

It is reasonable to suppose that his professional business was increased by his marriage. That he possessed, in some measure, the confidence of the public as a practitioner, is shown by his appointment, in the year 1829, as one of the physicians to the Philadelphia Alms-house Hospital. Here he enjoyed ample opportunities for pathological investigations, of which he availed himself extensively, especially in relation to diseases of the chest, towards which his attention had been particularly directed by attendance on the clinical instructions of Laennec, during his stay in Paris. The fruit of these investigations will be seen in a work which will be more particularly noticed directly.

In the year 1830, Dr. Morton added to his other duties those of a medical teacher. A brief notice of the association with which he was connected may not be amiss; as it was one of the first of those organizations, now familiar to the profession in Philadelphia, in which a number of physicians unite, in order to extend to their private pupils advantages, which, separately, it would be impossible for them to bestow. It is quite unnecessary that I should speak of the benefits which have accrued from this plan of instruction to the profession in this city. Most of those who now hear me have, I presume, been taught under that system, and some are at this moment teachers. You can, therefore, appreciate its advantages; but it is only the older among you who can do so fully, as it is only they who can compare it with the irregular and inefficient plan of private tuition that preceded it. Another incidental advantage has been the training of a body of lecturers, from among whom the incorporated schools have been able to fill their vacant professorial chairs with tried and efficient men, and thus to sustain, amidst great competition, the old pre-eminence of Philadelphia as the seat of medical instruction.

The late Dr. Joseph Parrish, from the increasing number of his office pupils, was induced to engage the services of a number of young medical men, to aid him, by lectures and examinations on the different branches of medicine, in the education of his class. This arrangement was in efficient operation for several years, but was at length superseded by another, in which all the teachers were placed on a footing of perfect equality; the private pupils of each one of them being received on the same terms, and those of other private teachers, not belonging to the association, being admitted on moderate and specified conditions. It was in January, 1830, that this little school was formed. In accordance with the simple tastes of its most prominent member, it took the modest name of "Philadelphia Association for Medical Instruction," a title which still survives in a highly respectable existing summer school, though the original association has long been dissolved. The first lecturers were the late Dr. Joseph Parrish on the practice of medicine, Dr. Franklin Bache on chemistry, Dr. John Rhea Barton on surgery, Dr. Morton on anatomy, and myself on materia medica. About the same time, another combination of the same character was formed, denominated, I believe, the "School of Medicine," in which Dr. C. D. Meigs taught midwifery. By an arrangement, mutually advantageous, the services of Drs. Bache and Meigs were interchanged; the pupils of the "Association" attending the lectures of the latter on midwifery, and those of the "School of Medicine" the chemical instructions of the former. Dr. Morton continued to deliver annual courses on anatomy in this association for five or six years, when it was dissolved. His instructions were characterized by simplicity and clearness, without any attempt at display, and, so far as I have known, gave entire satisfaction both to his associates and pupils.

On the 28th of November, 1831, he was chosen Corresponding Secretary of the Academy of Natural Sciences, and was

thus brought into official communication with many scientific men in Europe and America.

Reference was a short time since made to a work, based mainly upon his pathological investigations in the Almshouse Hospital. It was denominated "*Illustrations of Pulmonary Consumption,*" was printed in the early part of 1834, and contributed no little to the increase of his reputation as a practitioner. The work is an octavo of about 180 pages, treats of phthisis in all its relations, and is illustrated by several painted plates, executed with skill and accuracy. At that time little was known in this country of the admirable work of Louis on Consumption; and the book of Dr. Morton no doubt contributed to the spread of sound views, both pathological and therapeutical, upon the subject. He particularly insists on the efficacy of exercise in the open air in the treatment of the disease, following in this respect in the footsteps of his preceptor, Dr. Parrish, to whose memory great honour is due, for his successful efforts to revolutionize the previously vague and often destructive therapeutics in phthisis.

Very soon after the publication of this work, in the year 1834, Dr. Morton had an opportunity of making a voyage to the West Indies, as the companion and medical attendant of a wealthy invalid. On this occasion he visited several of the islands, making observations as he travelled in relation to their geological structure, and at the same time investigating, with peculiar attention, the influence of their climate upon phthisis, and their relative fitness as places of resort for consumptive patients from colder regions.

Some time after his return from the West Indies, he edited an edition of Mackintosh's *Principles of Pathology and Practice of Physic*, adding explanatory notes, and making numerous additions to supply deficiencies in the original work. A second American edition was published in 1837, under his supervision.

When it was that he began to turn his attention especially to ethnological studies I am unable to say ; but it is probable that the idea of making a collection of human crania, especially those of the aboriginal races of this continent, both ancient and modern, originated soon after he entered into practice, if not even previously ; and, among the earliest recollections of my visits to his office, is that of the skulls he had collected. It is well known to you that much of his time and thoughts, and not a little of his money, were expended in extending and completing this collection, in which he was also materially assisted by his own private friends, and the friends of science in general, who were glad to contribute their aid to so interesting an object. The cabinet thus commenced was gradually augmented, embracing the crania of the lower animals as well as those of man, until at length it grew to a magnitude almost beyond precedent ; and, at this moment, it forms one of the greatest boasts of our country in relation to natural science. It is ardently to be hoped that means may be found to secure its retention here, and that it may ever continue to enrich the varied collections of our Academy, among which it has been deposited.*

The possession of such materials naturally led to the wish to give diffusion and permanence to the knowledge which they laid open. Hence originated Dr. Morton's great work on *American Crania*, in which accurate pictorial representations are given of

* I have been informed, on the very best authority, that, independently of all the assistance in making this collection afforded by others, it cost Dr. Morton somewhere between ten thousand and fifteen thousand dollars. Through the contributions of a number of gentlemen, interested in the scientific reputation of our city, this collection was secured for the Academy, and now forms a portion of its invaluable museum. It is due to the heirs of Dr. Morton to state, that the sum received for the collection bore but a small proportion to that expended in its formation.

a great number of the skulls of the aborigines of this continent, with descriptions, historical notices, and various scientific observations; all preceded by an essay on the varieties of the human species, calculated to give consistency to the necessarily desultory statements which follow. The preparation of this work cost the author a vast deal of labour, and an amount of pecuniary expenditure which has never been repaid, unless by the reputation which it gained for him, and the consciousness of having erected a monument to science, honourable to his country, and likely to remain as a durable memorial of his own zeal, industry, and scientific attainment. It was published in 1839. It is due to Dr. W. S. W. Ruschenberger to state, that the work was inscribed to him by Dr. Morton, with the acknowledgment that some of its most valuable materials were derived from his researches in Peru.

In September, 1839, Dr. Morton was elected Professor of Anatomy in the Pennsylvania Medical College, the duties of which office he performed until November, 1843, when he resigned. In that institution he was associated with the late Dr. George McClellan, who may be looked on as its founder, and for whom he formed a friendship which ended only with life.

On the 26th of May, 1840, he was elected one of the Vice-Presidents of the Academy of Natural Sciences, in which capacity he very often presided at its meetings, in the absence of the President.

He was engaged about this time in preparing a highly interesting memoir on the subject of Egyptian Ethnography, based mainly upon the observation and comparison of numerous crania, in the collection of which he was much aided by Mr. George R. Gliddon, whose residence in Egypt gave him opportunities, which an extraordinary zeal, in all that concerns the ancient inhabitants of that region, urged him to employ to the best possible advantage. This memoir was embraced in several communica-

tions to the American Philosophical Society, in the years 1842 and 1843, which were published in the Transactions of that Society (Vol. ix., New Series, p. 93, A.D. 1844), and also in a separate form, under the title of "*Crania Egyptiaca, or Observations on Egyptian Ethnography,*" with handsomely executed drawings of numerous skulls, derived from the pyramid of Saccara, the necropolis of Memphis, the catacombs of Thebes, and other depositories of the ancient dead in that region of tombs.

In January, 1845, Dr. Morton was elected a Fellow of this College. That we did not more frequently see him among us, was probably owing to the unfortunate coincidence, at that time existing, of the meetings of the College and Academy, which would have rendered necessary a neglect of his official duties in the latter institution, had he attended at the sittings of the former. It may be proper here to mention, though not in strict chronological order, that, by the appointment of the College, he prepared a brief biographical sketch of Dr. George McClellan, which was read in September, 1849, and published in the *Transactions* of that date.

In the years 1846 and 1847, he prepared essays "*On the Ethnography and Archæology of the American Aborigines,*" and "*On the Hybridity of Animals and Plants in Reference to the Unity of the Human Species,*" which were read before the Academy, and afterwards published in the *American Journal of Science and Arts* (III., 2d ser., A.D. 1847). In these papers he advanced opinions upon the origin of the human family, which led to an unfortunate controversy, that, with his delicacy of feeling, could not but have in some measure disturbed the tranquillity of the latter years of his life. It is due to Dr. Morton to say that he did not consider the views, advocated by himself, as conflicting with the testimony of Scripture, or in any degree tending to invalidate the truths of revealed religion.

During the year 1848, much of his time was devoted to the pre-

paration of an elementary work on "*Human Anatomy, Special, General, and Microscopic,*" illustrated by a great number of figures, and aiming to be an exposition of the science in its present improved state. Among his inducements to this work, not the least, as he states in the preface, was the desire to be enrolled among the expositors of a science that had occupied many of the best years of his life. Though laying no claim to originality in its facts or illustrations, the treatise cost him a great deal of labour, not only in the arrangement of the matter, the care of the engravings, and the superintendence of the press, but also in the verification, by microscopic observation, of the accuracy of the pictorial representations of minute structure in which it abounds. It was issued from the press early in 1849; but, even before its publication, he had begun to feel the effects upon his health, never robust, of the toilsome task he had undertaken, in addition to professional and official engagements, which alone would have been sufficient for the wholesome employment of his time and energies.

Scarcely had his last duties in connection with this work on Anatomy been performed, when in December, 1848, he was attacked with a severe pleurisy and pericarditis, which brought him into the most imminent danger of life, and from the effects of which he never fully recovered; for though, after a long confinement, he was enabled to go about, and even to resume his professional duties, he was left with great and permanent derangement of his thoracic organs.

The very obvious depression of his left shoulder, and the falling in of the corresponding side of the chest evinced, at a glance, that with the absorption of the pleuritic effusion the lung had not expanded; and the loud murmur, obvious upon auscultation over the heart, proved to his professional friends that this organ had not escaped without serious injury. Notwithstanding, however, the amount of local derangement, his

system rallied ; and, after an absence of some weeks from the city, he returned so much improved in health and strength, that he felt himself authorized to resume his active professional avocations, and general previous course of life, though with some abatement of his labours in the fields of original investigation and of authorship.

Could his sense of duty, at this period, and the disposition to strong mental activity, which had probably become by habit almost a necessity of his nature, have permitted him to withdraw from all vigorous exertion, and to devote his time for the future rather to quiet enjoyment than to laborious effort, it is not impossible that his life might have been considerably prolonged. Such was the advice of some of his medical friends ; but stronger influences impelled him to exertion ; and, like most men who feel themselves irresistibly drawn into a certain course of action, he succeeded in reconciling this course not only to his general sense of duty, but even to his views of what was required under the particular circumstances of his health. He was convinced that, by active bodily exertion, he should be most likely to bring his defective lung back again to the performance of its function ; and certainly, for a time, his improving appearance and increasing strength under exercise seemed to justify the system he had adopted.

Before adverting to the closing scene, let us stop, for a very few minutes, to take a view of his character and position at this period, which, if the consideration of his health be omitted, was the most prosperous of his life.

His election to the presidency of the Academy of Natural Sciences, which took place December 25, 1849, had given him an official position than which he could not expect to gain one more honourable, and than which society in this country have few more honourable to bestow. Of an amiable and benevolent temper, indisposed to give offence, or to wound the sensibilities

of others, he had conciliated general good-will; while his affectionate disposition, his deep interest in those to whom he was attached, and his readiness to serve, secured him warm friends, especially in the circle of his patients, who in general had much regard for him personally, as well as great trust in his skill. Powers of quick and accurate observation, and a sound cautious judgment were perhaps his most striking intellectual characteristics, and naturally led him into those departments of science where they could be most efficiently exercised.

By strict attention to his professional duties, even in the midst of his scientific researches, by an affectionate interest in his patients, inspiring similar sentiments on their part, and by a system of cautious but successful therapeutics, he gained a large, and for Philadelphia, a lucrative practice, which, with some income derived by inheritance from an uncle in Ireland, enabled him to live handsomely, and not only to entertain his scientific friends and associates on frequent occasions at his house, but also to extend hospitalities to strangers, whom his reputation attracted towards him upon their visits to our city. His friends will not soon forget the weekly *soirées*, at which they enjoyed the pleasure of combined social and scientific intercourse, and had the frequent opportunity of meeting strangers, distinguished in the various departments of learning and philosophy.

His extensive professional relations, and his reputation both as a practitioner and teacher of medicine, attracted to his office many young men disposed to enter into the profession; and he usually had under his charge, towards the close of his life, a considerable number of private pupils, to whom he devoted much time, and his most conscientious endeavours to qualify them to be good physicians.

Numerous learned and scientific associations in different parts of America and Europe had enrolled him among their members; and perhaps few men in this country had a more extensive cor-

respondence with distinguished individuals abroad.* To be praised by the praised is certainly a great honour; and this Dr. Morton was happy enough to have won in no stinted measure.

With these meritorious qualities, these well-earned distinctions, and these diversified sources of comfort and enjoyment, with the crowning pleasures, moreover, of domestic confidence and affection, and bright hopes for a rising family, our late friend and fellow-member may be considered, at this period of his life, as one of the most happy of men in all his exterior relations. The only drawback was the uncertain state of his health.

From early manhood he had been of delicate constitution. Two attacks of severe hæmatemesis had on different occasions threatened his life; and for a long time he suffered much with excruciating attacks of sick headache, which most painfully interrupted his scientific and professional avocations, and not unfrequently confined him for a time to his bed. For many years of his earlier life, his pale complexion and spare form indicated habitually feeble health; but at a more advanced period he seemed to have greatly improved in this respect, exhibiting a more healthful colour and more robustness of frame; and, but for the terrible attack which prostrated him in the winter of 1848-49, there seemed to be no reason why he should not live to a good old age. But the fiat had gone forth; and, though a respite was granted, it was destined to be short.

A painful incident, which happened about this time, may possibly have had some effect in aggravating the morbid tendencies, already unhappily strong. I refer to the illness and speedy death, in May, 1850, of an affectionate, dearly loved, and highly promising son, to whose future he was looking forward with much, and apparently well-founded, confidence.

* For a list of the societies of which he was a member, see the Appendix to Dr. Meigs's Memoir.

Perhaps at no time was Dr. Morton more busily occupied in practical duties than during the year or two which preceded his death. He was indefatigable in attendance upon his numerous patients, devoted no little time to the instruction of his private pupils, and never voluntarily omitted the performance of his academic functions. In the midst of this career of usefulness, he was seized with an illness, which, commencing on the 10th of May with a moderate headache, became more severe on the following day, and, though afterwards relaxing so much as to give hopes of a return to his ordinary health, ended in an attack of stupor and paralysis, which proved fatal on the 15th, the very day upon which, one year previously, he had witnessed the death of his son.

Dr. Morton was considerably above the medium height, of a large frame, though somewhat stooping, with a fine oval face, prominent features, bluish-gray eyes, light hair, and a very fair complexion. His countenance usually wore a serious and thoughtful expression, but was often pleasingly lighted up with smiles, during the relaxation of social and friendly intercourse. His manner was composed and quiet, but always courteous, and his whole deportment that of a refined and cultivated gentleman.

He left behind him a widow and seven children, five sons and two daughters, several of whom have advanced to adult age, and are engaged in active life. In the remembrance of the virtues, the attainments, the fruitful labours, and the well-earned reputation of the husband and father, they have a legacy far more precious than the gifts of fortune; an inheritance which no mischances of this world can impair, and which will be handed down as a priceless heirloom to their latest posterity.

The first part of the book ...

The second part of the book ...

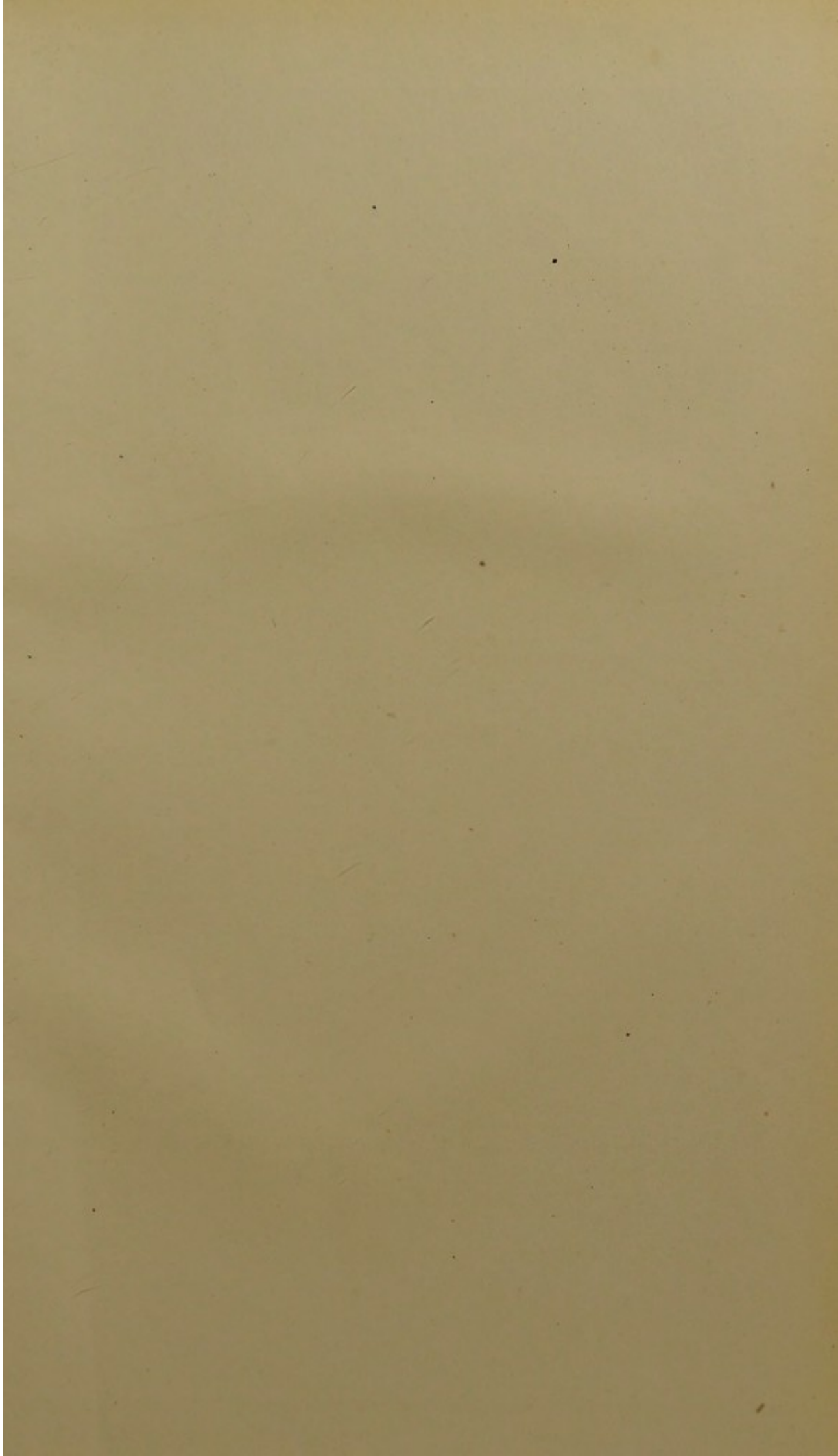
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