The state of the medical profession in Great Britain and Ireland / by William Dale.

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Publication/Creation

Dublin : Fannin ; London : Longmans, 1869.

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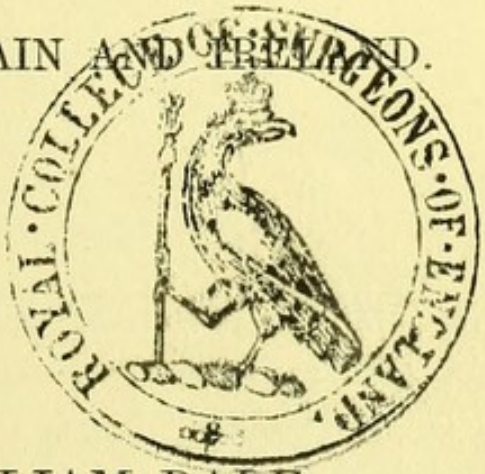
THE STATE

OF

THE MEDICAL PROFESSION

IN

GREAT BRITAIN AND IRELAND.



By WILLIAM DALE,

Doctor of Medicine of the London University, Member of the Royal College of Surgeons, England, &c. &c.

DUBLIN: FANNIN AND CO.,

LONDON: LONGMANS.

1869.

THE following Essay was submitted, on the 1st February, 1868, to the Council of the Royal College of Surgeons, in competition for the Carmichael Prizes, and is now published without any alterations.

AUTHOR'S PREFACE.

In 1868, Dr. Mapother received the first Carmichael Prize for an Essay on "The Medical Profession in Great Britain and Ireland," the Council of the Royal College of Surgeons in Ireland being the adjudicators. It was known at the time, that Dr. Mapother was a member of the Council, and for this reason—ostensibly at least—he publicly promised to print the Essays of any of the Competitors, who might be dissatisfied with the award. The performance of this promise has been demanded, or the challenge accepted, by the writer of these pages on the following grounds :—

1st.—That Dr. Mapother being a member of the Council of the Royal College of Surgeons of Ireland, was disqualified as a competitor.

2nd.—That he forwarded *three printed proofs* to three members of the Council who adjudged the prizes. It was unfair, I contend—first, that he should know that three adjudicators only had been appointed, and secondly, still more unfair, that he submitted his Essay to them in a *printed form ;* for thereby it was placed at an immeasurable advantage over the Essays forwarded in manuscript.

3rd.—That "The state of the Medical Profession in Great Britain and Ireland," in this day, or "at the time of the writing of these Essays," was the subject to be treated by the competitors, as stated in the Prospectus, inviting competition ; but Dr. Mapother has not, according to my judgment, or his own admission, kept this fact in view in preparing his Essay. I submit, therefore, that my Essay furnishes a more faithful delineation of the *present* state of the Medical Profession in Great Britain and Ireland ; deals more strictly

with the subjects* laid down for the guidance of the writers; and is more in accordance with Mr. Carmichael's design in the Institution of the Prizes which bear his name.

The second, however, is my chief ground of complaint, for unless all the Essays had been submitted to the Council in *printed proofs*, the proceeding, as I have said, was unfair; and since Dr. Mapother has had my Essay printed just as it was submitted to the Council—not even allowing me to see it before publication—it should now be compared with the *original unaltered proofs* of his Essay, which were sent to the Council for award. Without such a comparison, his printing this, or any other of the Essays is altogether nugatory and useless, for how otherwise can a just estimate of their relative merits be formed?

I am not, however, so sanguine as to expect this will be done, and, having entered into the foregoing explanation, here I am content to leave the matter, and wait the issue. I append the Prospectus, inviting competition for these Prizes, that the reader may judge whether the conditions therein laid down have been complied with in the work before him, and so form his opinion respecting it.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

CARMICHAEL PRIZES.

The late RICHARD CARMICHAEL, Esq., having bequeathed to the College a sum of money for the purpose of founding Prizes for Essays upon certain subjects specified by him, the President and Council hereby give notice, that on the first Monday in May, in the year 1868, they will proceed to adjudge a Prize of TWO HUNDRED POUNDS for the best Essay, and a Prize of ONE HUNDRED POUNDS for the second best Essay, that may be presented to them in accordance with the following instructions prescribed by Mr. CARMICHAEL :—

1st.—"The state of the Medical Profession in its different departments of Physic, Surgery, and Pharmacy, in Great Britain and Ireland, at the time of the writing of these Prize Essays."

* For example, the *Moral Training* of Medical Students. I observe, with considerable interest, that the University of Oxford now recognizes *unattached* Students; but they must not reside in any house the owners of which do not pledge themselves to close their outer doors at nine, to report the time at which their lodgers entered, and suffer their houses to be inspected at all times by the Delegates of the University. We have here some *supervision*, not in the best mode perhaps, but at all events the Students are not to do as they list—not left as sheep without a shepherd.

2nd.—"The state of the Hospitals and Schools of Medicine, Surgery, and Pharmacy."

3rd.—"The state and mode of examination, or of testing the qualifications of Candidates of the different Licensing Colleges, or Corporations in Medicine, Surgery, and Pharmacy."

"Under these three heads, the authors will please to make such suggestions as may occur to them respecting the improvement of the profession, with the view of rendering it more useful to the public, and a more respectable body than it is at present. In these suggestions the authors will please to consider the preliminary and moral education of Medical and Surgical Students, as well as the best mode of conducting their professional studies."

"In considering the third head, or mode of testing the qualifications of candidates by the licensing bodies, the authors will please to consider the most practicable mode of rendering the examinations as demonstrative as possible—*i.e.*, in Anatomy, by having the dead subject placed before the Candidate; in Chemistry, Botany, and Pharmacy, specimens of minerals, plants, and pharmaceutical preparations placed before him, and in the practice of Physic and Surgery, the Candidates to be placed before the patients in the wards of an hospital, as the testator is certain that this will afford the most certain and only true mode of ascertaining the qualifications of candidates."

Each Essay is to be distinguished by a device or motto, and accompanied by a sealed packet, containing the name and address of the author, also distinguished by the same device or motto. The Essays are to be lodged at the College on or before the first day of February, 1868.

The President and Council will not consider themselves bound to award the Prizes should any of the Essays not appear to them to possess sufficient merit.

By order of the Council,

JAMES STANNUS HUGHES, Secretary.

Dublin, December 24th, 1866.

ERRATA.

Page 17 line 30 for *they* read *was.*
,, 30 ,, 32 for *medical* read *moral.*
,, 36 ,, 6 for *Is it possible to suggest any improvement? here is the point,* read *Is it possible to suggest any improvement here, is the point.*
Page 71 line 4 for *calybeates* read *chalybeates.*
,, ,, 24 for *gone indeed* read *far gone indeed.*
,, 73 line 29 for *secure* read *serve.*
,, 69 and 74 for *Audral* read *Andral.*

THE STATE
OF
THE MEDICAL PROFESSION
IN
GREAT BRITAIN AND IRELAND.

PART I.

The state of the Medical Profession in Great Britain and Ireland is the subject I purpose to discuss in the following pages. This profession is sanctioned by legal enactments, possesses numerous and imposing institutions, has many learned and noble men in its ranks, and professing to minister to and guard the "holy vital flame," must be considered as an all-important organisation in our midst. I shall impartially, and with all possible brevity, point out what I regard as the excellencies and defects of this organisation, and endeavour to offer some suggestions for its improvement under the following general heads:

1st. The state of the Medical Profession in its different departments of Physic, Surgery, and Pharmacy in Great Britain and Ireland.

2ndly. The state of the Hospitals and Schools of Medicine (Physic), Surgery, and Pharmacy.

3rdly. The state and mode of examination, or of testing the qualifications of candidates of the different licensing Colleges or Corporations in Medicine, Surgery, and Pharmacy.

1st. The state of the Medical Profession in its different departments of Physic, Surgery, and Pharmacy in Great Britain and Ireland.

To gain a just idea as to the present state of the medical profession, it will be necessary under this head, first, to enumerate the institutions or corporations which

exist for granting licences or degrees; and, secondly, to pass in review the curriculum which each institution enjoins. In Great Britain and Ireland nineteen institutions exist for granting licences and degrees, namely—(*a*) In England, the University of Cambridge, the University of Oxford, the University of Durham, the University of London, the Royal College of Physicians, the Royal College of Surgeons, and the Society of Apothecaries. (*b*) In Scotland, the University of Edinburgh, the University of Glasgow, the University of Aberdeen, Marischal College and University, Aberdeen, the University of St. Andrew's, the Royal College of Physicians, the Royal College of Surgeons, the Faculty of Physicians and Surgeons, Glasgow. (*c*) In Ireland, the University of Dublin, Queen's University, the King and Queen's College of Physicians, the Royal College of Surgeons, the Apothecaries' Hall.

All these institutions have a legal right to grant degrees, licences, &c., and hence the titles for legally qualified medical men are exceedingly numerous. They are designated Doctors of Medicine, Bachelors of Medicine, Licentiates in Medicine, Extra Licentiates in Medicine, Physicians, Licentiates in Surgery, Masters in Surgery, Licentiates in Midwifery, Fellows of Colleges, Members of Colleges, Holders of Letters Testimonial, Surgeons, &c.

I propose next to bring under review the initiatory studies, or the curriculum, of these institutions, severally in order to secure a good foundation for comparison and analysis. To avoid repetition, I group them in the following manner:

Group First.—The University of London; the University of Oxford; the University of Cambridge; the University of Edinburgh; Queen's University in Ireland the University of Durham; the University of Aberdeen the University of Glasgow; the University of Saint Andrew's.

The curriculum for the highest degrees extends over a period of six years, and is generally as follows:

(*a*). *In preliminary or general education.*—Classics, Mathematics, Natural Philosophy, English Language, English History, Modern Geography, Comparative Anatomy, Chemistry, and Botany. Either the French or German language at the option of the candidate.

(*b*). *In Medicine* (*for Bachelor of Medicine*).—*First examination.*—The candidate is required to produce certificates (1) of having completed his nineteenth year; (2) of having taken a degree in arts in a university, or passed an examination in general knowledge; (3) of having been a student during two years at one or more of the medical institutions or schools recognised by the university, subsequently to having taken a degree in arts, or passed the preliminary examination; (4) of having attended a course of lectures on each of four of the subjects in the following list:—Descriptive and Surgical Anatomy, General Anatomy and Physiology, Comparative Anatomy, Botany, Chemistry, Materia Medica and Pharmacy, General Pathology, General Therapeutics, Forensic Medicine, Hygiene, Midwifery, and diseases peculiar to women and infants, Surgery, Medicine; (5) of having dissected during two winter sessions; (6) of having attended a course of Practical Chemistry, comprehending practical exercises in conducting the more important processes of general and pharmaceutical chemistry; in applying tests for discovering the adulteration of articles of the materia medica, and the presence and nature of poisons; and in the examination of mineral waters, animal secretions, urinary deposits, calculi, &c.; (7) of having attended Practical Pharmacy during a sufficient length of time to enable him to acquire a practical knowledge in the preparation of medicines.

For Bachelor of Medicine.—Second Examination.—No candidate is admitted to this examination within two

academical years of the time of his passing the first examination, and is required to produce the following certificates : (1) Of having passed the first examination ; (2) of having, subsequently to having passed the first examination, attended a course of lectures on each of two of the subjects comprehended in the list (p. 7), and for which the candidate had not presented certificates at the first examination ; (3) of having conducted at least twenty labours ; (4) of having attended the surgical practice of a recognised hospital or hospitals during two years, with clinical instruction and lectures on clinical surgery ; (5) of having attended the medical practice of a recognised hospital or hospitals during two years, with clinical instruction and lectures on clinical medicine ; (6) of having, subsequently to the completion of his attendance on surgical and medical practice, attended to practical medicine, surgery, or midwifery, with special charge of patients, in a recognised hospital, infirmary, dispensary, or parochial union, during six months. N.B.—The student's attendance on the surgical and the medical hospital practice specified in Regulations 4 and 5, may commence at any date after his passing the preliminary examination, and may be comprised either within the same or within different years, provided that in every case his attendance on hospital practice be continued for at least eighteen months subsequently to his passing the first M.B. examination. Attendance during three months in the wards of a lunatic asylum recognised by the university, with clinical instruction, may be substituted for a like period of attendance on medical hospital practice ; and this recommendation the Senate consider highly desirable, that the student may acquaint himself with the various forms of insanity.

For Doctor of Medicine.—The candidate requires the following certificates : (1) of having taken the degree of Bachelor of Medicine ; (2) of having attended, subse-

quently to having taken this degree, (*a*) to clinical or practical medicine during two years, in a hospital or medical institution recognised by the university; (*b*) or to clinical or practical medicine during one year, in a hospital or medical institution recognised by the university, and of having been engaged during three years in the practice of his profession; (*c*) or, after taking the degree of Bachelor of Medicine, of having been engaged during five years in the practice of his profession; (3) of moral character, signed by two persons of respectability; (4) the education must include the elements of logic and moral and intellectual philosophy, in addition to the above-named subjects.

(*c*). *In Surgery* (*for Bachelor of Surgery*).—Certificates are required (1) of having taken the degree of Bachelor of Medicine; (2) of having attended a course of instruction in operative surgery; (3) of having operated on the dead subject.

For Master in Surgery.—Certificates are required, (1) of having taken the degree of Bachelor of Surgery in the university; but candidates who have obtained the degree of Bachelor of Medicine previously to 1866, will be admitted to the examination for the degree of Master in Surgery without having taken the degree of Bachelor of Surgery; (2) of having attended, subsequently to having taken the degree of Bachelor of Surgery, (*a*) to clinical or practical surgery during two years in a hospital or medical institution recognised by the university; (*b*) or to clinical or practical surgery during one year in a hospital or medical institution recognised by the university, and of having been engaged during three years in the practice of his profession; (*c*) or of having been engaged, during five years, in the practice of his profession, either before or after taking the degree of Bachelor of Surgery in the university. One year of attendance on clinical or practical surgery, or two years of practice, will be dispensed with in the case of those

candidates who, at the B. S. examination, have been placed in the first division.

Above I have given a very full account of the general course of study required by the universities—one whose curriculum is the strictest and most comprehensive having been chosen to represent the rest. I proceed to point out some particulars in which they agree, and others in which they differ, or to give an analysis of the whole.

The period over which their studies are extended, it will be observed, is about six years for the higher degrees, and five years for the simple Licence to Practice, or the degree of Bachelor of Medicine. The Universities of London and Durham permit the candidate to acquire his knowledge in certain recognised institutions, but the rest require a part of the prescribed course of study to be attended to within their own halls or colleges. The preliminary, or general education, is very similar in all, though it may differ in name; and is almost universally required to be finished before the professional part of the education is commenced. They all grant the degrees of Bachelor of Medicine, Doctor of Medicine, and Master in Surgery; but, in the Universities of Oxford and Cambridge, the degree of Doctor of Medicine cannot, in any sense, be considered a higher degree, inasmuch as it is obtained by Bachelors of Medicine after the lapse of three years, without further study, and little more than nominal examination. After due consideration, I am led to the conclusion, that the curriculum laid down by the universities, as appertaining to the medical profession, and supposing it to be strictly enforced, is well calculated to answer the end aimed at.

Group Second.—The College of Physicians, England; the College of Physicians, Scotland; the College of Physicians, Ireland.

These medical institutions enjoin on candidates generally, (1). A preliminary education in literature and

science, including classics, mathematics, and the English language. (2). Professional study of four years' duration, including the usual subjects, but having a special bearing on medicine rather than surgery. (3). Pharmacy is included and particularly insisted on by the English College, which subject it directs to be learned "in the laboratory of a registered medical practitioner, a member of the Pharmaceutical Society of Great Britain, or a chemist and druggist, or a public hospital or dispensary recognised by the College." (4). Clinical study is also particularly enjoined, and defined as "lectures or cases under observation, or special instruction at the bedside." (5). Morbid Anatomy is to be learnt "by attendance in the *post-mortem* room during clinical study." (6). Certificates of moral character. These things are required to prepare the candidate for the examinations for the *licence* granted by the college; the *members* and *fellows* are only higher grades in the sense of certain privileges and immunities, and not of any more stringent examination. Provision is made in the bye-laws for receiving graduates of the universities of the United Kingdom and Ireland; and I find the following wise and liberal statute in the Regulations of the College of Physicians of England, as to the admission of members: "Any candidate who has attained the age of forty years, but has not fulfilled all the required conditions, shall produce testimonials, not merely satisfactory as to his moral character and conduct, and his general professional acquirements, but showing that he has improved the art or extended the science of medicine; or has, at least, distinguished himself highly as a medical practitioner; the Censors' Board having well weighed and considered these testimonials, may, if they see fit, submit them to the Fellows at a general meeting; and it shall be determined by the votes of the Fellows present, or by the majority of them, taken by ballot, whether the candidate shall be admitted to examination,

which shall, in every such case, be as full and complete as the Censors may deem sufficient."

I also notice, with much pleasure, that the Royal College of Physicians, and the Royal College of Surgeons of Edinburgh, while they still continue to give their diplomas separately, and under separate regulations, have made arrangements by which, after one series of examinations, the student may obtain the diplomas of both colleges. The general principle of this joint examination is, that it shall be conducted by a Board, in which each body is represented, for examination in those branches which are common in both medicine and surgery, the College of Physicians taking charge of the examination in medicine, and the College of Surgeons of the examination in surgery.

Group Third.—Royal College of Surgeons, England; Royal College of Surgeons, Scotland; Royal College of Surgeons, Ireland; Faculty of Physicians and Surgeons, Glasgow; Army and Navy Medical Departments.

For *Members*, the subjoined curriculum is laid down: (1). A preliminary education, including classics, mathematics, and the English language. (2). Professional studies extending over about four years, including the usual subjects. (3). The following lectures:—Anatomy and Physiology, three courses; Theory and Practice of Surgery, three courses; Dissections, accompanied by Demonstrations, three courses; Chemistry, two courses; or Practical Chemistry and General Chemistry, each one course; Materia Medica, one course; Midwifery, one course; Medical Jurisprudence, one course. (4) Hospital Practice and Clinical Instruction, having a special bearing on Surgery rather than Medicine.

For the Fellowship, the candidate requires the following certificates: (1). That he is twenty-five years of age. (2). That he has had a liberal preliminary education, or is a Bachelor of Arts of some university. (3). That his general conduct has been good during his pro-

fessional education, signed by two or more Fellows of the college. (4). That he has pursued his professional studies during six years, and that he has had opportunities of practical instruction as house-surgeon or dresser in a recognised hospital. (5). That he has attended the following courses of lecture, in addition to those required by members :—Comparative Anatomy, one course ; Botany, one course ; Natural Philosophy, one course. (6). That he has written a thesis on some medical subject, or a Clinical Report with observations—as six or more medical or surgical cases taken by himself.

Bachelors of Arts of a British or Irish university, who have complied with the above regulations in other respects, require only five years of study.

Both the fellows and the licentiates are required to make and sign a formal declaration legally binding them to observe and be obedient to the statutes, bye-laws, and ordinances of the college, and to the utmost of their power to promote its honour, reputation, and dignity. The fellows, in addition, are required to declare that they do not practise the business or profession of an apothecary or druggist, or indirectly sell drugs or medicines ; and that they will not, while they are fellows, practise such business or profession.

Lastly, licentiates, or members, or holders of letters testimonial (as they are designated in Ireland), who may not be able to show that they have followed the course of study specified in the preceding regulations, may, at the expiration of ten years from the date of their diploma, be admitted to the examination required for the fellowship, provided they produce such evidence as shall be satisfactory to the Council that they have conducted themselves honourably in the practice of their profession.

These are the chief points in the regulations of the medical institutions in the third group. A few diffe-

rences require notice: (*a*). In the preliminary education of the Scottish College, French and German are required in addition to the subjects enjoined by the rest. It will be observed also that this college does not require so many courses of lectures to be attended; but *regular* attendance on the prescribed lectures is enjoined, and strictly enforced and ascertained; and the study of *mental diseases* and the *microscope* is strongly recommended. For the fellowship, it would seem, no examination is required; any member of good moral conduct, and after the age of twenty-five years, being eligible on payment of the fees.

(*b*). The Faculty of Physicians and Surgeons of Glasgow prescribes a similar curriculum as the rest, and holds the same position, in point of law and character, with them. With the Royal College of Physicians of Edinburgh, it grants a *conjoint* diploma under similar conditions to those which I have described when speaking of the conjoint diploma granted by the Royal College of Physicians and the Royal College of Surgeons of Edinburgh.

(*c*). To enter the medical department of the army or navy, a diploma in surgery and a degree in medicine, or a licence to practise it, is required, and the following certificates: (1). A certificate that the candidate is twenty-one and not more than twenty-eight years of age. (2). A certificate of physical fitness to discharge the duties of a medical officer in any climate. (3). A certificate of moral character. A further examination, called preliminary, on the usual subjects of professional study is required, and afterwards the following courses of practical instruction at the army medical school, of four months duration: (1) Hygiene; (2) clinical and military medicine; (3) clinical and military surgery; (4) pathology of diseases, and injuries incident to military surgery. At the close of this practical instruction at the army medical school, a final examination is

prescribed, embracing its subjects; so that the candidate for the army medical service is required to undergo two examinations besides the examinations required for civil practice. But all this only makes him eligible as an assistant-surgeon. Previously to his promotion as a full surgeon, a third extra examination is required, which is by printed questions sent to the principal medical officer of the station where he is serving at the time; and these questions are to be answered without books, notes, or communication with any other person except this medical officer—this third examination having for its object to ascertain, before his promotion, if he has kept pace with the progress of medical science.

In the case of candidates for the medical service of the navy, the courses of practical instruction at the army medical school and the second examination seem to be dispensed with. Probably the difficulty of obtaining a high class of candidates has made it necessary to be less strict in the examination for the navy.

Group Fourth.—Society of Apothecaries, England; Apothecaries' Hall, Ireland. The curriculum is as follows: (1). A certificate of having passed a preliminary examination in arts, including Classics, Mathematics—(first two books of Euclid, Algebra, inclusive of Simple Equations, and Arithmetic to the end of Decimals—Ireland)—French, Elements of Natural History, and Natural Philosophy, English History, and Composition.

(2). A certificate of having served an apprenticeship during five years (three years, Ireland) to a qualified practitioner; this period may include the time spent in attending lectures and hospital practice.

(3). A certificate that the candidate has attained the age of twenty-one, and of good moral conduct.

(4). A certificate of attendance on the usual course of lectures and hospital practice, with dissections, during three winter and three summer sessions—the practice of medicine and clinical lectures on medicine holding the

chief places, as one would expect. The Apothecaries' Hall of Ireland prescribes four years of professional study subsequently to the preliminary examination in arts.

To the above institutions must be added the General Council of Medical Education and Registration of the United Kingdom. This Council, formed in pursuance with the provisions of the Medical Act of 1858, cannot be considered as a licensing body, but rather as intended to supplement the licensing bodies, and in some measure control, or at least advise them, in legal or other questions bearing on the welfare of the profession at large. It is formed of medical men, chosen by each of the medical corporations of the United Kingdom, and six medical men besides, who are nominated by her Majesty, with the advice of her Privy Council.

I have given the preceding summary and analysis of the regulations of the different licensing bodies, from the conviction that a careful consideration of the initiatory studies demanded of candidates for the medical profession, would afford the best criterion of the state and character of the profession at large; and provided these regulations had been in existence long enough, it seems to me that no better criterion can be thought of. But the fact that they are the combined result of many alterations extending over many years, and that their present uniformity and status have only recently been attained, detracts greatly from its value. For instance, a glance at the Medical Register, which is published annually by the Medical Council, will show that there are still a few medical practitioners who, from having practised medicine in some form previously to the Apothecaries' Act of 1815, never passed any examination whatsoever. There are others in greater numbers who, with scanty preliminary study, are qualified under the regulations of that Act. And, as previously to the legislation in medical affairs, and the formation of the Medical

Council in 1858, the medical corporate bodies altered their regulations frequently, and differed much among themselves at any given time, it is evident that the qualifications of medical men now in practice must widely differ. The subject may receive illustration from some facts which immediately preceded the coming into operation of the Medical Act mentioned above—facts whose retrospect cannot be very pleasing or satisfactory to the parties concerned. I refer to the hordes of medical men who flocked to the colleges and universities which proclaimed a *Year of Grace*, and there obtained a diploma or degree as the case might be, after a *minimum* examination at most, and in many cases without any examination at all. In that memorable year of grace the rush to the University of St. Andrew's was so great that upwards of two hundred "Doctors in Medicine" were *capped* in two days—the list of medical men and medical students so *distinguished* now lying before me. At the same time the three colleges offered their licence to men holding any medical degree, for ten guineas; and not a few took the tempting bait.

These days, I hope, are gone for ever, and as it respects medical affairs the *good old times* were not the best; for as there were so many places where degrees and licences could be obtained, and also very great differences in the regulations of the licensing bodies, there existed, necessarily, a multiplicity of titles which did not truly express the qualification which they held. All this was sadly perplexing to medical students, for they often pursued their studies with reference to the lower grades in the profession, through ignorance of the nature and requirements of the higher. Dr. Hughes Bennett, in his pamphlet on medical education, observes, "Instead of a uniform and national education for the country at large, the student is still called upon to consider which out of the multitudinous systems brought before him he ought to follow, or how he shall so steer his course that, whilst

qualifying himself for examination at one board, he does not disqualify himself for examination at another."

In the profession itself also it led to misunderstandings in the respective departments of practice—surgery interfering with medicine, medicine with surgery; and so the seeds of jealousy and discord were continually sown, and brought forth abundant fruit. It was likewise injurious to the public at large; for since the places where licences to practise could be obtained were so numerous, and in some of them the requirements from candidates low and despicable, there were scarcely any checks to quackery, so that the lives of the people were at the mercy of badly qualified men, or men not qualified at all; and fictitious medical titles were in the market, and could be readily purchased by unprincipled persons, England having long enjoyed the unenviable distinction of being known as the *home of medical quacks*. So lately as in the year 1864, the following remarks were made by a writer in the *Dublin Medical Press*: "The rivalship in the different licensing bodies for the possession of the fees still goes on, each striving to undersell the other in the facility with which they permit their diplomas to pass from their strong box into the student's pocket; and the result is the lamentable state of ignorance described by Professors Parkes and Sharpey, among men who had been pronounced competent to deal with the lives and limbs of their fellow-men."

Doubtless, then, the number of the medical corporate bodies, and the differences in their regulations, even to a recent date, were calculated to hinder the advancement and militate against the true interests of the profession in the manner I have stated; and time will be required to remedy the evils they have produced. Let it not be thought, however, that I undervalue the members of the profession of the present day. By these remarks I simply mean that the existing regulations of the examining boards do not offer

us a true criterion of the qualifications of all the members of the medical profession, and that some years must still elapse before they can be viewed in this light.

In no long time, however, many of the older members of the profession, whose qualifications, by no fault of theirs, are at present unequal, will obtain degrees and licences from various corporations, in virtue of certain existing bye-laws made in their behalf; and in this manner, and also by the retirement of the fathers of the profession, the present full and more uniform standard of professional education will be secured, and the respectability of the profession greatly increased.

The Medical Council claims a passing remark. It has been severely criticised, and in some respects deservedly so; yet I doubt not we owe the increased uniformity of the regulations of the medical corporations, and the conjoint examinations, to its representations and efforts. I should strongly advocate its being modified by the introduction into it *of representatives of the whole profession*, in addition to the representatives of the corporations and of the crown, of whom it is at present constituted; but with this simple alteration, I desiderate for it a fair trial, and look forward hopefully to its future proceedings, which I judge will be eminently beneficial to the profession.

The Council, sanctioned by the law, now provides for the due registration of all qualified medical men, and one may reasonably look forward to the time when medical quackery, at least in open and more offensive forms, will be driven from the land. But the law on this point is still defective, and will fail to satisfy the profession until it shall provide yet more stringent measures, making the assumption of medical titles truly penal, and affording proper security to legitimate practitioners.

There will yet remain one kind of quackery, claiming Hahnemann as its head, which I fear no legislation will reach, as it exists within the pale of the profession

itself; but respecting this absurd system, I purpose to make some observations further on, for I cannot doubt but it is a legitimate subject for criticism in this essay.

It will be granted, then, I think that as it respects physic and surgery the regulations of the licensing boards in Great Britain and Ireland, which have just been reviewed are ample and sufficient, and provide for a suitable education both in the higher and the lower grades of the profession. The state of *pharmacy* remains to be considered. The apothecaries, it will be observed, must serve an apprenticeship, during which they are supposed, among other initiatory matters, to be engaged in compounding and dispensing medicines, and many of them dispense their own medicines after they commence practice; so that the knowledge of pharmacy must be greater among them than among the other members of the profession. Next to these one may rank the *physicians and doctors of medicine*, for both universities and colleges of physicians make pharmacy a prominent item in their prescribed course of study. The Colleges of Surgeons, with the exception of the Irish College, consider the subject of importance, and require some attention to be paid to it, but many members of the colleges despise it after they have obtained their diploma, deeming the practice of pharmacy derogatory to their professional respectability; and hence their knowledge of it is insufficient to enable them to write prescriptions readily and well. A compulsory apprenticeship, partly spent in preparing and dispensing medicines under the eye of a medical practitioner, and partly in the pursuit of professional knowledge at some hospital, would be the best plan to secure to all the departments of the profession a competent knowledge of the subject. But, unfortunately, as it appears to me, the youth of this day, and not a few of their guides, look upon a state of pupilage as degrading, and hence they have set their faces against it, to their own hurt.

The *practice* of pharmacy in Great Britain and Ireland claims some attention here. In *England* it is divided between the druggists and general practitioners, the former, however, having the larger share ; for they usually not only prepare and dispense the medicines prescribed by the physicians, but prescribe themselves over the counter, whilst the latter merely dispense medicines to their own patients. It is true there are in all large towns, and especially in London, a number of practitioners who are druggists as well as medical men, and by whom the profession is justly considered to be scandalized and dishonoured. There are surgeons and apothecaries—nay, even doctors—who not only prepare and dispense medicines for their own patients and for the physician, but who likewise still further encroach upon the trade of the druggist by keeping open shops, retailing drugs, &c.

In *Scotland*, pharmacy is principally in the hands of the druggists in the large towns, and in the country districts the general practitioner dispenses his own medicines, as in England. Nevertheless, in the large towns some practitioners dispense medicines to their own patients, and keep open shops as well.

In *Ireland*, pharmacy is chiefly monopolised by the apothecaries, who claim the exclusive privilege to dispense medicines. It appears that, until a very recent date, even members of the College of Surgeons in Ireland could not dispense medicines unless they possessed the licence of the Apothecaries' Hall. It is now provided by the Medical Act of 1858, that every registered medical or surgical practitioner shall be entitled to supply medicines to his own patients ; the surgeon, however, does not generally dispense medicines unless he is an apothecary as well. The exclusive privilege of keeping open shops, and dispensing physicians' prescriptions, &c., by the last section of the Medical Act, is secured to the licensed apothecaries in Ireland. In

country places the surgeons supply their own medicines, as in England and Scotland.

Some medical reformers have thought that it would be an improvement to make the druggists the only pharmaceutists, and thus disassociate the practice of pharmacy from the profession altogether; but as neither in England nor, as far as I can learn, in Scotland is there any law to prevent the most illiterate persons from keeping shops and compounding and dispensing medicines, this certainly would not be for the public weal. In these countries many medical men, doubtless, continue to practise pharmacy for the sake of securing accuracy in the preparation of the medicines they prescribe, and some from long association and habit; and I confess I can see nothing improper or degrading in the practice. Pharmacy, I think, is capable of being improved in two ways. On the one hand, no *qualified medical man should be permitted to interfere with the trade of the druggist*, and on the other hand all druggists who are permitted to dispense medicines should undergo some compulsory examination as to their general fitness for the work; periodical examinations into the quality of their drugs should be established, and *counter-practice should be strictly prohibited*. In the present day it is becoming the usage of medical men to relinquish the practice of supplying medicines to their patients; but although this may answer well in large towns, the druggists, as a class, being yet uneducated, the country districts especially would fare poorly, in this respect, without the surgery of the regular practitioner; besides his surgery is, as I have tried to show, the very best school for teaching medical pupils a sufficient knowledge of practical pharmacy.

PART II.

THE GENERAL AND MORAL EDUCATION OF MEDICAL STUDENTS.

PRELIMINARY EDUCATION.

I COMMENCE the remarks I purpose making on the preliminary education of medical students, by a quotation from the last Report of the Royal Commission on the Scottish Universities. It is there observed, "It is a matter of great importance that the persons who are to practice medicine should be men of enlightened minds, accustomed to exercise their intellectual powers, and familiar with habits of observation and cautious reflection, and they should be possessed of such a degree of literary acquirement as may secure the respect of those with whom they are to associate in the exercise of their profession." In other words, the Commission desiderates for those who enter the medical profession a liberal education previously to the commencement of their professional studies.

I observe further, that the various Examining Boards have laid down a course of preliminary education, in which the subjects of study are named; and that the Medical Council also, in its session during the present year, thus enumerates the subjects of a *minimum* preliminary education which should be required of all candidates: "The English Language, including Grammar and Composition; Arithmetic, including Vulgar and Decimal Fractions; Geometry, first two books of Euclid; Latin, including Translation and Grammar; Greek; and one of the following subjects at the option of the candidate—French, German, Natural Philosophy, including Mechanics, Hydrostatics, and Pneumonics."

There is considerable difference of opinion, even among

able men, respecting the subjects which are best calculated to improve the mental powers. In discussing the points at issue among them, which I propose to do somewhat fully, I notice, first of all, the views of Dr. Whewell, who believes that "the foundation of a liberal education must be laid in Mathematical studies—not in Pure Mathematics, as the mere properties of space and number, but, in addition, Mechanics and Hydrostatics, whilst Algebra should be discarded as not of much value in any point of view. As thus taught, Mathematics is a most admirable mental discipline; it generates habits of strict reasoning, of continuous and severe attention, and of constant reference to fundamental principles." But, while he thus places Mathematics first, and considers it as the basis or groundwork, he thinks the addition of Classics essential in a liberal education; for, in another part of the work from which I quote, he says, "The man of mathematical genius, who, by the demands of his college or his university, is led to become familiar with the best Greek and Latin classics, becomes thus a man of liberal education, instead of being merely a powerful calculator. The elegant classical scholar, who is compelled, in the same way, to master the propositions of Geometry and Mechanics, acquires among them habits of vigour of thought and connection of reasoning. He thus becomes fitted to deal with any subject with which reason can be concerned, and to estimate the prospects of science, instead of being kept down to the level of the mere scholar, learned in the literature of the past, but illogical and incoherent in his thoughts, and incapable of grappling with the questions which the present and the future offer." I cannot forbear quoting a few more sentences from the work of this judicious and experienced teacher. Of the sciences (Chemistry, Natural Philosophy, Botany, &c.), he says, "Though such sciences cannot do the work of mental cultivation, they are highly valuable acquisitions to the student, and may

very beneficially engage his attention during the later years of his university career; though the habits of thought must be *formed* among other subjects, they may be well employed on these. And it is well for the general sympathy and mutual understanding of the cultivated part of mankind, that they should have many subjects of common interest." Of special *professional* education—as Lectures, Examinations, and Degrees in Divinity, Medicine, and Law—he writes, "All such studies should be subsequent to the intellectual culture of which I now speak; and the professions to which these studies belong will derive the greatest part of their real dignity and refinement from their being built on such a foundation."

On the contrary, Sir William Hamilton, in opposition to these views, thinks that the single benefit to which the study of Mathematics can justly pretend, is the formation of the habit of *continuous attention* as opposed to mental distraction; and it is, he says, almost the only one, or at least the principal one, accorded to it by the most intelligent philosophers. He also quotes from the writings of Dugald Stewart, to show that it is not by the study of the modern methods (Algebraical), but by the study of the Greek Geometry that this power of forming a habit of continuous attention is acquired—"more particularly by accustoming ourselves to pursue long trains of demonstrations, which the power of conception and of memory enable us to perform." Dr. Whewell, also, as we have seen, considers Algebra of very little use as an aid to mental culture, highly as he extols Mathematics in general for this purpose; and this fact Sir Wm. Hamilton does not seem to bear in mind in his review of Dr. Whewell's work. He maintains that the study of Philosophy and Classics (Latin and Greek) afford more suitable discipline for the foundation of a liberal education; at all events, that these subjects, in which he includes Logic, are as valuable as Mathematics in forming this habit of continuous atten-

tion, whilst they are free from its disadvantages. These disadvantages he dwells on at considerable length, quoting numerous authorities to prove his point—as that of Du Hamel, "They render us alien and abhorrent from the business of life;" that of Dr. Gregory, "They have a tendency to lead to scepticism, and suspense of judgment on subjects that do not admit of mathematical science;" that of De Stael, "They lead us to lay out of account all that is not proved, while the primitive truths, those which sentiment and genius apprehend, are not susceptible of demonstration;" that of Socrates, "They are calculated to consume the life of a man, and to turn him away from many other and important acquirements;" that of Kirwan, "The habit of mathematical reasoning seems to unfit a person for reasoning justly on any other subject; for, accustomed to the higher degree of evidence, a mathematician frequently becomes insensible to any other;" and again, "It is an observation which all the world can verify—that there is nothing so deplorable as the conduct of some celebrated mathematicians in their own affairs, nor anything so absurd as their opinions on the sciences not within their jurisdiction." Sir William also seeks further to decry the study of Mathematics, by bringing forward examples of celebrated men who were not able even to apply themselves to mathematical studies at all; as Boyle, "the impersonation of all logical subtlety, is reported by Le Clerc to have confessed that he could never understand the demonstration of the first problem of Euclid." Wolf, also, the philologer, the mightiest master of the higher criticism, was absolutely destitute of all mathematical capacity—nay, remained firmly convinced that the more capable a mind for mathematics, the *more incapable* is it for the other noblest sciences. He might also have added Coombe, the great metaphysician and physiologist, who, it is stated, could not comprehend a single sum in multiplication.

Yet, with singular inconsistency or forgetfulness, further on he observes, "We are decidedly of opinion that mathematics ought to be cultivated, to a certain extent, by every one who would devote himself to the higher philosophy." In this sentence, it seems to me, Sir William Hamilton admits the principles for which Dr. Whewell contends, or, at least, brings the difference between them to so narrow a point as to render it not worth so fierce a controversy.

Having directed attention to the views of these able philosophers on the general question of mental cultivation, let me now notice the opinions of a not less able physician on the *special* education required for the medical profession, and the defects of that which is at present provided. Dr. Bence Jones, at a meeting of the British Association held in August, 1866, said: "It seems to me that the only way to make the present preliminary education for medical men less suited to the present state of our knowledge would be to require them to know Hebrew or Arabic instead of Latin, in order that the origin of some of our words might be better understood, or that prescriptions might be written in one or other of these languages. Let me now, for contrast's sake, draw you the picture of a medical education based upon the smallest amount of classical knowledge and the greatest amount of natural knowledge which can be obtained. In the first ten or twelve years of life a first-rate education in the most widely-used modern language in the world, English, with writing and arithmetic, might be acquired; and in the next five or ten years a sound basis of knowledge of physics, chemistry, and botany, with German or French, might be obtained; and in the following five years, anatomy, physiology, medicine, surgery, and midwifery. If every medical man was thoroughly well educated in the English language, and could explain the nature of a disease, and the course to be followed, in the

most idiomatic and unmistakeable English; and if he could use all the forces in nature for the cure and relief of his patient; and if he could, from his knowledge of chemistry and physics, and their application to disease and medicine, become the best authority within reach on every question connected with the health and welfare of his neighbours; and if he possessed the power of supervising and directing the druggist in all the analyses and investigations which could be required as to the nature and actions of food and medicine, and as to the products of disease, surely the position, and power, and agreement of medical men would be very different from that which they now obtain by learning some Latin and less Greek. I ask you, for the good of science, and for your own good, to exert your influence in the first place, and more especially to effect a change in the preliminary education of all those who intend to practise medicine; so that, leaving Greek and Latin to be ornaments and exceptions in their education, they may have time to obtain the best possible knowledge of the chemical and physical forces with which they have to deal. I urge this because of my conviction, that whenever the most perfect knowledge of chemistry and physics becomes the basis of rational medicine, then, and not till then, medicine will obtain the highest place among all the arts that minister to the welfare and happiness of men."

There was a time, before I had considered the subject with due care, when I held the same opinions as Dr. Bence Jones respecting the education of those who intend to enter the medical profession, believing that it should be *special*, or professional in its character, or at least in its tendency. But now I confess my views are entirely changed, and I am persuaded that all preliminary education should be principally directed to the forming of habits of attention and deep abstraction; should precede all professional pursuits—just as the

foundation is well laid before the building is erected thereon—and should be *liberal in the largest sense of the term*. All due allowance being made for those youths who, through some idiosyncrasy, may not be able to learn mathematics or any other branch of the prescribed course of study, I prefer Dr. Whewell's choice of subjects before that of Sir William Hamilton's or Dr. Bence Jones's, as it is adapted *specially* for mental dicipline, and *generally* for a liberal education. It will be seen that he desiderates for a liberal education (1st) Mathematics, including Mechanics and Hydrostatics; (2nd) Classics; (3rd) the Sciences (Chemistry, Natural History, &c.) To these I venture to add (4th) the English Language; and then I believe that a youth thus educated "becomes fitted to deal with any subject with which reason can be concerned, and to estimate the prospects of science, and fully capable of grappling with the questions which the present and the future offer;" and that the learned professions, as they are called—namely, Divinity, Medicine, and the Law—"will derive the greatest part of their real dignity and refinement from their being built on such a foundation."

I will only add that such an education as is here recommended for young men who are intending to enter the medical profession, is much superior to that which is required of law students, whose curriculum of preliminary education now lies before me; but when the vigorous development of national education, and the active encouragement of science in this country, in our day, is considered—as by the Oxford and Cambridge middle-class examinations, &c. &c., I do not think the knowledge required of the former is too extensive, or that with less they could fill their position in life with respectability and honour.

MORAL TRAINING OF MEDICAL STUDENTS.

> "There is no education, properly speaking, without religion—any more than there is a man without a soul, or a world without an atmosphere, or a day without the sun. Religion is the soul of education, as it is the life of the soul of man, the atmosphere in which he inhales the breath of immortality, the sunlight in which he beholds the face of the glory of God."

The moral training of medical students is eminently important, and claims more attention than it has hitherto excited; for if their moral character is lax and depraved, they will be unworthy and despicable members of society, and totally unfitted for the high position and duties of the medical profession. Proper instruction then in morals, or rather in practical morality, is highly desirable; but the subject is beset with difficulties, and both as to the moral excellence to be aimed at, and the means to be used to reach it, there will doubtless be much difference of opinion. What, for example, do we mean by morals or morality? Or what did the founder of the Carmichael Prizes mean by these terms? Did he merely mean the principles and duties arising out of our relations to each other—our social relations, in fact, as taught by philosophers; or those higher principles and duties which are inculcated in the "word of God." These questions, I presume, cannot now be answered; and in the absence of any evidence to the contrary, I shall take it for granted that he intended the morality which includes our duty to God as well as the duties we owe to one another. Indeed, I have no faith in any medical training or habits which are not based on the teaching of the Bible, or the great moral principles laid down by the Saviour in solemn words of authority and power when, in answer to one who asked him the question "which is the great commandment of the law," he declared, "Thou shalt love the Lord thy God with all thy heart, and with all thy soul, and with all

thy mind. This is the first and great commandment. And the second is like unto it; thou shalt love thy neighbour as thyself. On these two commandments hang all the laws and the prophets" (*Matthew*, xxii. 27—30). Nothing short of this will give us power over evil passions and appetites, and, made efficient by the spirit of God, prepare us rightly and honourably to perform the duties of our high calling as medical men. For it is declared in the Scriptures, which I accept as the only authoritative guide in morals, that man's nature is thoroughly corrupt and depraved—so corrupt that "the thoughts of his heart are only evil, and that continually," and this truth is set forth by many striking analogies: "Can a clean thing come out of that which is unclean?" "Can a corrupt tree bring forth good fruit?" "Can grapes be gathered of thorns, or figs of thistles?" "Can the Ethiopian change his skin, or the leopard his spots?" Nay, moreover, the Scriptures teach that man is by nature dead to God and holiness, and *utterly devoid of all spiritual life*. What teaching of man will reclaim or rectify such a nature as this? Will the moral principles insisted on by mere philosophers, though ever so eminent, reach the case? Or will any human system of morality, whether old or new, or learned or famous, enable any man to conquer his evil passions, or withstand temptation. In harmony with the Scriptures and with experience, I reply that all those methods will fail to change or correct man's nature, and that to improve the moral character of our youth, we are shut up to one method, as I have already stated; but it is a method which will not disappoint us, for the "seed of the kingdom," which is "the Word of God," when sown in the heart, will produce *good fruits*, *good habits*, *good morals*.

In support of the opinion I have formed on this subject, it affords me pleasure to quote the following extracts from the writings of two eminent and good men—namely Dr. Wardlaw, and Jonathan Edwards. The former writer

observes: "It is one of the distinguishing peculiarities of all Bible morality that it begins with God. The first commandment in the moral code of the Bible is a requisition for God! 'Thou shalt love the Lord thy God with all thy heart, with all thy soul, with all thy strength, and with all thy mind.' Thus God stands first. For Him is claimed the throne of the heart. The foundation of all morals is laid in devotion. No right moral principle is there admitted to exist independent of primary and supreme regard to Deity. No true goodness is acknowledged without this. There is no such anomaly to be found there as that which meets us so frequently in the nomenclature of the world's morality—'a good heart,' and 'a good man,' without the principles and sentiments of godliness. According to its representations the religious principle is the first principle of all morals; a good heart is a heart in which the fear and the love of God reign; and a good man, a man of whose life that fear and that love are the uniform regulators. Everything assuming the name of virtue that has not these principles for its foundation is there set aside as coin that has not the image and superscription of Heaven—'reprobate silver, weighed in the balance and found wanting.' I confess myself strongly inclined to the opinion, that if morals are not taken up distinctly and decidedly upon the principles of revelation, they had better, as subjects of prelection to the young, be let alone altogether. Both natural religion and morality belong properly to the province of theology; and not only can there be no true morality without religion, but the teaching of moral virtues to sinful creatures on grounds independent of the mercy revealed by the Gospel, is an inlet to the most anti-scriptural, soul-destroying delusions. I cannot take lower ground than this without renouncing my Bible, whose decisions with regard to the means of acceptance with God I must regard as, on that subject, the only philosophy—because the only truth."

Jonathan Edwards thus writes: "Hence it appears that those schemes of philosophy which, however well, in some respects, they may treat of benevolence to mankind, and other virtues depending on it, yet have not a supreme regard to God and love to Him laid in the foundation; and all other virtues handled in a connexion with this, and in a subordination to this, are not true schemes of philosophy, but are fundamentally and essentially defective. And whatever other benevolence or generosity towards mankind, and other virtues or moral qualifications that go by that name, any are possessed of, that are not attended with a love to God, which is altogether above them, and to which they are subordinate, and on which they are dependent, there is nothing of true virtue or religion in them. And it may be asserted, in general, that nothing is of the nature of true virtue in which God is not the first and the last; or which, with regard to their exercise in general, have not their first foundation and source in apprehensions of God's supreme dignity and glory, and in answerable esteem and love of Him, and have no respect to God as the supreme end."

An English poet has expressed the same thoughts in vigorous and striking language:

> "Talk they of morals! O thou bleeding Love!
> Thou maker of new morals to mankind!
> The grand morality is love of Thee."—YOUNG.

Now, if we next glance at the existing arrangements and conditions of student life, or at the usual course pursued by young men on becoming students of medicine, we shall see that to suggest any method to meet their case, as respects moral training, is no easy task. The general procedure is to send them to some large town, where there is one or more medical schools, to pursue their studies, without any oversight whatever; and very frequently they spend their time in folly, or

idleness, or sin, and, in the end, resort to *grinding* to get through their examinations. Can we wonder, under such circumstances as these, that numbers of them are to be met with who are wholly unfit to discharge the duties they have taken upon themselves? They are thrown into the midst of temptations, numerous and powerful, in their early manhood, and, on this account, they not unfrequently disappoint the hopes of their friends; and the good influences which surrounded their childhood, and home example and care, have all been forgotten or rendered nugatory by the vicious associations into which they suddenly fall. It is true the case is not so bad now as it was in times which not very aged men remember well. Then, as a writer observes, "the saying, *ubi tres medici, tres athei*, obtained an unquestioned currency in the learned world." The members of the medical profession were almost universally regarded as sustaining a position hostile to revealed religion. It is now otherwise. "The healer of the sick and the preacher of the Gospel have joined hands in the field of the world, as servants of the same Master and disciples of the same Lord." Happily, then, the time is gone by when learned professors were hardy sceptics, and gloried in giving utterance to their opinions in the presence of those they sought to instruct; and at the lectures delivered at our medical schools in the present day, one is not surprised to hear the fullest recognition of divine Providence, or even now and then a few bold sentences in commendation of the Christian religion. So, we are glad to say, our young men are not now morally injured by their teachers; but, as we have seen, numbers of them are associated together for the purposes of study and instruction, without sufficient guardianship or oversight, at an age when they are easily led astray; and what I desiderate for them is some means by which they shall have proper control and counsel—shall be kept from idleness and dissipa-

tion, and so from immoral associates and habits. One almost despairs of success where the difficulties are so great; and all expedients will probably fail to meet the case fully. Yet I think means might be devised which would improve the moral character of medical students, though they are surrounded by so many evil influences.

And here let me observe, in passing, and as appropriately preparing the way for what I have to suggest on this subject, that the universities, with much wisdom and forethought, have provided for the moral improvement of their scholars, especially by the morning and evening prayers and the Sunday services, which have been established with the very foundation of these seats of learning. Indeed, thoughtful men who devoted themselves to the founding of these institutions could scarcely have done less than this But, as a late writer has well observed, "institutions can be bound to do only what is possible. They keep up the laudable practice; they give the daily occasion; they prevent manifest neglect and transgression. They can hardly do more." I cannot doubt that whilst to some minds this enforced religious discipline proves galling and irksome, many a serious and steady youth has had his religious principles strengthened and his heart cheered by it. But comparatively few medical students obtain a complete university education, and the question returns upon us, what can be done for the far greater number who are collected together around our medical schools, and who may be said to be independent of all supervision? It is to be noticed that a small fractional part of these students are boarded and lodged in the various hospitals, as house surgeons, dressers, &c., and a few more are assistants or pupils with medical men; but all the rest live in lodging-houses or private dwellings near the hospitals or medical schools, where their attendance is daily required for the purposes of study, &c. Now, it is these

young men we have to reach, who, having no natural or appointed guardians or advisers near them, are exposed to the multiplied and ever-present temptations of all large towns. Is it possible to suggest any improvement ? here is the point. We have seen what is done by the universities, and have observed that all medical students cannot be university or collegiate students ; and even if they could, it may be fairly questioned whether the moral training which is attempted to be given is really efficient or even moderately successful ; and, therefore, we conclude that *complete* success is not to be looked for from any method which can be devised. Hard as it is to see one's way through this moral problem, I nevertheless have one plan to suggest—not, by-the-bye, to professors, or councils, or medical corporations, but rather to the parents or other guardians of the young men intended for the medical profession, which, I doubt not, would lead to some improvement at least in their moral character. My suggestion, then, is, that all medical students shall be pupils either *nominally* or *really* during the whole course of their studies ; or at least that they shall reside either with respectable medical men, or respectable and, when it is possible, religious families, where their conduct can be constantly observed, and reported if needs be to their relatives or proper guardians. There are precedents for this plan in the usage at the universities and some noted educational establishments. I am informed that when a youth is contumacious, and refuses obedience to the general laws, and has undergone the various penalties annexed to these laws, short of his expulsion, without improvement, then his relatives or guardians are written to in order that their influence also may be used with him, when tutorial influence or the influences of his university or college have failed. The method I now propose provides suitable houses for the young men when they are as yet green in experience of the world, where they will be cared for and counselled both

as to their professional studies and general conduct. I believe the prevention of loss of time, of injury to health from late hours and excess, and in the benefits resulting from a general oversight and guidance at a time of life when such oversight and guidance are much needed, will all be secured by this method; and although at first sight it might seem to involve greater expense on entering the profession than the present mode, yet as I promise for it that it will prevent or restrain certain wasteful habits, and preserve from many expensive sins, I am quite certain that in the end it will be found to be a far-sighted and wise economy.

Increased facilities are now offered, for carrying out the plan I propose, by the various examining boards and the Medical Council having *recognised* the principal workhouse infirmaries, and receiving certificates from the medical men connected with them as a part of the professional education of students. Thus we may have additional centres of instruction throughout the country, and probably an increase of those who enter the profession as pupils. I am quite aware that the introduction of young men into the profession by apprenticeship or pupilage, has been blamed for their becoming reckless and wild during the years that are allotted to "walking the hospitals;" this being, it is said, only the natural reaction of previous confinement and restraint. But whatever may have been the position of the medical pupil in the past, I am sure that at the present time he is not unnecessarily restrained or deprived of proper amusements and times of recreation. Neither is the pupil now, of necessity, required to perform menial or degrading duties; so that if undue restraints gave rise to the evils of which I speak in by-gone days, it does not exist as a cause at present. And as regards the notion that there is anything degrading in serving an apprenticeship to a properly qualified medical man, I judge it to be merely the offspring of prejudice, or of a false and

sickly sentimentalism which cannot be too strongly reprobated. And further, supposing the youth or his parents or guardians object to the term pupil or apprentice, the objectionable word need not be used at all; for I only desire for him that during the years devoted to his professional studies, he may be under the care of, and his interests may be watched over by competent and responsible parties who can be trusted.

The final conclusion, then, to which I am come as regards this matter, after much thought, is that we must look to parents and guardians to initiate a more efficient moral training for medical students. If they would with due earnestness and perseverance bring the principles of religion before their minds, and urge them upon their attention as "the first and principal thing;" if they would set before them for imitation the matchless example left us by the "Good Physician," teaching them that all true morality must be learnt at His feet—that in His sympathy for human suffering, His unceasing efforts to relieve human woe, and His pure unselfishness, He is an object worthy their highest homage and regard; and if, as they grow in years, they were encouraged to attend the Bible classes which are connected with almost all Christian communities, and Christian associations for the religious improvement of young men, and are now established in many large towns in this land; and further, if, as has been counselled in the preceding pages, when they are sent out into the world to pursue their professional studies, they were placed with respectable medical men, or at least with families of good reputation, where their conduct would be more or less under observation and control, it is believed by the author of this paper that the most suitable means, humanly speaking, will have been employed to promote the improvement of their moral character.

In all this, let it not be supposed that I ignore the unchangeable truth that "without God we can do nothing,"

and that it is His work to change the heart by the teaching and influences of the Holy Spirit—yea, rather I freely acknowledge it; but yet, from means which I submit are directly in harmony with the Scriptures, one may reasonably hope the blessing of God would not be withheld.

I notice by a passing remark another institution to which the attention of medical students might likewise be invited for their moral benefit. It has been quietly pursuing its way of pious usefulness for several years, and was referred to by Dr. Waters in the introductory address delivered at the Liverpool School of Medicine, in the year 1857, in the following words of approval: "The Missionary Society of Edinburgh gives encouragement and assistance to medical students who are desirous of being engaged in missionary labour. At the present time many members of our profession are thus occupied, and there seems to be abundant evidence to prove that their efforts have been of a successful character. The heathen looks with gratitude, perhaps with feelings of awe and admiration, on one who has restored him from sickness to health, and favourable means is often thus obtained of bringing to bear upon him the truths of our religion. If then there be any amongst us who feel that they have a call to the field of missionary labour, let them not forsake the path of medicine, but let them make it their handmaid in the work they shall choose; and in the power they will possess, not of working miracles, but of healing the sick and giving sight perhaps to the blind, they will be carrying on the work of Him whose name they bear, and appealing in the strongest possible manner to the sympathies, the understandings, and consciences of those they wish to benefit." In bringing this part of my subject to a close, I cannot forbear pointing anew, and yet more earnestly, to the example of the Lord Jesus Christ as a study and pattern for medical students. It is said in the Scriptures that

"He healed every sickness and every disease among the people," and in this way especially, day by day, "He went about doing good." "Thus," as one has observed, "the duty of ministering to the sick comes down to these later days consecrated by the command and example of Jesus; and of medicine pervaded by the spirit and power of Christ—medicine studied and practised under His direction, and thus brought in contact with sinful and suffering humanity—of this we cannot limit or even define our anticipations of the good and glorious results which would attend its prevalence in the earth."

On the same point, and finally, I quote Dr. Wilson, who in an address to medical students said: "I adjure you to remember that the head of our profession is Christ. He left all men an example that they should follow his steps, but he left it specially to us. It is well that the statues of Hippocrates and Esculapius should stand outside the College of Physicians, but the living image of our Saviour should be enshrined in our hearts."

PART III.

THE STATE OF THE HOSPITALS AND SCHOOLS OF MEDICINE, SURGERY, AND PHARMACY.

Our hospitals, as institutions for the education of young men who intend to devote themselves to the medical profession, are of the highest value and importance. Here the sad chart of man's diseases is spread out, and daily examined and explained; so that by due attention, facts and principles, whose value cannot be estimated, may be stored away in the mind. Here instruction is imparted at the bedside of the sufferer, where the well-practised teacher calls attention to every symptom and weighs every change. And here the earnest and thoughtful youth cannot fail to lay the groundwork of future success both in the discrimination and in the treatment of disease. In general features all hospitals are similar in their objects; primarily they are intended to afford shelter and medical and surgical relief for the poor; and secondarily, to impart professional instruction to medical students. In London, and all the more important towns in this and other countries, they are appropriated to both objects; but it is the latter object only which claims our attention here. Sometimes the School of Medicine, with its lecturers, dissecting-room, &c., is separated from the hospital, but generally they are connected, forming one institution for the training of medical students.

I shall notice this institution, and attempt to suggest some improvements in the teaching it affords under the following heads: (1) Clinical Instruction; (2) Lectures; (3) Post-mortem Examinations; (4) Dissection; (5) Operations.

(1). *Clinical Instruction.*—Clinical instruction, or instruction at the bedside of the patient, is given in the wards of the hospital; and it may be safely said that the character of this instruction will decide the success or failure of any hospital in promoting a professional education. If the student should fail to learn the lessons which the wards of the hospital are calculated to teach, whatever others may think of him, he will never practise his profession with satisfaction to himself; for "here," as I have said, must be laid "the groundwork of future success, both in the discrimination and in the treatment of disease." But for clinical teaching to be thoroughly effective the teacher and the student should be *en rapport;* or, in other words, there should be in the former a disposition to teach, and in the latter a disposition to learn. But, on the one hand, I fear all the advantages afforded for the study of disease by the *wards* are not made available to the student; and, on the other hand, that he does not avail himself of these advantages as he ought. "Sometimes," as one has said, "it happens that the medical officers, upon whom the imparting clinical instruction should devolve, are but little qualified for the task." They either neglect to teach, or they are not apt to teach; and, in this case, they will not allow the students to "walk" round the wards with them; or, if they do allow it, as a matter of form, it answers no good purpose, for they do not utter a word of instruction as they pass along. In a certain large metropolitan hospital I saw a physician go round the wards from time to time without being attended by a single student, and on making inquiry as to the reason, it was said "he does not allow the students to follow him." Surely this is not a state of things to be endured! Our hospitals being the chief institutions for the education of medical men, are of vast importance both to the profession and to the country, and the medical officers connected with

them should be willing and able to impart instruction; or they should be made to give way to others who are better qualified for the work. Every encouragement should be given to the best men; and neither talent, nor station, nor circumstance should be allowed to weigh against the grand defect of want of power or of will to help the student. In a word, when we consider how much is at stake—that to clinical teaching we must look for a succession of able and efficient practitioners for this and other lands—it is evident that none but zealous and competent men should be chosen to fill up the vacancies as they occur in the hospital staff.

On the other hand, clinical instruction is not duly appreciated by numbers of medical students, and excellent teachers are frequently almost deserted as they go their regular and daily rounds in the hospital wards, because they lack the *prestige* of a great name or are not brilliant or popular. Yet, in truth, the power of imparting what he knows is often greater in the quiet teacher than in the more showy; for the former is, in general, the plodder and the thinker—and to be trained to think and work is a privilege beyond all price to the student. To neglect such a teacher for the popular ones, though they may have crowds following them, is a mistake; for numbers are shut out from scrutinizing the cases that are visited in the wards, which can only be observed to advantage by those students who are able to place themselves around the patient's bed. Indeed, neglect of clinical instruction, in any measure, is to be deprecated, for it will diminish the chances of success to the student both in his examination and in his career as a medical man. Irregularity or remissness, therefore, in a matter so vital cannot be too strongly condemned, and some stringent means should be adopted to compel medical students to attend diligently to the clinical instruction offered them in the medical school to which they are attached. Dr. Broadbent, in the introductory lecture

at St. Mary's Hospital, this year, observes: "The most important part of a medical training—the training given to themselves in the *wards*—is still much neglected by students, whilst at the same time they cannot fail to see that neglect here stultifies all their previous efforts; and it will take years of painful toil to redeem the loss of the last few months of their student days."

Further, the cases of the out-patients who attend the hospitals daily might, I consider, be used for professional instruction to a much larger extent than they are. Here we find an excellent school, but few scholars; a large rich field, but poorly cultivated. Here diseases of the eye and ear, skin diseases, gonorrhœa, primary and secondary syphilis, with nearly "all the ills that flesh is heir to," come under observation and treatment by the medical officers of the hospital. And here the patients are more numerous and diversified than those in the wards of the hospital, and quite as interesting and important. Yet, in a certain hospital at which I called, when visiting the metropolis not a long time since, I found the out-patients' room almost deserted by the students. In fact, with the exception of the pupils of the medical officers, and a few students who are immediately connected with the hospital, as pupils, dressers, house-surgeons, &c., the attendance seems to be most irregular and desultory. I wish to condemn all neglect of clinical work in the strongest terms, and, therefore, at the risk of repetition, I say it is destructive to real advancement in professional knowledge; and, in addition to what I have already observed on this point, I would urge the student to give greater attention to the cases which present themselves among the out-patients, from the consideration that *such* will form the bulk of his own practice in after years.

Dr. Graves, in his work on medicine, highly commends the mode of imparting clinical instruction which is pursued in Germany. He observes: "There is one

clinical hospital for the treatment of acute diseases, and another for chronic diseases, while a clinical dispensary is devoted to the treatment of *externe* patients. The pupils are divided into two classes—the more advanced, who get the care of patients, and the junior students, who merely look on and listen. When a patient is admitted, his case is assigned to one of the practising pupils, who, when the physician is visiting the ward, reads out the notes he has taken of the patient's disease, including its origin, progress, and present state. This is done at the bedside of the patient; and, before he leaves the ward, the physician satisfies himself whether all the necessary particulars have been accurately reported by the pupil. After all the patients have been thus accurately examined, the professor and his class proceed to the lecture-room, and a list of the patients and practising pupils is handed to the professor. The cases admitted that day are first inquired into, and the pupils are examined concerning the nature of their diseases, their probable termination, and the most appropriate method of treatment—each student answering only concerning the patient entrusted to his special care. During the examination the pupil's diagnosis and proposed remedies are submitted to the consideration of the professor, who corrects whatever appears to be erroneous in either, and then the student returns to write his prescriptions, while the rest of the cases and pupils undergo a similar examination. At the conclusion the prescriptions written by the students are read out in order by the professor, who strictly comments on and corrects any inaccuracy or inelegance they may contain. When the prescriptions have been revised and corrected, they are signed by the physician, and handed to the apothecary, to be made up and distributed. The clinic for the *externe* patients is conducted on the same principles; patients who are able to attend are examined at the dispensary; those who cannot leave their homes are visited

by the senior practising students, who always seek the advice of the professor when the case is urgent or the treatment doubtful. . . . It is evident that, according to the German method, no regular clinical lectures are needed, as the pupil becomes accurately acquainted with the physician's views of each case, and no step is taken in the treatment without the reasons for it being given. This is the best sort of clinical lecture ; the pupils have their doubts solved, and their erroneous views corrected, while the professor is enabled to mention, as the disease proceeds, everything which he thinks illustrative of its nature." Graves also condemns, and not unjustly, I think, the practice of the English and French schools as wanting in humanity to the patients. "I cannot help feeling," he says, "that it is scarcely justifiable to lecture upon a patient's case in his presence, and in his native language ; that it is cruel to explain that the patient is labouring under a fatal complaint. . . . It is cruel to banish from the sick man's bed his sole remaining comfort ; it is unmerciful to scare away hope—his only consolation during the hours of pain and watching." Hence he recommends the use of the Latin language, whenever it is absolutely necessary to make any observation that might alarm the patient, and remarks that in Germany this rule is always observed.

This method of conducting clinical teaching, which is also highly commended by Dr. Hughes Bennett, of Edinburgh, deserves the attention of the professors in the medical schools of this country ; for it obliges the student to think and act for himself—a mode of instruction carried out with great success in every department of learning in the present day.

(2). *Lectures.*—Lectures have always held a prominent place in the course of study laid down by the various examining bodies, and hence very much of the instruction given at our medical schools is conveyed in this form. And although of late years a great outcry has

been made, through the medical press and in other ways, against this mode of teaching, perhaps it would be a difficult matter to find a substitute for it. Lectures are generally made up of the epitomized wisdom of the medical world—they are compiled for the medical literature of the age; and that they can be made attractive is evident from an examination of those which have been published at various times in this and other countries. It cannot be supposed that such lectures, when delivered, were dull and profitless, or that they did not command the attention of those students who were so favoured as to listen to them. Nothing can equal the human voice as a means for imparting instruction, and this is well understood and appreciated in our day; and general education in many public schools is now conducted orally by living, earnest men, rather than by dry, lifeless, abstract rules found in books. That some men are dull and uninteresting as lecturers cannot be denied; but others, some living and some dead, have been of world-wide renown—have commanded numerous auditors, and have left the impress of their teaching on their age; so that the fault is not in lectures, but in the men who deliver them—want of due earnestness or want of utterance rendering them unapt to teach. These are the *drones* in the busy human hive, who retard work, and they should be driven out to make room for the active and diligent workers.

Extremes are always dangerous, and at the present time there are extreme views held on this subject; and some there are who, from the violent way in which they have written and spoken against lectures, seem to think, and would also persuade others, that they are an unmitigated evil. But surely this is not the right view to take of this matter! Look, for example, at the lecturer on anatomy; with the help of diagrams, specimens, and demonstrations from the dissected body, if he be alive to his duty, and in earnest, he cannot fail to assist

the attentive student. The same may be said of each lecturer in his own department—the botanist has his plants, the toxicologist his poisons and tests, and the chemist his drugs and chemicals. Then, further—and what is of great importance—the attendance on lectures is compulsory. The student may neglect hospital practice, the dissecting-room, or the dead-house; but he is compelled to attend a fixed and determinate number of lectures during the session, or his certificate is refused; and however careless and indifferent he may be in a general way, his attention will often be aroused, and during the hours thus appropriated he cannot fail to derive advantage. At all events, I repeat, he is kept at his studies, and in or about the medical school; and but for the lecture-hour, it is probable he would be wasting his time in idleness or in unprofitable amusements and pleasures. It is possible that lectures might be made more instructive and more useful to the student. The lecture, for instance, might last half-an-hour, and the remainder of the time be profitably spent in an examination on the subject treated; and this plan might be continued daily, or at every lecture throughout the course, instead of once or twice a week, as is now generally the custom. Other plans will suggest themselves to the lecturers who are anxious to give instruction in the best possible way; but greatly to abridge the number of lectures, I firmly believe, would be most injurious both to the student and to the profession at large.

(3). *Post-mortem Examinations.*—The instruction which the dead-house is calculated to impart to the student cannot be over-estimated; for, as a writer has well observed, "it is impossible to become a master in the art of diagnosis and treatment without fully appreciating those morbid changes in the organs of the body which the scalpel and the microscope reveal; and clinical histories are often of little value unless confirmed by the details of a carefully made post-mortem

examination of *all* parts of the body. Every student should acquire a thorough knowledge of the appearance both to the eye and under the microscope, of the ordinary morbid changes which occur in the human frame. He may at any moment of his medical career be called upon to investigate the cause of death in a case fraught with suspicion of unfair play during life, and it will be impossible for him to give a conscientious opinion upon the subject, much less one which will bear a fire of cross-examination before a legal tribunal, unless he have a thorough knowledge of his art, and be able to distinguish between those changes which are merely chronic deviations from health, those which depend simply upon decomposition, and those which may with certainty be referred to the action of some morbid poison." But the instruction given in morbid anatomy at many hospitals is often very defective, and there is a great want of system and regularity respecting it. Examinations of the dead, it is true, are frequently made by parties connected with the hospital, but not always by sufficiently responsible parties—not by demonstrators or teachers. They are not made specially for the student's profit and instruction, and therefore the attendance is irregular and uncertain ; yet these examinations are of priceless value to the student, and neglect of them is almost criminal, for here principally he must gain his knowledge of the effects of diseases and accidents on the human body—a knowledge which the least reflection will show is essential to all successful practice. In the dead-house he will learn that which he cannot learn elsewhere, and the loss of which, in private practice, he will never be able to make up. "We would suggest," observes the writer I have quoted above, "that second and third year students should be called upon in turn to perform the post-mortem examination themselves under the direction of the pathological anatomist, instead of the duty being performed by him alone. Time might

probably thus be lost, but a few extra minutes spent in the preliminary stages would be more than repaid by the personal experience which the students would gain by the study of their own and their companions' errors and difficulties." Therefore, I suggest that due notice should be given of every post-mortem examination, and in every possible way the student should be stimulated and encouraged to give earnest heed to the morbid appearances which the human body presents after the powers of life have succumbed to the inroads of disease; neither must I forget to recommend a careful study of the *morbid specimens* which are found in the pathological museums attached to all large hospitals and medical schools. By the help of the *catalogue* which is provided the student may examine at his leisure the effects of different diseases, and different stages of disease, in all the organs of the body, finding them ready classified to his hand. And this employment, though it be far inferior to the examination of recent morbid specimens as observed in the dead-house, will afford him no mean help in gaining a knowledge of diseased structures and organs. I further add in this place that the life-like *casts* of diseases, *especially of diseases of the skin*, which may likewise be studied in most museums of pathological anatomy, should not be despised by the sensible and earnest workers among medical students.

(4). *Dissection.*—The importance of anatomy, as a branch of medical education, cannot be exaggerated. It is to medical knowledge what the alphabet is to a language, or what the foundation is to a building; and, therefore, the neglect of it should be guarded against with the utmost solicitude and vigilance. The dissecting-room is a place of much better repute now than it was some years ago. Twenty years since, or less, there was a total want of order—nay, even of common decency—in conducting dissection in many medical schools. *Subjects* were often scarce and obtained with difficulty, yet

no one seemed to know or care whether they were studied or not, and smoking, drinking, and brawling were the ordinary occupations of the place. Happily these days are at an end, and now the demonstrator of anatomy is generally found in the dissecting-room, directing, assisting, or overlooking the student at his work ; and the *microscope*, that wonderful aid to science, is employed in the hands of scientific teachers in investigating the structure of the human frame, at least the structure of its more minute parts.

Looking at the present arrangements of the dissecting-room, and the assistance provided for the student, one would think that with ordinary application he could not fail to obtain a sufficient knowledge of anatomy. But, nevertheless, he does not always obtain this knowledge ; and even after some months additional *grinding*, he frequently fails to pass when he appears before the examining bodies—and he does not obtain the required amount of knowledge just because *he is not compelled to work*. When he is engaged in the dissecting-room, every assistance is given him—and in this respect we say the arrangements of the dissecting-room are admirable ; but should he be idle, or afraid to soil his fingers, it is possible for him to pass through the allotted years of study without having dissected to any profit. In some parts of the dissecting-room may frequently be seen a leg or an arm, or some other part of the *subject*, the dissection of which has been commenced indeed, but if the observer understands the matter, he will see that it has not been finished, and that the *part* has been thrown away, and is wasted and useless.

The teaching of the dissecting-room would be more efficient by requiring a *given amount* of dissection to be done to each part supplied to the students ; or, in other words, if it were required that each part commenced should be thoroughly dissected, or the certificate for the same withheld. At some hospitals the parts supplied for dissection are notified on a paper or card, which is

hung up for a week in a public place, and names are called once or twice a week during the session, as in the lecture-room; and if the students are absent a certain number of times, no certificate is given. This plan will answer very well provided the days on which the names are called out are not fixed and known beforehand; and although its necessity is to be deplored, the student cannot afford to be idle, and therefore every legitimate means should be used to keep him at work. Then, again, a plentiful supply of subjects should be secured by the authorities of the medical school. In Scotland and Ireland the supply is generally sufficient, and the cost to the student moderate. A friend of mine, writing of one of the Scottish schools, says: "We had, on an average, thirty bodies in the dissecting-room at one time during my years." And in Ireland, it is said, on account of the poverty of the people, and the large number of hospitals and eleemosynary establishments required, the medical schools are always well supplied with the *unclaimed* dead. But in England, the supply is often scanty, and, in consequence, the parts of the subject costly to the student. The reason of this dearth of subjects in English schools is pointed out by a writer in one of the periodicals of the day. He says: "It is because the supply of the dissecting-room is left to the caprice of certain undertakers—contractors for unclaimed bodies in the different Unions around London. These men, if better paid by the hospitals than by the Poor Law Guardians, are pleased to bring their subjects to the dissecting-rooms. Who is at fault in this matter? Surely not the undertaker, who has a perfect right to dispose of his goods to the highest bidder. Cetrainly not the Inspector of Anatomy, who has no power over the undertakers. What we require, and must have, is an authority, granted by Government, to compel Poor Law Guardians to give up to the Inspector of Anatomy all unclaimed subjects." The plan suggested by this writer is what is needed, not only for the supply

of the metropolitan, but also of the provincial schools. All unclaimed subjects (if all are required) should be available for the purposes of dissection, so that the "parts" could be sold at a moderate price; and the diligent student, though he might be poor, instead of only *dissecting the whole body once*, in accordance with the usual requirements of his curriculum, would be induced to dissect it again and again. Indeed, as long as this dearth of subjects exists, anatomy must necessarily be imperfectly taught in the English medical schools, for subjects are almost daily needed, especially during the winter season, both for the purposes of demonstration and the use of the dissecting-room. Besides, there should be such a supply of subjects as would enable the student to perform all the capital operations—as *amputations*, *ligature of vessels*, *resection of joints*, &c.; for such practical examinations on the dead body form a part of the testing of his knowledge of surgery before the examining boards. When this dearth of subjects exists, a demonstration from the whole body of students, and the authorities connected with the various medical schools, and an earnest appeal to Government, would call the attention of our legislators to this important question, and doubtless the case would be fully met. In the meantime the authorities connected with hospitals and medical schools must eschew all parsimony in their dealings with medical students; for, as we have seen, a plentiful supply of subjects is the *sine qua non* in the study of anatomy; and for the well-being of society at large, and the credit of the profession to which he belongs, his knowledge of it in the end should be unquestioned.

(5). *Operations.*—Even with every improvement of the art of surgery in modern days, operations are still called for; and how needful is it that they should be performed with readiness and skill. It is true that *chloroform* has made the operating theatre less dreaded by the patient; but notwithstanding the use of this in-

valuable agent, combined with all the skill of modern surgery, many sad sights are still witnessed therein — hence one might think it has derived its name from the mournful character of its uses and associations. Operations on the living are very different to operations on the dead; and whilst the latter may be performed with ready tact, the mere sight of the former may blanch the student's cheek and cause him to tremble. Absence from operations, then, is not allowable, for here the student must gain the *lion's heart*, or he will never make a successful surgeon—for who would trust his life in the hands of a timid and nervous operator? The arrangements of the operating theatre are generally very good, and every facility is afforded for seeing the operations, and stated times are appointed for performing them; but the popularity of the operation, or of the operator, is the only guarantee for the attendance of the student. It may be true, as some have said, that operations are the *opprobria* of surgery, inasmuch as they show that disease will run its course despite all our remedies, and will baffle all our skill, and in themselves are often painful, and even dangerous, leading on to death, or only giving a chance of life. Yet it is necessary that a medical man should be able to perform all the operations which fall to his lot during a professional life.

Let the student be warned, then, that by an error, or even a doubt, in the midst of an operation, he may risk the life of a fellow-creature, and—what is of less moment, but certainly of some importance to him—that a successful operation may establish him in practice at once, whilst an unsuccessful one, or one unskilfully performed, may irreparably ruin his prospects. And let his teachers also be reminded that all operations are not great and attractive, nor are all operators popular, and therefore that some plan should be adopted to obtain from the student a regular attendance at the operating theatre.

PART IV.

THE STATE AND MODE OF TESTING THE QUALIFICATIONS OF CANDIDATES OF THE DIFFERENT LICENSING COLLEGES OR CORPORATIONS IN MEDICINE, SURGERY, AND PHARMACY.

HERE I propose to notice the mode of testing the qualifications of candidates pursued at (*a*) The University of London; (*b*) The Royal College of Physicians, London, for Members; (*c*) The Royal College of Surgeons, Ireland; (*d*) The Apothecaries' Hall, Ireland; (*e*) The Royal College of Physicians, Edinburgh.

In this way, I judge, a good general idea may be formed of the mode of examination pursued by all the universities and corporations; for the rest do not differ from those in any essential points.

(1st). *University of London.*—After the candidates have matriculated, or produced a certificate of having taken a degree in Arts in one of the universities of the United Kingdom or Ireland, the following is the mode of examination laid down:

(*a*) *Scientific Examination:*

Monday.—Chemistry.—By printed papers.
Morning—10 to 1 o'clock.
Afternoon—3 to 6 o'clock.

Wednesday.—Mechanical and Natural Philosophy.—By printed papers.
Morning—10 to 1 o'clock.
Afternoon—3 to 6 o'clock.

Thursday.—Zoology, Botany, and Vegetable Physiology.—Printed papers and specimens.
Morning—10 to 1 o'clock.
Afternoon—3 to 6 o'clock.

Friday.—Commencing at 10 A.M.—Chemistry.

Saturday.—*Viva voce* and Experiment.

(*b*) *First M.B. Examination.*—This examination occupies a week in a similar manner to the Scientific Examination and is partly oral and partly in writing. The examination includes Anatomy, Physiology, Materia Medica, Pharmaceutical and Organic Chemistry, Experimental or Practical Chemistry, by tests, &c., Demonstrations, and Examination of Microscopic Specimens of Tissues, &c. The *dead body* is placed before the candidate, and in this way his knowledge of anatomy is tested.

(*c*) *Second M.B. Examination.*—This examination includes the subjects laid down in the curriculum (p. 7); clinical reports of patients taken in the hospital wards; the testing of the candidate's knowledge by specimens and morbid preparations; by microscopic specimens; by practical examinations in forensic medicine; by writing prescriptions in Latin without abbreviations; by operations on the dead body and the application of splints, &c. A week is also spent in this examination.

(*d*) *Doctor of Medicine.*—This examination, with the rest, is partly oral and partly by printed papers, and is confined to Mental and Moral Philosophy, and Medicine. In medicine the candidate is required to give reports of actual cases in the hospital. In the *viva voce* examination he is examined as to his knowledge of diseases generally—of morbid specimens and of microscopic specimens—as of urinary deposits, pus, casts in kidney disease, &c. This examination occupies five days.

(*e*) *Bachelor and Master in Surgery.*—These examinations are precisely similar to the above, but with special reference to *surgery* rather than *medicine*.

(*f*) *Examination for Honours.*—The candidates who pass in the first division, in examination for the M.B. degree, are examined for Honours. This examination does not require special notice, as the subjects are precisely similar, only the questions are made more full and searching. The examination is by printed papers.

(*g*) In the examinations at Oxford, Cambridge, Durham, &c., both for the degree of Bachelor and Doctor of Medicine, the candidate is required to *keep an act*, or, in other words, to *write and defend a thesis*. It is a formal custom of questionable utility; yet, as the candidate's friends and fellow-students are said to be present at the examination, it is possible that it proves a good stimulus and excites in him a laudable emulation to excel.

(2nd.) *Royal College of Physicians of London*—(*a*) The candidate is required to pass an examination equivalent to a degree in Arts; or he is examined on the subjects of general education by the President and Censors of the College.

(*b*) *Examination for the Membership.—First Examination:*

First day: Evening, from 7 to 10 o'clock. Written.

Second day: Evening, commencing at 7 o'clock. *Viva voce*, on Dissections and Preparations.

Second Examination.—First day: Evening, from 7 to 10 o'clock. By written questions on Surgical Anatomy, and on the Principles and Practice of Surgery.

Second day: Morning. The candidate's practical knowledge will be tested either at the College or in the surgical wards of an hospital. Afternoon: from 1 to 4 o'clock.—On Materia Medica; and on Chemistry in its applications to Pathology, Pharmacy, and Toxicology.

This examination will be conducted partly by written questions and partly in a practical manner.

Evening: commencing at 7 o'clock. By written questions on Midwifery and diseases peculiar to women.

The Third or Pass Examination.—First day: Afternoon, from 2 to 6 o'clock. By written questions on Medical Anatomy, and on the Principles of Medicine.

Second day: Afternoon, from 2 to 6 o'clock. By written questions on the Practice of Medicine, including the principles of Public Health, and on Psychological Medicine.

Third day: The candidate's practical knowledge will be tested, either at the College or in the medical wards of an hospital.

Fourth day: Afternoon, commencing at 3 o'clock. *Viva voce*, on Medical Anatomy and on the Principles and Practice of Medicine.

N.B—Candidates who have obtained the degree of Bachelor or Doctor of Medicine at a University in the United Kingdom, are only required to undergo the Pass Examination; and similar regulations are provided for candidates of high medical attainments and respectability, who have attained the age of forty years.

(3rd). *Royal College of Surgeons in Ireland.*—(*a*) *Examination of Candidates for the Letters Testimonial.*—The candidates are divided into two classes—junior and senior; a separate examination being appointed for each class.

The examinations of each class are conducted exactly alike; and, therefore, it will only be necessary to describe the mode pursued in examining either of these classes, and I take the first in order, namely, the junior class. Five examiners, at least, are expected to be present at this examination. The candidates shall assemble at the College at 3 o'clock, P.M., when twelve, selected according to alphabetical order, will each receive three written questions on Anatomy and Physiology, and one on Materia Medica, which they will be required to answer within an hour; and the Examiner, whose duty it shall be to superintend the writing of such answers, shall be appointed by rotation beginning with the Junior Examiner. At the end of the hour each candidate shall enclose his questions and answers in an envelope, with his name on the back, and hand the same to the Examiner superintending. The Examiners shall be summoned to attend each day at 4 o'clock, to commence the oral examinations of the several candidates, and four of them shall each be required to examine for one

quarter of an hour, at four separate tables, viz., three on Anatomy and Physiology, and one on Materia Medica. Each examiner, at the conclusion of each examination, shall express his opinion of the same by "yes," or "no," and shall hand such expression of opinion on paper to the senior councillor presiding at such examination. Two councillors shall be summoned to witness the examination of each candidate, and shall accompany him from table to table till his examination be completed, when the voting papers having been examined, and the result declared, the name of each successful candidate shall be enrolled in a book kept for that purpose in the College.

The subjects of the Senior Class Examination are: the Theory and Practice of Surgery and Medicine; Surgical Operations or Dissections; and Prescriptions; and, as in the Junior Class, is both written and oral.

(*b*) In the Examination for the Fellowship, which is also similar to the above, the subjects are: Anatomy and Physiology (human and comparative), Pathology, Therapeutics, the Theory and Practice of Medicine and Surgery, Dissections and Operations, and such other branch of medical science as the Council may from time to time direct.

(4th). *Apothecaries' Hall of Ireland.*—Candidates for the Licence of the Hall must undergo a preliminary and a professional examination. The preliminary examination on general education is conducted "by Graduates in Arts of the University of Dublin, with Assessors from the Court of the Hall." The subjects of this examination have already been named (pages 15 and 16). The examination for "The Licence" consists of two parts, and is partly written and partly oral. In the first part the candidate is required to recognize and describe samples of drugs and plants used in medicine, and to indicate the chemical and physical means of distinguishing them; to enumerate and explain the pharmaceutic

preparations of the Pharmacopœia, with their uses and doses; to translate Latin prescriptions accurately; and to answer questions in Human Anatomy and in Vegetable and Animal Physiology. In the second part, the candidate, having passed the first part satisfactorily, must answer questions in the several departments of Practical Medicine, and demonstrate and define diseased structure and injuries, from pathological illustrations, and give also the appropriate treatment and form of prescription suitable in each case.

N.B.—Some relaxation of these examinations are made in the case of (*a*) Graduates of Universities; (*b*) Members of Colleges of Surgeons; and (*c*) men who have been some years in practice, both by the Royal College and the Apothecaries' Hall in Ireland.

(5th). *Royal College of Physicians, Edinburgh.*—(*a*) *Examination for the Licence to practise Medicine and Midwifery.*—A preliminary examination on general knowledge, or literature and science, is required, and may be passed either at the College or at any educational institution acknowledged by the College.

(*b*) *The Professional Education.*—This appears to be concluded in one day, and is divided into two parts, embracing (1) Anatomy, Physiology, Chemistry; (2) Materia Medica and Pharmacy, Pathology and Pathological Anatomy, Surgery, Practice of Medicine, Midwifery, Medical Jurisprudence.

The examination is conducted partly *viva voce* and partly by *written papers*, and, whenever practicable (?) consists in part in the examination of persons suffering under disease.

(*b*) *Of the Membership.*—A Licentiate of any College of Physicians, and Graduates of a British or Irish University seem to be admitted members, at the age of twenty-four years, without any further examination.

(*c*) *Of the Fellowship.*—The candidate for the Fellowship of the College must have been a member for a year,

and have attained the age of twenty-five years. No examination is required in the case of Fellows.

These, then, are the modes of "testing" the qualifications of candidates pursued by the examining boards which I have selected to represent the rest. Two questions naturally suggest themselves which are of grave import in the consideration of this part of our subject. First, are the examiners appointed by the different medical institutions efficient and trustworthy—are they *the right men in the right place?* Although some members of the Medical Council, during their last sittings, spoke doubtingly on this point—and their remarks will be quoted further on—I have no hesitation in replying to this question in the affirmative. I believe they are truly honourable and practical medical men, who are fully competent to discharge the important duties which devolve upon them.

The examining boards are doubtless too numerous, and it would be an advantage to the profession if, by mutual concession and agreement among themselves, the number could be lessened. There might be, for instance, as has lately been suggested by a writer in the *Medical Times and Gazette*, one examining board in London, one in Edinburgh, and another in Dublin; and at one or other of these all candidates should be required to present themselves. By this plan many of the evils which have been previously mentioned as resulting from the existence of too many examining boards, would henceforth be avoided (*vide* pp. 14 & 15). But yet, the existing examiners of these various institutions should not be ruthlessly assailed; for "centralization" itself, without well-appointed safeguards, has its own evils and imperfections. In the late session of the Medical Council (1867), there appeared to be a leaning towards *one central examining board;* for Dr. Parkes, speaking of such a board, said, "It would blot out the petty divisions now existing, and be the greatest

improvement in connexion with the medical profession."

The next question is of equal or even greater importance—and is this, whether an examination by written questions or by the *viva voce* method is to be preferred? Several of the examining boards have recently altered their examinations from a purely oral one to one that is both written and oral. This change is, therefore, tentative only, and may require to be modified hereafter. The *viva voce* method has advantages which the written does not possess. The examiner can put his questions in various forms, so that the candidate may fully comprehend them; he can give encouragement by a kind word or look; he can examine on a greater variety of subjects, and make the examination fuller and more complete, and thus more certainly bring out the knowledge of the candidate. On these grounds, I incline to the opinion that a *viva voce* examination, made *as demonstrative and practical as possible*, may be found to be the best. But, inasmuch, as it has been said that such examinations have not always been conducted in a proper manner—for instance, that the examiners have at times been too lax, and at times too severe and strict, according to their humour; or have slurred over their work when, after a long day, they were weary, and thus have occasionally failed to act justly by the candidates—I think the union of the two methods, which is in favour at present, should have a fair trial. The examinations of the University of London, for its degrees of Bachelor and Doctor of Medicine, present the best model of this conjoint method with which I am acquainted; and I make this statement after the most careful observation, and the fullest personal experience. The *viva voce* part of those examinations is as practical and demonstrative as it can be made; and in it the conception of the founder of the Carmichael Prizes is fully realized, for in Anatomy the dead body is employed for demonstra-

tion, operations, &c.; in Chemistry, Botany, and Pharmacy, specimens of chemicals, plants, and pharmaceutical preparations are placed before the candidate, and he is required to perform analytical operations; in the practice of Physic and Surgery, he is taken to actual cases of disease in some hospital, and is examined in Pathological specimens; and, lastly, his knowledge of minute Anatomy, Physiology, morbid products, &c., is further tested by the microscope.

The written part of the examinations is not, it seems to me, deserving of such unqualified commendation. The written questions are sometimes too lengthy and diffuse; for instance, as one has said "all about all kinds of malignant diseases," or "everything respecting palsy in all its forms," on each of which a volume might be written, whilst an hour only is allowed to write them. It would be an improvement were the questions more numerous and concise; for in this way more subjects could be included in the examinations, and the knowledge of the candidates more certainly ascertained; and moreover, this method would be, in some measure, a check upon the disreputable practice of *grinding*. These great and grand questions are talked about among candidates and students—are inserted in medical periodicals and university calendars, and thus become the *grinder's* stock-in-trade; for as such questions are necessarily few in number, and obtain great publicity, the grinder is able to form a good general idea of the character of the examinations, and shape his instructions accordingly; and in this manner I judge the utility of the written questions, as a test of the candidate's knowledge, is greatly impaired. Yet, notwithstanding this, which I regard as a defect in the written part of the examinations, taking them altogether they afford an excellent test of the knowledge of the candidate; and he who passes the ordeal with success gives ample proof that he has studied hard and well. The examinations of the

Royal College of Physicians, and the Royal College of Surgeons of England, and of the Royal College of Surgeons of Ireland, are also examples of the method of which I now speak, and are certainly greatly superior—as it respects the English College of Surgeons at least—to the *viva voce* method as it was conducted a few years ago. In fact, the examinations of all the examining boards look well and strict enough in their regulations issued from time to time; but it appears that the recent visitations which the Medical Council have caused to be made at these examinations have disclosed such a want of uniformity and efficiency, as respects some of them, that one's confidence is somewhat shaken. Dr. Andrew Wood, at the session of the Council in 1866, said: "I find in some bodies the subject of morbid anatomy gets its due attention, in others the student is not required to know anything about it. By some operative surgery is insisted on, by others it is never alluded to. Sufficient attention does not appear to be paid to what I consider to be most important—I mean demonstration and practical examinations." This "surveillance," conducted by competent and impartial persons, is well calculated to put an end to these imperfections.

The Medical Council, on 8th June, 1866, made the following practical recommendations as to the mode of examination to be adopted by the various licensing boards:

(1). That the examinations should be demonstrative, *id est*, by post-mortem examination, the microscope, morbid specimens, operations, examinations of patients in the wards of the hospital, &c.

(2). That there should always be two examiners on each subject, who should consult on the answers given, and not reject on their individual responsibility.

(3). That the written questions should be concise, so that the candidate may understand exactly what he is required to answer.

(4). That the numerical method of marking the value of the answers should be adopted, as at present used in Government competitive examinations, the examinations of the University of London, &c.

When the preliminary education of medical students is sufficiently guaranteed; when their moral character is established in religion; when regular attendance on hospital practice, dissection, &c., is strictly enforced; when *cramming* shall have become a thing of the past; and when by the union or increased amalgamation of the various examining boards, a more uniform curriculum and more searching modes of examination are secured; then the medical profession, rid of many evils which now trouble it, will rapidly improve and rise to a high rank in public estimation and regard.

There remains to be mentioned a strange anomaly in the medical profession in this country, on which I would venture to make a few observations before I bring this essay to a close. I refer to the position of the "physician," or rather the peculiar connexion existing between the physician and the medical man in general practice. It has been truly said "it is right there should be grades in medicine, but the higher grade should consist of those who, by their longer standing in the profession, have proved their title to it." Now the "physician" or "doctor" holds the highest position in the medical profession, and in diseases of great severity or danger the general practitioner is expected to consult with him. It is evident that such consultations can only be valuable when the physician is a man of large and ripe experience. But what is the fact? Why this, that an aged medical man, who has been all his lifetime conversant with disease and its treatment, will often be required to go through the solemn farce of a consultation with some youthful doctor fresh from college who has had no experience at all.

Long usage, doubtless, has sanctioned this ridiculous

procedure, but that the general practitioner should submit to it in this day, is one of the strangest facts in the history of medicine, for it is an insult to his understanding and his experience.

Our physicians sit down and wait for practice, which comes to them slowly as a rule; and unless they are attached to some hospital, or do much gratis work among the poor, or in dispensaries, they have no means of gaining an experimental knowledge of disease. They labour under this serious disadvantage also, that unless they thus hold some public appointment they have few opportunities of following out the cases which come under their notice through their whole course, the commencement or the termination in general only being seen by them. With due deference to the *prestige* of established usage in this matter, I cannot but think that this practice should at once terminate, and that whatever may be the character of the examination to which medical students are required to submit themselves on entering the profession, it should be compulsory upon them to pass a certain number of years in general practice, and then to undergo *a thorough practical examination* before they settle down or are employed as "consultants" either in medicine or surgery, so that their fitness for this, the higher grade or employment, may be fully tested. Let it be, as was said in the *Lancet*, 9th February, 1867, "an examination that should severely test the attainments of the candidates in every department of medicine; that should be open to all registered practitioners of twelve or fifteen years standing, but to no others; and that should lead to a title not attainable in any other manner." Let these suggestions be acted on, and after a time we shall have none in the higher walks of the profession but men who have been engaged for many years in the daily investigation and treatment of disease; we shall have none but fully qualified and, what is better, practical "physicians" or "doctors"

amongst us, whom the aged general practitioner will consult with pleasure to himself and some prospect of advantage to his patients, and that the young practitioner will confide in and respect, and whose assistance in desperate cases he will gladly and eagerly seek; and, what is more, we shall give the honourable places and the larger emoluments of the profession to men who have hardly earned them, and to whom, therefore, they most justly belong.

In the *Lancet* for 1st June, 1867, I find the following remarks bearing on this point, though specially referring to another class of practitioners. The writer says: "There is a grievance of a serious character which presses with undue severity on a large class of our brethren who are in general practice. If a gentleman engaged for many years in a successful pursuit of his profession desire to improve his position by becoming a graduate of one of the British Universities, he is precluded from doing so by the restrictions placed by these bodies upon candidates in his position presenting themselves for examination. With the exception of the University of London, whose curriculum is so strict that it amounts in most cases to a prohibition, and the University of St. Andrew's, which admits a certain number annually to examination, the surgeon in general practice has no possible opportunity of becoming a 'Doctor of Medicine' in any of our universities without residence. This regulation effectually shuts out many gentlemen who would do honour to those institutions by being associated with them. Such a policy is short-sighted and injurious to the best interests of the profession. *Who is so likely to be a skilful 'physician' as the man who has for years been in the active and successful practice of his calling?* Many of our most distinguished physicians have risen from the ranks. The first Babington, Cullen, Clutterbuck, and Jenner stand foremost in the illustrious list. We admit that no candidate for the possession of superior

rank amongst us should be allowed, in attaining his object, 'to walk over the course,' whatever his 'length of service' or his presumed excellence. He should be fairly, nay, even rigorously tested; but he should not be crippled by 'regulations' which effectually preclude him from demonstrating his claims to the honour which he covets. The days are gone by when the purchase of diplomas was connived at, if not recognised as a legitimate practice. The possession of such diplomas are very properly excluded from the Medical Register; but we should hail with satisfaction the initiation of 'practical examinations' in our universities for gentlemen of some years standing, to meet a difficulty which, as to general practitioners, is daily becoming more prominent."

After this examination, terminating here, I desire in conclusion, to record my strong conviction that the medical profession, with its increased and more certain means of research, is making steady progress; that it is not behind any other difficult scientific pursuit in general advancement; and that, entered upon as we see it is, with all the ardour and zeal which characterise the present age, its future triumphs in the battle with disease and death, will far exceed its present or its past achievements.

I have pointed out a few faults in the different departments, which I believe could easily be amended by men in the high places within its own ranks; but despite these, and remarking that nothing which is human is perfect, I am proud of the profession to which I belong, and look upon it as one of the noblest callings a man can follow, or to which his faculties can be directed.

APPENDIX.

Homœopathy.—It is right that Hahnemann's system should have some attention and a place in this Essay; not from any merit it possesses, but forasmuch as by its extravagant pretensions, and some elements of popularity, it has gained a certain amount of favour in the world. This new system of medicine, as those who practise it like it to be termed, must be considered by all careful and intelligent observers as either the greatest *knavery* or the greatest *folly* of the age. These charges, which I deliberately make, I hope to prove in the investigation of its claims, on which I now enter.

First, take the dogma of Hahnemann in the Organon, that "the curative power of medicines depends on the symptoms they produce in health similar to the disease, but superior to it in strength," or, as it is often expressed, *similia similibus curantur*, or the law of *simile*; and, after all that has been said for it, experiments made with the greatest care have proved it to be utterly false, or at least greatly exaggerated. Among many trustworthy observers who have examined the subject, I single out M. Audral, the celebrated French physician. It has been observed respecting him that "he had taken quinine in the prescribed doses, but had contracted no intermittent fever; he had taken aconite, but without being affected with symptoms of plethora; sulphur he took to try if he should catch the itch, but he caught nothing; neither, upon swallowing certain globules of arnica, did he feel pains as if he had suffered contusion; and so with various other substances, which he and his friends took in obedience to the Hahnemann precepts." It is to be observed also that these experiments were made

in the presence and under the eyes of the homœopaths themselves, so that their truth cannot be questioned.

Next let me notice the dogma respecting infinitesimal doses, or the diluted form in which the homœopathist administers his medicines in accordance with his system. For example, one drop or one grain of any medicine which is employed is diluted with ninety-nine parts of water, or any simple substance in the case of a powder; one drop or one grain taken out of this is again diluted to the same extent, forming the second dilution; and so on to twenty or even thirty dilutions. Calculations based on these facts have been made, which show that upwards of 50,000 tons of water, or other body, would be required to reach even the sixth dilution; and to reach the twelfth dilution a sea six times the size of the Mediterranean would be required; or that, in other words, the sixth dilution would contain about the billionth of a drop or a grain, or a million times a million of a drop or grain. Think of the absurdity! One has hardly the conception of the number, and it would take a man all the days of his life to count it, even if that life was prolonged much more than was the life of Methuselah, and he was able to count 288,000 drops daily. "What would be thought of a physician," a writer asks, "if he were seen to throw a grain of opium, or aconite, or belladonna into the sea, and after waiting a week or two in hopes of its being mixed with the whole Atlantic or Pacific Ocean, he were to be seen taking a few drops out and giving them to a patient in a serious disease? The patient would naturally ask, 'How can this act upon me?' And the physician might say, 'Never mind thinking of that, you will recover from your disease. I put the medicine into the Atlantic; you cannot perceive it, but it is certainly there, and the few drops I have given you must contain some of it; and as you will recover, we may fairly attribute the good results to the medicine.'"

I myself advised a lady, once a patient of mine, who on leaving my neighbourhood became enamoured of homœopathy, and who needed *calybeates*, to throw a piece of green copperas, the size of a pea, into the Ouse at York, and take a tumbler-full of the water twenty or thirty yards down the stream, assuring her she would have a full homœopathic dose; and truly, bearing in mind the calculations given above, I consider the dose I recommended was *very large* compared with what the followers of Hahnemann employ. Hahnemann himself, it appears, believed that the thirtieth dilution was the best strength of the medicine to administer; and towards the end of his life he would only allow his patients *to smell* at the medicines he prescribed. One may charitably suppose that the doctor was approaching his dotage when he reached this pitch of absurdity; and, by-the-bye, a capital story is told about him and a lady who, on being subjected to his process, passed the *fee* before his nose, and then replaced it in her pocket. We are not told the result of this lady's humour, but it is highly probable that a few patients of the same kind would have brought the enthusiast to his senses—if, indeed, he was not by this time gone indeed.

There is good common sense in Miss Nightingale's opinion of this system when she writes: "Homœopathy has introduced one essential amelioration in the practice of medicine by amateur females; for its rules are excellent—its physicking comparatively harmless; the globule is the one grain of folly which appears to be necessary to make any good thing acceptable. Let, then, women, if they will give medicine, give homœopathic medicine. *It won't do any harm.*"

Surely it is a well-recognised truth that every effect we observe must have had an adequate cause for its production; but in the treatment of disease by homœopathic doses we do not discover a sufficient cause when the patient happens to recover. If, in any given number

of cases of disease, several recoveries are observed after administering a billionth of a grain of calomel, opium, or any other medicine, the most that can be said is that nature effected her own cure without the aid of the doctor, and show us, what we sometimes overlook, that her powers and resources are truly marvellous. Dr. Waters of Liverpool, in addressing medical students remarks: "If you administer a remedy, and the disease for which you administer it disappears, do not therefore flatter yourself that you have experience of a cure. Every intelligent practitioner of medicine well knows that in the exercise of his art his object is to assist Nature, and not supersede her; but he also knows that, in order to produce an effect on the body, he must have an adequate cause. Now, the administration of the ten millionth part of a grain of calomel is not a sufficient cause. It would be a wonderful thing if all the cases submitted to homœopathic treatment recovered, but it would simply prove the marvellous powers of nature, and not the potency of the globule."

I remark further that the boasted success of homœopathy, in contrast with the legitimate practice of medicine, which its followers seek to show by statistics, is a delusion and a cheat. Statistics, unless the greatest care is exercised in preparing them, are valueless, and to suit a system or a purpose may be made to prove anything. The diseases must be carefully distinguished; their severity or mildness, and complications, if any, noted; the age, sex, season, situation, circumstances, &c., of the patients fully stated, if any reliance is to be placed upon them. But it has been clearly proved that the disciples of Hahnemann, in their statistics, have either overlooked or held back all these necessary elements of accuracy, and have made *numbers* only the criterion whereby they judge of their success in practice. Their great model is Fleischmann's Hospital at Vienna, which they compare with hospitals that are under the care of

regular practitioners. It is scarcely necessary to say that if the most trivial cases of disease are admitted into one hospital, and only severe cases into another, no comparison as to the results of treatment can be instituted. Yet, without doubt, by admitting trivial cases of disease, as chlorosis, erythema, catarrh, sore-throat, chicken-pox, &c., which would not have been admitted into other hospitals, Fleischmann has reduced his death-rate to a *minimum*, and stands chargeable with a gross fraud. Dr. Belfour, who witnessed the homœopathic practice at Vienna says: "Of comparatively trifling cases, many remain in for weeks—nay, months, in the hospitals; while more acute or more interesting cases are turned out too often with the cure incomplete."

Dr. Lee, speaking of the London Homœopathic Institution, observes: "On looking over the history of several of the cases treated, I found the ordinary slighter ailments generally met with in dispensary practice."

It is evident, then, that mere numbers prove nothing in statistical tables, and that hospitals which have a great name will receive the greatest number of severe cases, whilst they will refuse the milder cases, and the death-rate will be high. Yet the treatment may be far more successful than in the homœopathic establishments, though the death-rate is made to appear very low in the manner already described—in other words, where the statistics are framed to secure a purpose. Just as an eminent medical man may have more deaths among his patients than the ordinary practitioners about him, because he will be called to attend many more serious cases than they.

Having, in the above remarks, passed in review the main principles of homœopathy *in extenso*, let me here recapitulate, very briefly, on what grounds I impugn its pretensions, and denounce it as a system of fraud and folly:

(1). Its grand fundamental dogma, or leading principle, *similia similibus curantur*, I have shown, by the experiments of Audral and others, made under the very eyes of homœopaths themselves, to be generally untrue.

(2). I have shown that the doses with which the homœopathic practitioner professes to treat disease—*e.g.*, the millionth or billionth of a drop or a grain of any medicinal substance (however potent that substance may be), must be inert and worthless.

(3). I have proved that the statistics by which the homœopathist has sought to make the impression on the public mind, that the death-rate, under his treatment of disease, is lower than under the treatment employed by the regular practitioner, are fabricated from untrustworthy materials, or cases, and are therefore calculated to mislead and deceive.

If it be said, as it has been said, that the followers of Hahnemann have ceased to believe in the two leading principles of their master which I have just discussed—that they do not now treat symptoms only by the first dogma of *similia similibus curantur*, nor disease by the second of infinitesimal doses, but that they give ordinary doses of the alkaloids—as morphia, belladonna, narcotine, &c.; then my contention with them is at an end, for I do the same. Or if, as has been stated, they give the largely diluted doses in treating trifling ailments which Nature would cure herself without their interference, and give the usual doses, or such doses as are in common use, in more severe cases, or when help is really needed; still, it may be observed, they very cleverly escape from the charge of folly which I have brought against them—yea, truly, I confess, if this be true, "they are wise in their generation."

But this being granted, let me ask are they not manifestly acting *a constant lie*, for to all intents and purposes they are treating disease as allopaths, and not as homœopaths?

In an introductory lecture delivered at the Leeds School of Medicine, Mr. Nunnely gave some excellent advice to medical students, which I quote here. He observes: "Gentlemen, become capable of reasoning ever so small a degree; become to some small extent observers of Nature; possess some knowledge, however minute it may be, of the chemical and physical properties of different substances; do obtain some little information about the action of remedies; in some small measure become acquainted with the natural course of disease; do acknowledge the existence of what every physiologist has for ages known and valued as an important part of his duty, to study the *vis medicatrix natura*, and you will become incapable of being homœopaths; unless your moral perceptions should unfortunately be so lamentably obscured as, for the sake of mere temporary gain, to sink into being the panderers of popular or fashionable delusions, so surprising as to be almost as wonderful as the expenditure of such a magnitude of belief upon means so utterly contemptible and insignificant, is astounding; and thus, while knowing better, consent to act so reprehensible and immoral a part."

Yet, let me remark, in conclusion, that a few things may be learnt even from homœopathy. One may, for instance, learn how greatly Nature is to be trusted, since unaided she so frequently battles with and conquers disease.

So, also, the hygienic measures which this system so strictly lays down and enforces, should not be lost upon us in our treatment of disease, for negligence concerning this point may render all remedial agents that are prescribed utterly useless. Lastly, may we not receive a lesson from this system in the preparation and administration of remedies? We already use the essential principles of some medicines, as quinine, morphia, elaterium, &c.; and it is worthy of consideration whether

these might be more largely used, and at the same time rendered more palatable, by aromatic infusions, essential oils, and saccharine or other matters. It has struck me that to this extent, and no more, homœopathy may benefit the practice of medicine and the community at large.

THE END.

MULLANY'S Steam-Printing Works, 47 Fleet-street, Dublin.