A letter to the Right Hon. Robert Peel ... on some of the impediments, defects and abuses existing in the present system of medical education : with suggestions for their removal and correction / by Henry William Dewhurst.

A

LETTER

TO THE

RIGHT HON. ROBERT PEEL,

SECRETARY OF STATE FOR THE HOME DEPARTMENT,

ON SOME OF THE

IMPEDIMENTS, DEFECTS, AND ABUSES,

EXISTING IN THE

Present System of Medical Education:

WITH SUGGESTIONS FOR

THEIR REMOVAL AND CORRECTION.

BY HENRY WILLIAM DEWHURST,

SURGEON,

Fellow of the Royal Jennerian and Westminster Medical Societies; Lecturer on Anatomy; Author of Dictionary of Anatomy and Physiology, Essay on the Formation of Man, Guide to Phrenology, Introductory Lecture to the Study of Anatomy and Physiology, and Honorary Member of the London Veterinary Medical Society.

"In fact, the present system of Medical Education in Great Britain is a disgrace to this enlightened age; it is one that loudly calls for reform, which, if once accomplished, and properly organized, would prove a real blessing to mankind; as it is, it is one of its greatest curses."—*Page* 6.

"If these things appear agreeable to reason and truth, pay regard to them; if they appear trifling reject them."—*Justin Martyr.*

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A LETTER

TO THE

RIGHT HON. ROBERT PEEL.

Honourable Sir,

Considering the importance of the Medical Profession in a civilized nation—the various impediments and abuses existing in Great Britain respecting its study—I am induced to offer a few remarks and suggestions, which I trust will be the means of directing (through you) the attention of an enlightened Government; and not only remove these impediments, but correct the abuses, and prove to a prejudiced public the real value of a profession, whose only objects are to be a blessing to mankind, when suffering from the effects of dire disease, or accident.

Our profession, I am sorry to say, Sir, receives less encouragement and pecuniary advantages than those of Law or Divinity; the members of which enjoy the highest dignities, both in church and state, while the most useful of the three, in a temporal point of view, viz. the Medical Practitioner, is neglected in early life, by impediments (which I shall presently relate) in his studies, and afterwards, when engaged in practice, by the public at large, who only acknowledge his skill and attention, when in the hour of affliction, but no sooner can his services be dispensed with, than he becomes forgotten, and frequently loses the reward of his labours, being paid only by ingratitude.

Much has been said about the classical attainments a youth should possess previous to his engaging in the studies connected with the medical profession. In all trades or

professions technical phrases are made use of, many of which are only understood by those individuals pursuing such trade or profession; in *ours* they are principally derived from the Latin language; consequently every sensible person will allow that a knowledge of this language is indispensably necessary: I do not mean such a knowledge as will enable the student only to translate the Pharmacopœia of the Royal College of Physicians, or a prescription written by any of its members; no, he should be able to read a Latin work with the same facility he should English; for many valuable treatises on many branches of the profession are still written in that language. He should also understand French, as the principal, and most valuable, works on anatomy, physiology, and medical science generally, have come from the pens of the French authors; among whom I may mention Bichat, Beclard, Cloquet, Magendie, &c. as the most conspicuous. It may be found advantageous to him to possess a knowledge of the German language, for the same reasons I have laid down respecting French and Latin. As to Greek, if he has already learnt it, well and good; but, for my own part, I should certainly never place a lad to school to learn that language, considering that he might employ his time to better purposes in the various branches of scholastic education. Drawing he should learn to perfection; as in after life he will find it eminently useful, either in representing disease in the wards of an hospital, or morbid parts, which should always accompany his description of cases or dissections, if the parts and circumstances allow: this, of course, must be left to his discretion. Having said thus much respecting the preliminary education, I now come to the

SYSTEM OF APPRENTICESHIPS.

The *evil* in the present mode of commencing a youth's medical education, is too glaring to be overlooked. In the public newspapers we often see advertisements from medical practitioners, stating their want of an apprentice, and *puffing* that they are *extensively engaged* in the three branches of the profession, and a premium will be (*of course*) expected. These *puffs* are villanous in the extreme; the pernicious effects of this

system are soon pointed out; the parent is cheated of his money, and the youth consigned behind the shop counter for the next five or seven years, instead of benefiting by his master's practice, (as his parents and himself have been led to suppose) where all the knowledge he obtains,

"*Is the art and mystery of dispensing medicines,*"

which any youth, possessing only a moderate share of abilities, could learn with facility in the space of six or nine months: thus, we perceive, they are the slaves and drudges of their masters. However, I am acquainted with several respectable practitioners who are liberal enough to introduce them to practice, allow their attendance on anatomical lectures, &c.; but instances of this liberality are confined to a few only, *a solitary few*, and even some of these are compelled, by a clause in the youth's indentures. Thus, Sir, you will perceive, that four years and six months are completely thrown away, which, as will be seen presently, are not only the most valuable part of his existence, and might be employed with the greatest advantages to himself, and hereafter, more or less, to the community at large.

I am now speaking of apprenticeships, which occur throughout Great Britain, excluding of course those individuals who are bound to hospital surgeons, surgeons of public infirmaries, dispensaries, &c. &c., with these, we generally find a system (approaching in some measure to the plan I shall lay down presently) pursued, by which means, in the course of a few years, they are in some, and in many instances, not unfrequently seen, filling with credit, either the same or similar situations to those filled by their former masters.

You may suppose, Sir, from the preceding remarks, that I am an enemy to apprenticeships: by no means. I consider it necessary for a youth to have some tie over him, by which, when once bound, he feels compelled to follow the dictates of his master, and who, on the other hand, is also compelled to instruct him according to the terms of his indentures, viz. "To teach him the art and mystery of a surgeon, or apothecary," (or cause him to be taught those very branches of the medical profession he himself practices). Would to God that he did so

teach him, according to the modern acceptation of the word. Such, Sir, is not the case; he is a slave, and a drudge; and, in after life, frequently looks back with disgust on the scenes which he passed in his earlier years. *

In all other trades and professions, a youth, at the expiration of the time expressed in his indentures, is able to follow his business, either as a master, or journeyman to another. In our profession, when his time has expired, all he can do, is to commence his studies, or obtain a situation as dispensing assistant,† by which he may receive as a reward for his labours, sixteen or twenty pounds a year; nay, frequently, after he has passed his examinations, received his diploma, or perhaps has obtained the degree of M. D. can seldom obtain more than thirty pounds per year: this is degrading, if not afflicting, to the mind of the student and his friends.

Previous to stating my remedy for the existing evil, it is necessary I should inform you what the youth has to acquire, after he is out of his time, in a period of eighteen months, or at most, two years. For an account of the lectures, &c. he is compelled to attend, I take the liberty of referring you to the Appendix. ‡

To acquire a perfect knowledge of any *one* of these branches, will require not merely a few months, but at least two years, to perfect a student for practice, either public or private: "In fact, the present system of medical education in Great Britain is a disgrace to this enlightened age; it is one that loudly calls for reform, which, if once accomplished, and properly organized, would prove a real blessing to mankind; as it is, it is one of its greatest curses."

The remedy I shall propose will, I have not the least doubt, excite opposition among the general body of practitioners, who profit by the present system. But who can say, I speak not the truth? It is the truth: I promulgate my opinions for the public good, and I trust no personal ill-will will on this account be created against me.

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* See a valuable paper on this subject in the London Medical Gazette, No. 35, August 2, 1828.

† His apprentice fee was probably between one and three hundred pounds.

‡ Nos. I. and II.

My plan of improvement is simply this, and is told in a few words; and which I intend to follow with my own apprentices: A youth is destined for the medical profession, and when he is properly qualified, has intrusted into his hands the lives of his fellow creatures.—I should commence with Anatomy as the foundation on which the whole superstructure of medical knowledge is supported.—In commencing with this science, I am borne out by Mr. Lawrence: to use his own words, "*Anatomy and physiology are the groundwork of pathology, or the science of disease.*" * Thus, I should ground him well in this branch, which, including dissections, would occupy well the first two years; he then should, under his master's inspection, enter the wards of an hospital, where he should learn Pathology, at the bedside of the patients, and at the same time he should carefully note down in a proper case book,† the description of each case, the history, treatment, and termination, accompanied as much as possible with his own drawings and remarks; these ought, if necessary, to be daily corrected by his master, who should give him minute examinations on the principal cases that have come under his notice; this, with his attendance on surgical and medical lectures, will occupy well eighteen months longer. At this period it becomes necessary for him to attend Lectures on Materia Medica, Medical-Botany, Pharmaceutical Chemistry; and, with six months' dispensing medicines, will perfect him in his medical education, as the Obstetrical Lectures he can attend at any time, and although they are the last mentioned, they are not the least in importance. I have been grieved to hear the slight manner in which medical students have spoken of this branch of therapeutics.—I would advise them to be more attentive to midwifery, for their character is at stake—the lives of mother and child are in danger—and the happiness or misery of a whole family not unfrequently

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* Lectures on Physiology, Zoology, and the Natural History of Man, delivered before the Members of the Royal College of Physicians. By Wm. Lawrence, Esq. Surgeon to St. Bartholomew's and Bridewell Hospitals. Page 56.

† For this purpose, I recommend the case book published by Mr. Jackson, of King-street, Southwark.

depends on the conduct they pursue. It is with pleasure I perceive students are compelled now to undergo an obstetrical examination;* the consequent result will be, that notwithstanding the opposition made to the employment of men-mid-midwives, by an eminent hospital surgeon,† we shall find in the sequel, that men will be better qualified for the practice of such an important and interesting department of the profession.

By the pursuance of the plan I have just laid down, I feel confident that if it was put into effect, we should not have men, as we now have, (in many instances) a disgrace to the profession, being unacquainted with some of the very principles of which the profession is supported. From the confessions of some, with whom I am acquainted, they are entirely ignorant of anatomy, yet they possess an extensive practice; their practice is empirical, and kill or cure is the result. This is truly lamentable in a country like Great Britain; yet the period is not far distant, when I hope to see the present professional ignorance swept away, and real science flourishing in its stead.

Thus, Sir, at the expiration of the five years, the youth is enabled to present himself as a candidate for the diplomas of the Royal College of Surgeons, and the Apothecaries' Company; and, according to his inclination, may either enter the army, navy, East India Company's Service, or private practice.

ANATOMY.

I HAVE now, Sir, to call your attention to a subject, the next in importance to the preceding; and I trust, Sir, you will use your influence with Government, as well as in Parliament, to the formation of some plan, by which anatomists may obtain subjects for dissection. In France and Ireland they may be obtained with the greatest possible ease; while in England and Scotland, they are not only scarce, but the few there are, are of

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† See Appendix, No. I. and II. ‡ Sir A. Carlisle.

such an exorbitant price, as to preclude many students from dissecting more than half, or, at the utmost, *one subject*; whereas, in my opinion, he ought to dissect at least three or four, in order to make himself master of the structure and functions of so important, and I may say, splendid a piece of divine workmanship, as the human body. I should wish to impress on your mind, the necessity of a minute dissection. It is the lives of his fellow creatures that will be hereafter under his care, and if he is not an anatomist they are in jeopardy, as accidents not unfrequently occur, requiring the instant performance of an operation; as Professor Green * has wisely remarked, "that a scalpel may give health or death to a patient within the space of a hair's breadth;"† consequently, there ought to be a plentiful supply of subjects, for effecting so desirable a purpose. In Dublin they may be purchased from two shillings and sixpence, to ten shillings; ‡ in France, from ten to fifteen; while in Great Britain, we are found to pay from six to sixteen guineas for a single body: I have paid ten myself for subjects last season, and six guineas but a few days ago for my own pupils. How is this accounted for? In England and Scotland, the public are prejudiced against dissection; and they are encouraged in the support of their indignation by the Country Magistrates, Coroners,§ Judges of the King's Bench, and Common Pleas, and lastly, though not the least, is that powerful engine of public opinion, the *Press*. In justice, however, I should state, that some are liberal enough to condemn legal proceedings against persons engaged in the procuration of dead bodies, pointing out the advantages likely to accrue from the promotion of this department of science.

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* Of the Royal Academy. † Dissector's Manual.

‡ Advertisements of the Dublin University, in the *Times*, and *Lancet*.

§ It is much to be regretted that some of our Coroners, (who ought to be medical men) are still found to be infected with that foolish, illiberal, and unscientific spirit, as regarding the opening a dead body, especially those who have suffered from accidents and died in the wards of our Metropolitan Hospitals; thereby preventing any addition to our stock of knowledge, which an inspection of the seat of disease would afford.

Several charters have been given, and laws enacted by the legislature for the dissection of murderers, also for the necessity of *dissection*, as a part of medical education; and yet, curious to observe, they have also enacted laws for the punishment of those engaged in procuring (and in some cases when a dead body has been found in the house of an anatomical teacher, to wit, Mr. Gill, of Liverpool, was fined thirty pounds) dead bodies; Mr. Cooke, of Exeter, fell a victim to legal ignorance, and disgraceful prejudice. I will quote an extract from the acts of parliament relating to this subject:—

"By the 39th Henry VIII. cap. 22, the worshipful company of *Barbers* and *Surgeons* may have and take, yearly, four persons, condemned, adjudged, and put to death for felony, for *Anatomies*, and to make incision of the same dead bodies."

"And by 25 George II. cap. 37, the bodies of felons, convicted of murder in the city of London, are, after execution, to be delivered to the Hall of the Surgeons' Company, to be *dissected and anatomized*; and in case such conviction and execution shall happen to be in any other place, or county, in Great Britain, then the body of the murderer shall be delivered by the sheriff, &c., to such surgeons the judges shall direct." *

It will be perceived by the act of Henry VIII. that the bodies of felons are to be given up for dissection, and yet, strange to say, only those who have committed *murder* are given for dissection. I propose, as the means of remedying this evil, that the act of Henry VIII. shall be put in force; that all who have violated the laws, and forfeited their lives, shall also forfeit their bodies to the public good, *i.e.* for dissection. *Secondly*, All those individuals who die by their own hand, against whose bodies a coroner's inquest have returned a verdict of *felo-de-se*. *Thirdly*, All those who die in gaols, prisons, workhouses and hospitals, having no friends to pay for their interment. *Fourthly*, All those bodies found, and who are unowned. *Fifthly*, All those laws enacted for the prosecution of those persons engaged in the procuration of subjects to be repealed. *Sixthly*, The bodies of all those convicts who die, while undergoing the

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* Dewhurst's Dictionary of Anatomy and Physiology.—*Art.* ANATOMY.

punishment of their sentence, whether by imprisonment, or hard labour at the hulks.*

These propositions, Sir, I take the liberty of suggesting to you, as they would much facilitate the abolition of public prejudices, and tend to the advancement of a knowledge of this important, interesting, and beautiful branch of medical science; and prevent British students the necessity of leaving their homes for foreign climes, to study this essential branch of medical education.

COMPARATIVE ANATOMY

Is another branch which ought to command public attention. Recently a Society has arisen for the cultivation of Zoology, under the original auspices of the late Sir Stamford Raffles, and now patronized by His Majesty, and the principal nobles of the land. A magnificent museum has been formed for its promotion, and it is hoped that it will include *Zootomy*, or the dissection of animals:† which is equally beautiful, delightful, and interesting:—in a country like this, where so many advantages arise for its study, I trust to see it publicly taught, not only by the Zoological Society, but also by the Royal Veterinary College, which was originally founded for the purpose of improving the science of Comparative Anatomy: but since the time of that illustrious Father of modern Surgery, John Hunter, nothing has been done at this place, with the exception of some disgraceful dissections of the horse and ass; and we find it oc-

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* Since I commenced this Letter, a motion was made in the House of Commons, by Mr. Warburton, and a select committee appointed to take this subject into consideration; a fortnight ago, their report was brought up, by that gentleman, who gave notice, that he should next session, bring in a bill, to remove the disabilities under which we at present labour.

† Mr. Brookes, of Blenheim-street, my illustrious preceptor, last season lectured on the comparative anatomy of the ostrich, presented by His Majesty, to the Zoological Society, in Bruton Street, Bond Street, and was numerously attended, by both sexes. I trust they will again be shortly resumed.

casionally the study of a *few*, and *only a few*, zealous pupils. This is the place where Comparative Anatomy ought to be studied, but even the branch professed to be taught, is shamefully neglected; the Professors making a complete sinecure of their situations, neglect the interests of their pupils, whose education they ought carefully to superintend. This I do not assert from my own knowledge, but on the authority of two respectable journals, that have recently appeared.*

Still it is pleasing to find that it has been studied by a few, whose works will transmit their names to posterity; among whom, I may mention those of Hunter, Daubenton, Cuvier, Magendie, Brookes, Home, Brodie, Bell, &c.; in fact, it is through their labours that Physiology has derived such valuable assistance. A dog, or a cat, for example, differs only in their shape from the human body; they are endowed with a similar organization; the arteries and nerves take nearly the same route: then, I will ask, why is such a delightful study to be neglected?—It is interesting to the philosopher, the medical practitioner, and divine; nay, in fact, to all lovers of natural history, to know wherein the animal creation differs from ourselves. The stately neck of the swan and giraffe; the ponderous head of the elephant, are preserved in their position by an apparatus found in all vertebrated animals, viz. the ligamentum nuchæ, assisted by the action of the muscles of the part: in fact, to use the words of the immortal Harvey, in his letter to Riolan, that "in the anatomy of the vilest insect, we shall find a God, equally in the humbler, as well as in the higher works of the creation:"† and I may add, in the language of the divine poet,—

"How wonderful are the works of God!"

However, Sir, I beg to call your attention to the science of Comparative Anatomy, and trust to see it, ere long, one of the branches of our medical education. ‡

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* The Veterinarian, and the Farrier and Naturalist.

† Dewhurst's Dictionary of Anatomy and Physiology, p. 46.

‡ See also my Letters on this subject, in the first volume of the London Medical Gazette, the Farrier and Naturalist for February, and the Veterinarian for August, 1828.

MORBID ANATOMY.

Pathological Anatomy, has, with the other sciences, been equally neglected in this country; with the exception of a few celebrated characters, such as the late John Hunter, Dr. Baillie,* Sir A. Cooper, Mr. Wardrop, and Dr. Armstrong, these learned and distinguished individuals have published works which will remain lasting memorials of their talents, perseverance, and industry, when their bodies are laid in the dust, and their spirits received by Him who gave them.

Dr. Armstrong, in the preface to his splendid work on the "Morbid Anatomy of the Stomach, Bowels, and Liver," just published, has so pointed out the necessity of the study of pathological anatomy, as to entirely supersede any remarks I might make, and I perhaps shall not be accused of piracy, by transcribing a portion :—

"Several causes have concurred to retard the progress of morbid anatomy in England; but *two* appear more prominent and powerful than the rest—prejudice on the part of the public, and something very like indifference on the part of the profession. It would be easy to account for the public prejudice, on those inherent principles of our nature, which lead us to regard as inviolate, the relics, with which so many endearing recollections of life are associated. Yet it would be difficult to assign any very satisfactory reason for the professional indifference, once so extensively diffused, unless it owed its origin to that scholastic system of education, which directed the mind to nosological technicalities and metaphysical abstractions, rather than to the particular details and general inductions of pathological anatomy. Happily, however, this indifference is giving way to a wide-spreading zeal among the profession; and, it is to be hoped, that the advancement of knowledge will daily diminish the aversions to dissections in the public mind." †

With regard to the dissections, conducted at some of our

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* Dr. Baillie died Sept. 23d, 1823: he was the author of a beautiful volume on Morbid Anatomy, which however is far surpassed by the recently published work of Dr. Armstrong.

† Fasciculus 1. p. 1.

public hospitals, they are slovenly made, neither is there much attention paid to the morbid appearances presented on examination. At these institutions, all the morbid parts ought to be carefully preserved; and where this is not convenient, accurate drawings ought to be made: of the value of this art, my friend Mr. Annesley has found the advantages derived from this plan, in his large work on Diseases of the Liver, as occurring in India. In this country it is impossible, from the nature of the climate, to preserve the morbid parts; and, as the bodies there are generally opened about four hours after death, the appearances can be very fairly represented. Again, Dr. Armstrong's illustrations to his morbid Anatomy are taken from drawings made from diseased parts, in his museum, which, for their accuracy and beauty, stand unrivalled.

The importance of pathological anatomy is of the greatest utility to the medical practitioner; and it is highly disgraceful to practitioners generally, to treat it with such neglect: by knowing the appearances certain organs exhibit, in a state of disease, consequently, we are enabled to treat future cases on surer grounds of success.

I am sure, Sir, were the public but once to be made thoroughly acquainted with the utility of this science, they would not fail to be its active promoters; as the more knowledge we possess of the terrific forms in which disease presents itself, it is but reasonable to suppose, that the treatment will depend on those symptoms, and on those alone; therefore, by comparison with the symptoms in a living patient, contrasted with those that appeared in the fatal case, we are enabled to adopt those measures, which, in all probability, tend to a favourable result.

Another useful department, much neglected and abused by the public, is the science of

EXPERIMENTAL PHYSIOLOGY.

When we consider the obscure knowledge we have of several functions of the human body, it is not to be wondered at that men of a patient and an inquiring mind, should endeavour to investigate and discover of what use they really are, as we cannot suppose that the Deity had created any part to which a use

could not be attributed; although at present we are in ignorance of their utility in the animal machine.

Of such importance has this science been thought by philosophers of all ages, that animals have been sacrificed for the purposes already mentioned; and yet we find the public raising a clamour and an outcry against those engaged in the performance of practical experiments. Hippocrates, Aristotle, Galen, Vesalius, Fallopius, Eustachius, Cæsalpinus, Vasseus, Asellius, and Dr. Harvey, are among those who have enriched Physiology by their discoveries; the latter discovered, in 1616, the circulation of the blood, by means of experiments made on deer, frogs, mice, &c. In 1563, Eustachius discovered the thoracic duct in a *horse*. Asellius, in 1662, the lacteals, when investigating the motions of the diaphragm and intestines in a living dog, cat, and rabbit, in the presence of his pupils. About 1634, Veslingius, Bartholine, Rudbeck, and Jolyffe, saw the lymphatics; but, being near the same time, it is a question who first discovered them, though they all laid claim to priority.

John Hunter discovered the absorbent system, in crocodiles and in geese. Mr. Hewson (in England,) and Dr. Monro (in Scotland,) saw them in birds, turtles, and fishes.*

The founders of the Royal Veterinary College were unanimous in the promotion of Experimental Physiology.—I cannot do better than insert the rule relating to it.†

"Rule xvii.—*A Medical Experimental Committee* shall be chosen, who shall *meet occasionally*, for the purpose of suggesting and making experiments, with a view to throw additional light on the animal economy; and to ascertain the effects of medicine upon the different animals, to be procured for that particular purpose; and for inspecting the drugs and medicines bought for the use of the Infirmary; and this Committee shall from time to time *make reports* of their proceedings."

"Thus," says the editor of the Farrier, "we see the essence

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* Lecture Introductory to the Study of Anatomy and Physiology, delivered in London, October, 1827, by Henry Wm. Dewhurst.—Dict. of Anatomy, &c. *Art.* Anatomy.

† See Farrier and Naturalist, No. III. p. 90.

of that spirit which pervaded the founders of the College; among whom, the names of the scientific Hunter, Crawford, Fordyce, Scott, Baker, and Cline, who (doubtless) intended, in giving it their support, to form a school for the cultivation of comparative Anatomy in general; perceiving the important advantages which medical science, in particular, might derive from the efforts of such an establishment, properly conducted, and pursuing experiments on animals with freedom and zeal."

"But since the death of John Hunter, what has been accomplished? *The proceedings of this Committee have never been heard of*; and though much may have been effected by individuals outside the College walls, yet, during this protracted period (30 years), not a single fact has been added by this pompously announced Committee, to the common stock of Zoological knowledge."

This circumstance is much to be regretted, and, I trust, that Messrs. Coleman and Sewell, the Professors of the Royal Veterinary College, will turn their attention to the cause of neglected science, and not let a valuable institution be made a corrupt engine for private purposes. If they do not effect a reform, I trust the patrons and governors will use their endeavours in effecting so laudable and so scientific a purpose.

Among those individuals in England who have lately signalized themselves in experimental Physiology, are Dr. Wilson Philip, Sirs Everard Home and Astley Cooper, Mr. Brodie and Charles Bell. The former has published his experiments in a volume, which, I trust, will not only be read by every medical practitioner, but also by the scientific public, to whom he has inscribed his last edition,* and which has proved him to have been a patient investigator, an excellent anatomist, and a careful experimentalist.†

It was from experiments made on dogs, by tying the prin-

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* An Experimental Inquiry into the laws of the vital Functions, with observations on the natural treatment of Internal Diseases. By A. P. W. Philip, M. D. F. R. S. Edin. &c.

† In justice to Dr. Philip, and our profession generally, I must observe, that we prefer the newly dead animal, instead of the *living*, where we can make it subservient to our purposes.

cipal arteries, that the circulation by inosculation was discovered, and this in a surgical point of view, is a valuable discovery, especially as relates to the cure of aneurisms, or tying arteries, in cases of accident.

Great clamour has been raised by the public, against Dr. Magendie, and other persons, professing the healing art, for performing experiments on animals, in order to illustrate and discover certain functions of the human body.—They principally object on the ground of humanity, yet at the same time that *they so object,* they patronize hunting with a pack of hounds, a timid hare, fox, or stag, for miles, when the poor animal, worn out with fatigue, becomes an easy prey to the worry of the dogs; or, in the sporting season, how many thousand birds are left to expire in lingering agonies, from fatal wounds; yet this is *sport,—humanity;* while the sacrifice of a dog, cat, or rabbit, for the purpose of a public good, these worthies say is barbarous in the extreme:—so much for their humanity. While they create such an outcry, little do they know the advantages derived, and what important results arise. However, while I defend the system of making practical experiments on the living animal, to ascertain facts, I must also defend myself from any charge of cruelty, which may be laid against me by the opponents of experimental physiology; and I publicly assert that I would be the first who would punish the man who should torture an animal for *mere amusement,* by putting Mr. Martin's act strictly in force.

Now, as MAN is styled, by all philosophers who have written respecting him, as *the noblest work of God, the lord of the creation, with power and dominion over all things breathing on the face of the earth, or in the waters under the earth;* therefore, such being the case, if it is in our power to benefit man, by sacrificing the lives of a few animals; in God's name, I will say, do it; for what is the life of an animal compared with man? Can we make a comparison on the subject? no: *animals must give way* to the purposes of science. Many valuable and important results have been obtained by physiologists, from experiments performed on the brute creation. Did not Sir Busick Harwood discover that rest is absolutely necessary for the purposes of digestion: while active exercise directly after a meal prevents

it? Here is an important practical fact, connected with the animal economy, *discovered* merely by sacrificing the lives of two dogs. So convinced was that unfortunate monarch, Charles the First, of the utility of experimental physiology, that he allowed Dr. Harvey what deer he pleased for his experiments, to be taken from the royal parks. I could relate examples illustrative of this fact, which would fill several folio volumes; all, however, tending to confirm what I have already stated. After this, I will ask, Can any who value themselves and their fellow-creatures, object to this mode of research? How are we to know the effects of newly-discovered medicines, but by giving them to animals, watching the results, and then making our comparisons? Can any conscientious practitioner sport with his fellow-creatures? Would any individual consent to have experiments performed upon him? No; it becomes our duty to ascertain their effects; and this can only be ascertained by trying them on animals. Such being the case, to use the words of Dr. Wilson Philip, "Can we censure Orfila for an extensive set of experiments on living animals, made with a view to discover an antidote for the poisons often taken accidentally in ordinary life, by which many human beings have been saved, and many thousands will be saved from the most painful death? Or will it be maintained that animals may be sacrificed to save one man to-day, and not to save thousands at a future period? Who can calculate what sufferings have been prevented, and how many lives have been saved, by the experiments on living animals, for example, which made known the circulation of the blood; and thus gave to the practice of medicine, in many, particularly inflammatory diseases, a precision formerly unattainable." *

However well the public may feel disposed to sympathize with the brute creation, (and, here let me observe, there are none more deserving our attention,) I must call to their recollection, the old proverb, that

"Charity begins at home."

It is therefore a task imposed upon us, to render the works of

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* An Inquiry into the Vital Functions, &c. p. xlv.

the creation subservient to the purposes and benefit of the *chef-d'œuvre* of the Almighty's works—MAN.

From what I have just stated, you will perceive, Sir, that comparative anatomy, and experimental physiology, go hand in hand, and should be carefully studied, especially in this country, where there is such a scarcity of human subjects; and I only regret that this science should be spurned by medical students, and its beauties and importance not enforced by anatomical teachers.

By the laws already cited, you will be pleased to observe, that the professors of the Royal Veterinary College, are bound to promote these departments of science, and I trust they will be compelled to do so. But, should they not, I propose the formation of a Society for their encouragement, to be supported by public subscription, and the results of their labours laid before the public.

PATHOLOGICAL MUSEUMS.

FOR the encouragement of a knowledge of Pathology, I propose that all the morbid parts that can be obtained, be properly preserved, numbered, and registered, with the history, treatment, and with all the appearances observed at the *post mortem examinations*, shall be placed in a building erected for the purpose, and attached to every Hospital, Infirmary, and Dispensary throughout the United Kingdoms; also, that corresponding healthy preparations shall be made, and a Lecture, illustrative of the diseases in question, be delivered daily, at a convenient hour, to the Hospital pupils, by a surgeon or physician of the establishment. Thus will magnificent museums be formed, with valuable indexes, describing it; and Pathology carefully and practically taught: whereas, now, students are mere theorists, and are woefully disappointed when they enter practice, scarcely finding two cases of disease alike; and in some cases expose their own ignorance; and what is worse, the lives of their patients are endangered.

MATERIA MEDICA AND MEDICAL BOTANY.

THIS is another division of medical education, much neglected in Great Britain, viz. Materia Medica, and Medical Botany. 'Tis true, of late, the examiners of the Apothecaries' Hall, and the Royal College of Surgeons, have commanded these branches of medical education to be studied by the candidates for their diploma and license. Yet, when we consider the number of articles composing the Materia Medica, (many of which are indigenous to this country, particularly some of the poisonous plants, as the fox-glove, hemlock, meadow saffron, &c.) it becomes highly necessary that a thorough knowledge of the qualities, uses, and doses, of each drug, should be possessed by every practitioner, previous to his entrance into public or private practice; as from a slight deviation from the proper dose, death may be produced in a short time; and which might have been avoided by the pupil paying a proper attention to this branch of medical education in his earlier years.*

FORENSIC MEDICINE.

THE science of Medical Jurisprudence, or Forensic Medicine, although made an essential portion of medical education on the continent, is scarcely thought of by the public authorities in Great Britain; yet its utility is universally allowed. According to Dr. Elliotson, "Forensic medicine embraces all medical points upon which we may be consulted in a court of justice; questions of rape, for example, of soundness of intellect, and of murder, or attempt to murder, whatever may be its description. Medical police, is conversant about the modes of preserving or ameliorating the general health of the community; and the necessity for our opinions upon them, brings us in contact chiefly with the legislative part of the government. We are liable to be consulted when the legislature is about to enact

* The best work on this subject, for the student to consult, and which I can safely recommend, is "The Medical Botany," by Dr. Stephenson and Mr. Churchill; including, of course, "Toxicology," or a knowledge of poisonous plants: and to those about to settle in India, Dr. Ainslie's valuable work, entitled, "Materia Indica," is well worth their attention.

laws,—with the view, for example, of checking or preventing an epidemic disorder; with the view of remedying public nuisances; of putting a stop to unhealthful customs, among collections of persons; of regulating lunatic and other hospitals; and of preserving the health of the army and navy." *

As a proof, Sir, of the importance of the study of this department of medical education, I cannot do better than again make an extract from Dr. Elliotson's lecture on this subject.—"Distinct professorships were formed in Germany, France, and Italy. But Germany long outrivalled all the rest; and till about 30 years ago, the French were much behind both Germany and Italy: and only since the revolution have they made state-medicine a part of their medical education. At Paris, the candidates for degrees in medicine and surgery, have now, five examinations; and the fourth is upon Forensic Medicine, and Medical Police. In America, I believe it receives the consideration it deserves. In this country, it has been most extraordinarily neglected: only 18 years ago, a Regius Professorship of state medicine was appointed in the University of Edinburgh."

Some years back, Dr. Harrison gave one course of lectures on this subject, in Windmill Street; Dr. Gordon Smith, at an Eye Infirmary and Royal Institution; also Dr. Elliotson, at Mr. Grainger's Theatre, in Webb Street, Maze Pond; these constitute the whole of the instruction ever afforded upon state medicine in England; and, until it is compelled to be studied, its professors will be neglected, and the science fall into oblivion.

PHRENOLOGY.

"Let no man condemn a science he does not understand."—DEWHURST. †

You may perhaps, enquire and with some reason, What! make Phrenology a part of Medical Education? I answer, Yes; and state the gratification I feel at the progress the doctrine is

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* The introductory lecture of a course upon state medicine, delivered in London, by Dr. Elliotson, November 1, 1821. 8vo. p. 2 & 31.

† This *motto* was prefixed to the title page of the first edition of my "Guide to Phrenology," a new edition, much enlarged, is now in the press.

making throughout Great Britain. My reason for wishing it to be studied is this, it being the only science by which we can arrive at any thing like a satisfactory conclusion, that at last we know something of the functions of the brain. It is yet in its infancy; and I find from experience that its chief opponents are ignorant of its principles, ignorant of the structure of the brain, anatomically,* as well as phrenologically; or, if they possess any knowledge, it is only sufficient to turn it into ridicule; to these individuals I recommend the adherence to the motto I have prefixed at the head of this article, in the adoption of which they cannot *err*. Several public journals † have denounced this science in the most ridiculous and vituperative language, clearly proving by their own remarks, their ignorance and folly. You may ask, Sir, What benefit can Phrenology do to mankind? It is this, By our arriving at a correct knowledge of the functions of the brain, we may attempt the cure of mental diseases with greater safety, and on surer grounds. This has been done successfully in many instances. And as we gain more knowledge of the cerebral maladies, the more successful will be their treatment. The anatomy of the nervous system is better understood than formerly,‡ and I strongly recommend the study of the brain, as taught by Phrenologists, which is the only correct method of attaining any idea as to its real structure: to those who have not yet commenced its study, let me recommend the following piece of advice:—

"Read all the works written in favour of Phrenology, also those against it; then use careful and attentive observations; attend the lectures delivered by Dr. Epps, Messrs. De-Ville, Combe,§ Wenman, Crook, and other teachers of this science; and

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* I use this phrase, in contradistinction to the mode adopted by Drs. Gall and Spurzheim, in dissecting the brain, who pursue a different method.

† I do not hesitate to name some of these *liberal* and *scientific* Journals, viz. The Edinburgh Review (the most notorious), The Times newspaper, and Mr. Jerdan's London Literary Gazette.

‡ Dr. Gall, in illustration of the Organ of Amativeness, the seat of which is in the cerebellum, has traced a nervous communication between that organ and the organs of generation. See Sur Les Fonctions, du Cerveau, &c. &c. par F. J. Gall. M. D. &c. tom. iii. Paris, 1822, 1825.

§ This gentleman is the President of the Phrenological Society of Edinburgh, and author of several learned works on this science.

when the student has made himself master of all the opinions, *pro and con*, then let him carefully *form his opinion*," which I venture to predict, will be in favour of Phrenology ; at all events, this is the only method by which he can form it impartially. *

The great improvements recently made in it, and the interest felt by all classes, induces me to propheey, that it will not be long before professorships are endowed, and professors appointed in every University and Academic Institution throughout the whole learned world, but more particularly in Great Britain. †

LECTURES ON MENTAL DISEASES.

VERY few individuals commencing practice are acquainted with the Pathology, and treatment of MENTAL DISEASES ; this is owing to medical pupils not being allowed to attend the public lunatic asylums of Saint Luke's, and New Bethlehem.—I hope, that ere long, some arrangement will be made, for the admission of pupils to witness the practice of those establishments ; and I propose that the Physicians and Surgeons, shall daily, at convenient hours, deliver lectures on this important subject, illustrating their remarks by the cases under their care. *Secondly*, The lecturers to be remunerated by a moderate fee from the pupils, and *Thirdly*, No pupil to receive a Certificate of competency until he shall have been strictly examined by his Teachers. Thus, Sir, will the practice of Insane maladies, be laid open to the profession, generally, instead of its being confined to the practice of a few individuals, and the public will be generally benefited.

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* Guide to Phrenology, Edit 1. 1827. by H. W. Dewhurst.

† I venture to hint to the Council of the London University, that from what I have stated in the above article, there exists an absolute necessity for the appointment of a professor of Phrenology in that institution, as also to the King's College, when instituted.

There are yet, Sir, many branches of natural philosophy I have not mentioned in the preceding pages, of which medical men, generally speaking, are woefully deficient. It would far exceed my limits, were I minutely to go through the catalogue. I shall conclude this letter, by stating the imperative necessity of procuring a knowledge of the following divisions of Science. 1. Optics. Without this, how is it possible to understand the theory of vision? beautiful as is the mechanism of the eye, still it can impart no satisfactory ideas, relative to its functions, more especially the manner in which the rays of light fall upon the retina, which can be clearly demonstrated by the aid of this interesting science. 2. The powers and uses of the muscles can only be known, by reference to Mechanics, the laws of which not only apply to Myology, but more or less to every other part of the human frame. 3. The way in which the blood circulates through the body, is demonstrated by the application of the laws of gravitation, and Hydraulics. In answer to what I have just asserted, it may be said, that anatomy is taught correctly in the metropolitan schools: so it is, the structure and functions of the parts are explained, but the causes are neglected, and can only be correctly acquired by a reference to the sciences by which they are governed.

HOSPITAL ATTENDANCE AND CLINICAL LECTURES.

I have now Sir, to call your attention to another neglected and necessary part of a medical education, i. e. the student's attendance at a public hospital. At these institutions, the student is supposed to derive all his surgical knowledge; and if he is an attentive student, he will be sure to gain it: but a youth, according to the present defective system, enters the wards without the least knowledge of the terrific diseases he is sure to see. He "walks the hospital," with a crowd of pupils like himself, after the surgeon or physician; and, it is possible he may catch a few of the observations that fall from their lips; but it is impossible for a youth to discriminate between the various maladies before him, without some previous knowledge by lectorial instruction. I am sorry to say, that I have known pupils

leave St. George's Hospital, which I attended several years ago, with very little more surgical knowledge than when they entered it; this is a fact, and is truly lamentable: yet they had "*walked the hospital,*" and consequently must be a *surgeon.* But it is sorrowful to observe the effects of their ignorance in future practice; this is to be remedied by a system of clinical education.* Let the Surgeon and Physician, at a convenient hour, deliver each a lecture daily, on the cases under their care, and weekly give strict examinations to the pupils attending them; thus they will be enabled practically to detect disease in all its varying and horrifying forms; besides, another advantage will arise from the adoption of this system, the Surgeons and Physicians will impart some valuable information to the pupils, for the enormous sums they *grind* out of their pockets; whereas at present they are mere sinecures, their attendance at the Hospital occupies about an hour daily, and then they notice only the most important cases, while the others, and some of the out-patients, are attended by the house-surgeons or dressers. Again, the *post mortem* examinations should be conducted by the students themselves, in rotation; commencing with the senior student, who should demonstrate the appearances presenting themselves to the medical attendants of the institution, and his brother pupils; thus will pathology be forced on his attention, and he will feel himself better qualified for future practice.

The examination of the students by the proper authorities, is the last that I shall trouble you with, on the present occasion, and also the most important—as their license constitutes him, "Surgeon or Apothecary," and, perhaps, both. The time for the examination of each pupil seldom exceeds more than 15 minutes, at the Royal College of Surgeons; and 30 or 40, at the Apothecaries' Hall; and, if they are fortunate enough to obtain their diplomas, they sally forth, as Mr. Hume once expressed himself in the House of Commons,

"*Duly authorised to kill and slay His Majesty's subjects.*"

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* Mr. Brodie, I am happy to say, lectures every Thursday at St. George's Hospital: it would be more to the students' advantage were it oftener. However, let the other medical officers fill up the remainder of the week by lecturing daily. They are fully competent, and there are plenty of cases.

With regard to the adoption of a better method of examination, I cannot do better than call your attention to a paper by Dr. Kind,* describing the method pursued in the German Universities; I conclude, by assuring you, that I am sorry to see other countries possessing better medical practitioners than Great Britain,—the principal fault being in the existence of a system, patronized by the public, and which is universally allowed to be injurious to the community at large.

I have endeavoured to lay before you an impartial statement of the impediments, defects, and abuses now existing in the present system of medical education; and, I trust you will use your endeavours for their correction and removal. The plan just laid down, would, if adopted, be the most beneficial of any I have yet seen suggested.

I have the honour to remain, Sir,

Your most obedient and faithful servant,

H. W. DEWHURST.

Surgeon, &c.

AUGUST 8, 1828,
PRINTING-HOUSE-SQUARE, APOTHECARIES' HALL, LONDON.

P. S. With respect to the impediments thrown in the way of the cultivation of medical knowledge, by the Royal Colleges of Physicians and Surgeons, in Great Britain and Ireland, I shall not here advert to, in consequence of these subjects having been already before the House of Commons, and the Public, which have caused a reformation of some of the abuses; while, at the same time, other impediments have been thrown out by these learned bodies in the cultivation of "*sound anatomical and chirurgical knowledge.*"—A statement of these injurious proceedings being already published, and also laid before parliament, I shall therefore conclude, by referring you to the various volumes of "The Lancet," and to "An Exposition of the State of the Medical Profession in the British Dominions, and on the Injurious Effects of the Monopoly by Usurpation of the Royal College of Physicians in London," which will give you every necessary information.

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* Extracted from No. 220 of the Lancet. See Appendix, No. 3.

APPENDIX,

No. I.

(Copy.)

ROYAL COLLEGE OF SURGEONS IN LONDON.

Regulations of the Council relating to the Age and Professional education of Candidates for the Diploma of the College.

I. The only schools of anatomy, and physiology recognized, are *London*, *Dublin*, *Edinburgh*, *Glasgow*, and *Aberdeen*.

II. Attendance upon the surgical practice of an Hospital, will be recognized, provided such Hospital contain, at least, one hundred patients.

III. No person under twenty-two years of age shall be admitted a Member of the College.

IV. The following Certificates will be required of Candidates for the Diploma of the College:

1. Of having been engaged six years, at least, in the acquisition of professional knowledge:

2. Of having regularly attended, three or more winter-courses of anatomy and physiology; and two or more winter-courses of dissections and demonstrations; delivered at subsequent periods:

Two courses of anatomy and physiology in Edinburgh or Dublin, which are of six months' duration, and the accompanying courses of dissections and demonstrations, will be considered as equivalent to the foregoing attendance.

3. Of having regularly attended two or more courses of lectures on the principles and practice of surgery; one of which shall have been delivered in a recognized school of anatomy.

4. Of having also attended the following lectures, viz.

Two courses on the theory and practice of physic, of three months each, or one of six months.

One course on materia medica, and botany.

Two courses on chemistry of three months each, or one of six months.

Two courses on midwifery of three months each, or one of six months.

5. And of having attended, during the term of, at least, one year, the surgical practice of one or more of the following Hospitals; viz. St. Bartholomew's, St. Thomas', the Westminster, Guy's, St. George's, the London, and the Middlesex in London: the Richmond, Steeven's, and the Meath in Dublin: and the Royal Infirmaries, in Edinburgh, Glasgow, and Aberdeen—or during four years the surgical practice of a recognized provincial hospital, and six months, at least, the practice of one of the above named hospitals in the schools of anatomy.

V. Candidates under the following circumstances, of the required age, and who have been engaged five years in the acquisition of professional knowledge, will be admissible to examination, viz.

Members, or licentiates in surgery, of any of the legally constituted Colleges of Surgeons in the united kingdom:

And Graduates in medicine of any of the Universities in the united kingdom, provided they have attended lectures, the practice of an hospital, and performed dissections, as required in regulation IV.

VI. The required Certificates shall express the dates of the commencement and of the termination of attendance on each course of lectures, and dissections; and also of attendance on hospital-practice.

VII. The required Certificates shall be delivered at the College ten days before Candidates can be admitted to examination.

By Order:

EDMOND BELFOUR, *Sec.*

5th Day of January, 1828.

No. II.

(*Copy.*)

APOTHECARIES' HALL.

Regulations for the Examination of Apothecaries.

The Court of Examiners chosen and appointed by the Master, Wardens, and Assistants of the Society of Apothecaries, of the City of London, in pursuance of a certain Act of Parliament, "For better Regulating the *Practice* of Apothecaries, throughout England and Wales," passed in the 55th year of the reign of His Majesty King George the Third, apprize all persons whom it may concern :—

That every Candidate for a Certificate to practice as an Apothecary, will be required to possess a competent knowledge of the Latin Language, and in compliance with the 14th and 15th sections of the said Act, to produce Testimonials of having served an Apprenticeship of *not less* than *five years* to an Apothecary; of having attained the full age of *Twenty-one Years*, and being of good moral conduct.

N. B. Articles of Apprenticeship, where such are in existence, will be required; but, in case such Articles shall have been lost, it is expected that the Candidate shall bring forward very strong testimony to prove that he has served such an Apprenticeship as the Act of Parliament directs.

He is also required to produce Certificates of having attended *not less than*—

One Course of Lectures on Materia Medica and Medical Botany:

One Course of Lectures on Chemistry:

Two Courses of Lectures on Anatomy and Physiology:

Two Courses of Lectures on the Theory and Practice of Medicine: these last to be attended *subsequently* to the Lectures on Materia Medica, Chemistry, and to one Course, *at least*, of Anatomy.

N. B. No Testimonial of Attendance on Lectures on the Principles and Practice of Medicine, delivered in London, or within Seven Miles thereof, will render a Candidate eligible for Examination, unless such Lectures were given, and the Testimonial is signed by, a Fellow, Candidate, or Licentiate, of the Royal College of Physicians.

And a Certificate of Attendance for *six Months, at least,* on the *Medical Practice* of some Public Hospital, or Infirmary, or for *nine Months* at a Dispensary: such attendance to commence *subsequently to the termination* of the first course of Lectures on the *Principles* and *Practice* of Medicine.

N. B. Physicians' Pupils, who intend to present themselves for Examination, must appear personally at the Beadle's Office, in this Hall, and bring with them the Tickets, authorizing their Attendance on such Practice, as the commencement thereof will be dated from the time of such personal Appearance.

The Regulations relating to the order of succession in which the Lectures on the *Practice* of Medicine, and the *Medical Practice* of an Hospital, or Dispensary, are to be attended, are designed to apply to those Students only who shall commence their attendance on Lectures on or after the 1*st* of *February*, 1828; and all such persons are particularly requested to take notice, that unless they shall have strictly complied with such order of succession, they will not be admitted to an Examination.

In addition to the Course of Study above required, and which is indispensably necessary, the candidates are earnestly recommended to attend one or more Courses of Lectures on Midwifery, and the Diseases of Women and Children, on the latter of which subjects, as an important part of *Medical Practice,* they will be examined.

The Court have determined, that the Examination of the Candidate shall be as follows:—

1. In translating *grammatically* parts of the Pharmacopœia Londinensis, and Physicians' Prescriptions.

Should any doubt arise as to the Candidate's possesing a competent knowledge of *Latin,* he will be required to translate a

passage, or passages, from some one of the easier Latin Authors.

N. B. The Court are anxious to impress upon Candidates a conviction of the necessity of a knowledge of the Latin Language, because they have had the painful duty imposed on them, of rejecting several persons, entirely from the deficiency in this important pre-requisite of a Medical Education.

2. In Chemistry.
3. In the Materia Medica and Medical Botany.
4. In Anatomy and Physiology.
5. In the Practice of Medicine.

Notice.—Every Person intending to qualify himself under the regulations of this Act, to practice as an Apothecary, must give notice in writing, addressed to the Clerk of the Society, on or before the *Monday* previously to the day of Examination; and must also at the same time deposit *all* the required Testimonials at the Office of the Beadle, at Apothecaries' Hall, where Attendance is given every day (except Sunday) from *Nine* until *Two o'Clock*.

The Court will meet in the Hall *every Thursday*, where Candidates are requested at attend at Half Past One o'clock.

By order of the Court,

JOHN WATSON, *Secretary.*

London, Sept. 14, 1827.

Information relative to the Business of this Court may be obtained of Mr. Watson, at his residence, 43, *Berners Street, between the hours of* 9 *and* 10 *o'Clock every morning* (*Sunday excepted.*)

*** *It is expressly ordered by the Court of Examiners, that no Gratuity be received by any Officer from any Person applying for Information relative to the Business of this Court.*

No. III.

ON MEDICAL EDUCATION IN THE GERMAN UNIVERSITIES.

By C. M. Kind, Esq. M.D.

OF WEST PLACE, FINSBURY SQUARE.

(Copied from the Lancet.)

The peculiar interest which, at the present moment, seems to be excited by the plan of medical education in the Continental Schools, in comparison with that followed in Great Britain, has induced me to draw up the following concise account of the manner in which the study of medicine is prosecuted in the *German Universities*. All comparative remarks will be carefully avoided, and it will be left entirely to the readers to decide, whether the numerous points in which it differs from the method adopted in this country, are really so advantageous and indispensable, as they are universally considered to be in Germany.

Before entering into an exposition of the manner in which medical education is there conducted, I deem it necessary to make some general observations, which will easily account for several differences between the two methods.

I shall not examine whether the study of medicine, surgery, and midwifery, ought to be separated, this question having been long ago and unanimously answered in the negative,—not only in Germany, but on the whole continent. The practice of the three medical branches is, indeed, separated in Germany, but only because a full theoretical knowledge of, and a practical skill in them, cannot be found combined in one individual; still less can it be expected, when the practitioner combines with these the profession of an apothecary, nay, even the business of a chemist and druggist, that he should possess a sufficient knowledge of *any* of his various vocations. For this reason, with us, apothecaries are not allowed to visit patients, and their business is confined to the preparation of medicines prescribed by the practitioners. This circumstance, extending likewise over almost the whole continent, accounts for the scarcity of

apothecaries, compared with the number of physicians and surgeons, while the contrary obtains in Great Britain.

One of the most beneficial effects arising, in some degree at least, from the nondivision of the study of the three medical branches, is the perfect equality of *all* practitioners; all are entitled to the same pretensions and rights, and not the least superiority of rank or consideration in society is attached to any one branch. This equality also depends in a great measure upon the circumstance of all practitioners having received a classical education.

From what has been said of the combined study of medicine, surgery, and midwifery, it will be inferred, that the propriety of male attendance in all cases of delivery is universally admitted; there are, indeed, in all German states, public institutions, in which midwives are taught the elements of their profession; every midwife is carefully examined, before she is allowed to practice; her license is confined to the normal cases of delivery; and, on the least deviation from the natual process, she is compelled to require the aid of an accoucheur, under pain of the forfeiture of her license: yet, notwithstanding these measures in favour of the professional education of midwives, their practice is entirely confined to the lower classes.

The following are the ordinary professorships established in almost all German universities: anatomy, physiology, chemistry, botany, pathology, and therapeutics, and surgery. These professorships are separate, and it rarely happens that two of them are held by one individual. The ordinary professors form what is called the medical faculty, to which, in point of medical law, the highest authority is attached. They form the board of censors, inspect the hospitals, examine the apothecaries' shops, &c. A certain number of their lectures is public and accessible to every student gratuitously; private lectures are also given by them. Besides the ordinary professors, there are extraordinary ones of the history of medicine, of general pathology, of comparative and morbid anatomy, &c. and private lectures on all medical sciences, as will appear from an extract from the catalogues of lectures given in the universities of Leipzig, Goettingen, Berlin, and Heidelberg:—

NUMBER OF LECTURERS.

	LEIPZIG. Summer Course of 1827.	GOETTINGEN. Winter Course of 1827-28.	BERLIN. Summer Course of 1827.	HEIDELBERG. Summer Course of 1827.
On the History of Medicine	2	—	1	—
Anatomy	4	4	3	2
Physiology	4	3	4	1
Botany, and on the Physiology of plants	3	2	3	4
Natural Philosophy	1	1	3	1
Chemistry	4	2	4	2
Nosology	8	6	12	2
Psychical Medicine	1	—	1	1
Dietetic	2	—	1	—
Pharmaceutics	2	1	4	3
Materia Medica	2	4	5	2
Therapeutics	5	5	8	2
Surgery	3	2	5	1
Midwifery	1	1	3	1
Clinic	4	4	6	3
Forensic Medicine	1	1	4	1

There is, in almost every university a large building, in which the lectures are given, and which contains, besides an appropriate number of lecture rooms, the anatomical, zoological, mineralogical collections, chemical and physical laboratories, library, &c. The collections are destined for the lectures; they are also open during certain hours of the day to the students, and the public at large. The different lectures being given in one building, the student is enabled to attend them without any loss of time; besides, by agreement amongst the professors, the most important lectures are given at different hours, in order to prevent collision.

Whoever wishes to enter at the university, must produce a certificate of his having received a classical education. This regulation is *most rigorously* enforced in all universities; and as they alone contain the schools of medicine, the assertion that all practitioners receive a classical education, is sufficiently confirmed.

Every student is at liberty to study what, and how he pleases; nor is any period fixed for the study of his profession, the admission to practice depending entirely upon the result of his

examinations. The time varies from four to five years; less will not be sufficient for the acquirement of a solid knowledge of the various sciences generally attended to, nor indeed for passing the examinations, an account of which shall presently be given. The following prospectus of those lectures which are generally frequented by the medical student during the period of his studies, may be considered as exhibiting the order which is universally deemed best, and consequently adopted by most of the students:—

1 Semest.	2 Semest.	3 Semest.	4 Semest.	5 Semest.	6 Semest.	7 Semest.	8 Semest.
Natural Philosophy, Chemistry, Botany.		Pharmaceut. Nosology.			Medical Clinic, Obstetric Clinic.	Forens. Medic.	
Anatomy.		Therapeutics, Morbid Anatomy. Midwifery.			Surgical Clinic. Course of operations on the dead body. Policlinics, Medical, surgical, and obstetrical.		
Dissections, Comparat. Anat. Physiology.		Surgery.					

The lectures are delivered in summer * and winter courses, which together take up a space of about nine months and a half.

I shall now shew the method in which the lectures on the various branches are delivered, noticing those peculiarities only, which distinguish it from that adopted in Great Britain.

The lectures on *natural philosophy* and *chemistry* are given from four to six times a week, the latter sometimes in a half yearly course; but in this case, they are usually attended twice over. I need hardly mention, that those parts of physics and chemistry which deserve the peculiar attention of the medical student, as electricity, optics, animal chemistry, &c., are often separately taught, and that all these lectures are illustrated by numerous experiments. Not unfrequently instruction, relative to the use of the physical and chemical instruments, is given in a detached course of lectures.

Botany.—The systematical part is generally taught in a summer course, lectures being given from four to six times a week;

* It is to be regretted, that the Royal College of Surgeons will not receive certificates of attendance on Anatomical Lectures, delivered in the summer; I hope they will consider this matter, and not subject the sedulous pupil to four months' idleness.

phytotomy and physiology of plants during the winter. Besides the use of the botanical garden belonging to the university, in which the summer course is usually given, considerable instruction is derived from frequent excursions into the country made by the lecturer with his class; thus, by reference to nature, the student is best taught to know, to distinguish, and to compare the characters of the different plants, to consider the nature and situation of the soil, its chemical composition, &c. In this manner the lecturer is furnished with a constant supply of interesting and practical remarks upon his subject.

The lectures on *anatomy* are attended during from one to two years. The perusal of the prospectus will give rise to the question, whether lectures on anatomy, unassisted by dissections, ought to be given at all, and whether these lectures ought to be separated from those on physiology. Experience decides in the affirmative, and speaks in favour of the course adopted abroad. A half yearly, sometimes a yearly, course on anatomy, precedes, and serves as an introduction to the dissections, which evidently cannot be equally instructive, without a previous general knowledge of anatomy. In this elementary course, anatomy is taught according to its division into osteology, syndesmology, myology, angiology, splanchnology, and neurology. These lectures are illustrated by the preparations contained in the museum of the university, by wax models, plates, and by demonstrations on the dead body. After these lectures, the second course is attended, which might be called a course on combined or surgical anatomy, as its principal object is to teach the natural situation of, and the relation between, the different parts of the body. At this period, the student enters the dissecting-room, and attends it daily during two semesters. Fortunately, hardly any prejudice exists in Germany against post-mortem examinations and dissections, and there is almost a constant supply of subjects from the hospitals, the poor, and workhouses, &c. Many persons of the lower classes even dispose of their bodies during life; suicides and executed criminals are also brought into the dissecting-room. By these means there is but seldom a scarcity of subjects; and it may be safely asserted, that in Germany every student may dissect almost as

much as he chooses. The dissections are conducted in the following manner: the demonstrator of the anatomical theatre, who is appointed to take care that there is a constant supply of bodies, divides the subject into the head, thoracic viscera, abdominal viscera, genitals, upper extremities, femora and crura, so that one subject is distributed amongst ten individuals. Thus, during one semester, each part is many times dissected by the same student. The demonstrator, who is always a most skilful anatomist, (as at Leipzig the well-known Bock, and at Berlin the celebrated Rudolphi,) superintends and directs the dissections.

Comparative Anatomy.—It must be confessed, that till within the last ten years this branch has been considerably neglected by those who have the superintendence of the German universities: even by private lectures it was taught in a very few schools only. Since this period, however, an extraordinary professorship of this science has been founded in most universities; in all of them it is extensively taught, and the various governments, fully aware of its importanoe to the study of medicine, most liberally supply the lectures on comparative anatomy, with the best means for calling to it the attention of the medical students. A cursory review of what has been done in Germany, during the last ten years, with respect to comparative anatomy, will exhibit the beneficial results of this encouragement to the study of general anatomy. The same may be said of the lectures on mineralogy and natural history, which, in all universities, are numerously attended by the medical students, although they are not generally considered indispensable.

Physiology.—These lectures are invariably separated from those on anatomy, and always follow the elementary course of the latter science. It is clear, that without a previous study of anatomy, physiology cannot be understood; it is, moreover, to be feared, that if anatomy and physiology were taught together, the study of the former would in most cases be neglected, the interest of the student being naturally more excited by the latter. The references to anatomy incidental to the physiological lectures, accordingly are considered as a repetition

and application of what has been already taught. Those parts of physiology which deserve most attention, are separately delivered, and sometimes, as is done by Tiedeman at Heidelberg, experiments on living animals are combined with the physiological lectures.

Although the medical practitioner has nothing to do with preparing and compounding medicines, the knowledge of *pharmaceutics* is deemed indispensable, and the lectures on it are accordingly regularly attended. Very often separate lectures are given on the manner of prescribing, on the best method of examining the medicines contained in the pharmacopæia, on medical, chemistry, toxicology, &c.

Pathology.—It may be mentioned here, that the German school divides this branch into general and special pathology. The former contains a general view of disease, its classification and its stages, its external and internal causes, its symptoms; not in the order in which they are met with, but separately and independently of each other, while the latter embraces the special descriptions of the different diseases—*nosology*. It appears from the prospectus, that the study of pathology occupies a considerable period, and from the comparative number of lectures, that several courses on its various branches are attended. Nosology is of course frequently taught without therapeutics; the latter never without the former.

The lectures on *morbid anatomy* are given in the anatomical theatre, the contents of which are destined for the use of the lecturers; the collection is besides almost daily open for the inspection of the students. Morbid anatomy is constantly separated from anatomy, from the same reason as physiology is.

The principal object of the *clinic*, to which our attention is next called, is to *introduce the medical student into the field of observation, to lead him from theory to practice.* Here he has not only an opportunity of observing, but is taught *how* to observe: under the superintendence of experienced men, he *acts*, for the first time, as a practitioner; here he is instructed how to *examine*, is accustomed to *found his diagnostic on reason carefully* weighed, and to *determine* his treatment upon rational indications; he is led to compare, to distinguish, to infer, con-

templating Nature herself. This part of medical education, highly advantageous as it is, is *entirely* wanting in the medical schools of Great Britain, as will fully appear from a concise account of the manner in which the clinic is conducted in Germany.

We need hardly say, that it is divided into medical, surgical, and obstetrical clinic, (to which, in some universities, a clinical course of psychical clinic is added,) and that, consistently with the non-division of the study of medicine, surgery, and midwifery, these clinics are visited by every student. The number of students at each clinic seldom exceeds twenty; were the number greater, they would be deprived of the principal requisites for clinical instruction, viz. of the opportunity of seeing and hearing. The number of clinical patients is also generally limited to 16 or 20; it is evident, that a greater number of cases would only confound those who see them for the first time, and who are to be accustomed to careful observation. The clinic is generally held in the town hospital, to which the clinical professor in most cases is appointed physician; at all events he is at liberty to select those cases from the hospital patients, which seem to him best adapted for clinical instruction. It is clear, that at the beginning of the course he prefers the most common cases, as rare and curious complaints would only tend to perplex the student. At first it is even advisable not to bring too great a variety of cases into the clinical wards; several of the same nature will be more fit for the observation of the pupil, than twenty of different diseases. The clinical wards are visited daily for about two hours, and no remission or interruption on the part of the professor, or on that of the students, is permitted, as it would prove greatly injurious to the principle of the clinic, viz. to accustom the young practitioner to strict and steady observation. The time of the day is of course optional; from eight to twelve is usually preferred, in order to give the student time to visit his patients once more in the course of the afternoon. The clinical instruction being given at the bed-side, it is most advantageous to deliver it in Latin; however, this is done at but few universities: at Leipzig, which undoubtedly possesses the best clinic now in

existence, it is given in excellent Latin by that distinguished individual, Clarus. At some universities, the clinical students are divided into *auscultants* and *practicants*, the former being admitted to the clinic, but without practising, which is done by those only, who have entered the second class. This division is very judicious; it prepares the student for his practical exertions, and prevents much loss of time. Previously to his admission to the clinical class, he must produce certificates of his having attended the necessary lectures, and not unfrequently must even first undergo an examination.

At the head of each bed in the clinical ward, there is a board with the following inscription;—

NOMEN MORBI.

Nomen ægroti.	Ætas.	Tempus, per quad laborav. ant. admiss. in noscvm.	Remedia. Interna, Externa.	Regimen.

In several clinics, an account of the principal symptoms, &c. is added.

The clinical instruction is delivered in the following manner:—At the appointed hour, the professor enters the clinical wards, surrounded by his pupils. If a new patient has been admitted, he immediately proceeds to his bed, and calls upon the pupil, whose turn it is, to examine the patient before himself and the rest of the students. During this examination, the professor constantly bears in mind, that by the clinic the student is to be introduced, as it were, into his practical career. He therefore rigorously insists on a concise, but most accurate examination; he moreover accustoms the student to adopt always a consistent order in his investigation; he convinces him of the uncertainty of our diagnosis, and thus inspires him with the most ardent desire to penetrate into the nature of disease. The student begins with the name, the age, and the business of the patient, he inquires into the diseases under which he previously laboured, into the cause and commencement of the present one, &c., in short, he investigates what he thinks worthy his attention, and necessary for the determination of the diagnosis. During this examination, the professor remains a quiet observer,

interrupting it only when necessary questions are omitted, when it becomes prolix and tedious, or destitute of order. When the student thinks he has sufficiently examined the patient, he gives his opinion as to the diagnosis, detailing those characteristic symptoms by which he formed it. The diagnosis being ascertained, he proposes his indications of cure, and founds on them his plan of treatment, into all the particulars of which he enters. These different topics always furnish ample subjects for instructive conversation. In the afternoon the student visits his patient again, if it be an acute case, and any alteration may be anticipated within so short a period. The next day he makes a concise and accurate report of the case, and of the treatment adopted, as well as of the state in which he found the patient at his second visit. He again examines the patient, and then a discussion ensues respecting the changes which have happened, and may require an alteration of treatment. In this manner the clinical course is continued; acccording to the importance of the case, it serves more or less frequently as the subject of the professor's observations, while the student, who is intrusted with the care of it, continues his visits, as well as his examinations, daily. During the treatment, he keeps an accurate journal in Latin, which, after the termination of the case, is deposited in the clinical wards, after having been read and commented upon by the professor before the class. Should the case end fatally, an examination of the body is made by the student in the presence of the professor and the pupils, and careful minutes taken in the results. The comparison with the diagnosis previously given, the possibility of cure under a different plan of treatment, the various alterations, &c., will in every case give rise to an instructive discussion, under the management of the professor, who in general, during the whole treatment of the case, *rather superintends than acts.*

The great advantages of such a method of clinical instruction are obvious. Besides the extensive information which it imparts to the student, it forms the habits of the future practitioner, and protects him against many errors, which he can hardly avoid, if he proceeds at once from the lecture-room,

or even from walking a hospital, to his own practice, from passive intuition to active pursuits.

Although all the clinical cases are under the constant superintendence of the professor, and, properly speaking, entirely treated by himself, the student always feels a superior interest in those which, more apparently than really, are placed under his care; it is, therefore, one of the constant objects of the professor to cherish this interest. The mistakes of the young practitioner are accordingly corrected with as much forbearance as possible; his opinion as to the state of the patient, and his proposals concerning the plan of cure, are not treated with open neglect, and the professor introduces his own plan of treatment, however different from that recommended by the pupil, by way of amendment, rather, than by flatly opposing his authority to the errors of inexperience. I am convinced, and every body who has had the benefit of a clinical education will concur with me, that the attention paid by the pupil to his own cases, is not a little increased by the pleasing idea, that he pursues for the first time his vocation as a practitioner. It depends upon the ingenuity of the professor to carry into effect his own plan of treatment, without checking the zealous interest of the student. These attentions will not appear trifling to him who considers the various mistakes and difficulties, to which the young practitioner is liable, when he first enters his practical career, and which, if pointed out and disclosed in an incautious manner, may easily deter him from pursuing it, and fill him with distrust and despair of success.

Exactness and accuracy in examinations are further most rigidly insisted upon, as the more experienced practitioner but too soon and too frequently relaxes in them. Thus if the strictness of the clinical professor cannot perfectly guard the future practitioner against this fault, his admonitions will at least prevail upon him to persevere in accurate examinations at the beginning of his practice. Next to accuracy, a strict order and consistency in the manner of examining, is always attended to, which is the more necessary, as the first examinations cannot be otherwise than vague, incoherent and precipitate. The special order in which the examination ought to

proceed, will, of course, be very different; sometimes the stages of the diseases affording the best guide, in other cases the symptoms being more properly investigated, according to the anatomical arrangements; as for instance, first, those arising from the vascular system, the pulse, pulsation of the heart, other pulsations, heat, fevers, congestions, hæmorrhages, &c., then those belonging to the nervous system, &c.; in other cases, again, it is evident, at first sight, from what organ all the symptoms proceed, then the state and function of this may be first examined, and afterwards the condition of such organs and functions as are most connected with it, &c.

One of the greatest advantages of the clinic, consists, undoubtedly, in the student's performing all his duties under the superintendence of an experienced physician, from whom he acquires the difficult art of examining, and the habit of exercising his judgment in forming diagnoses, and of founding his plan of treatment on indications. The student not only prescribes the remedies, but details the manner in which they are to be prepared, and explains his views as to their action; he reports the cases under his care, and accustoms himself to keep an accurate journal of them; in short, he begins to act in his professional capacity, but always under the eye of a skilful practitioner, who has the best opportunity, not only of guarding him against many errors, common to young practitioners, who have not had the benefit of clinical instruction, but of cautioning him against the usual fault of the experienced, that of following an empirical routine. It may be asserted, that the pupil who has devoted his whole attention to his clinical studies has important advantages over those who have not enjoyed this part of a medical education, for the deficiency of which, even considerable experience cannot make amends. How much time is lost, before the practitioner who is left entirely to himself learns the art of examining, before he begins duly to value the result of it, and to distinguish between similar symptoms? Does he not pass many years of practice in gaining, by his own observation, that knowledge, which the clinical student acquires during the course of his studies? Such are the advantages of the clinic; and it may be readily imagined,

that a patient will prefer the young practitioner, who has attended it, to one who has visited the hospitals as a spectator only.

It is evident also, that the comparative view of the various cases, of their different stages, &c., must furnish the clinical professor with a never-failing source of interesting and instructive remarks on every branch of medical science; the course of the examination, the external appearance of the patient, &c., will suggest to the lecturer many observations, which might have been omitted, if the history of the case had been delivered in a lecture-room, and which being made at the patient's bed side, will be much more deeply impressed on the mind of the student, who is, moreover, early induced to reflect upon the cases before him, to resort to analogy; in short, to combine observation with reflection. This I consider a very important object of the clinical exercises, and it is the more indispensable, as the practitioner is but too much inclined to confine himself to bare observation and experience, unaided by reflection.

Another great advantage is, that the professor combines, with the clinical treatment of the cases, and with his remarks upon them, occasional examinations of the student on such subjects as they may suggest. He enters into the most minute details, and tries the student's aquirements, in all branches of medical, knowledge. In short, he embraces every opportunity of making him conversant with all the various and manifold duties of his profession.

Besides these exercises in the clinical wards, the students are allowed to attend the practice of the clinical professor in the hospital; it appears, however, that the observation of such a great number of cases will be useful to those students only, who have already, for some time, partaken of the instruction in the special clinic.

All that has been said about the medical clinic, of course applies to the surgical and obstetrical; we shall examine the peculiarities of these two species of clinic, after having detailed the manner in which surgery and midwifery are studied.

The lectures on *surgery* are generally delivered in an annual course, which is invariably attended by every medical student. To the operative part of it, a course of operations on the dead body is added. A concise account is given of the history of each operation, with a description of the various methods of performing it, and the instruments employed are exhibited to the students. The operation is then performed by the professor, and after him by the pupils. I need hardly mention, that this course commences with the elements of operative surgery, and the easier operations, with the manner of holding the knife, &c., with simple incisions, the application of the various sorts of sutures, of ligatures, &c., and then proceeds to the more complicated operations. This order is, of course, often disturbed by the subject being more or less fit for the one or the other operation. Every operation is several times performed by the same student, in order to exercise his manual dexterity as much as possible. Besides this course on surgery, its various branches, as ophthalmiatric, the art of bandaging, &c., are separately taught. The lectures on the latter branch are illustrated by exercises on persons hired for that purpose. All these lectures are attended several times by those who intend to practice surgery especially.

It is clear that in the *surgical clinic* the principal attention is paid to the external appearances, these being generally more important than the verbal examination, for the diagnosis. In some surgical clinics it is even made a rule, that in these cases, where sight and touch are sufficient to distinguish their nature, as in various diseases of the eye, ulcers, &c., the student is not allowed to make a verbal examination previous to giving his diagnosis. This practice, which is constantly adopted by Rust in the Charité of Berlin, certainly tends best to impress the diagnostical appearances on the mind of the student, and accustoms him to judge especially by sight and touch. The necessary operations are performed by the professor the presence of the class. Those pupils who have for a longer period frequented the clinical exercises, and the operative course of surgery, are intrusted with the performance of the easier operations; in some clinics, as in that of Gräfe,

of Berlin, almost all the operations are performed by the older pupils. The professor assists the young operator, or stands at his side and watches him closely, in order to prevent any accident. Moreover, it is obvious, that important operations are performed by those pupils only, whose skill and knowledge entitles them to such a proof of confidence from the professor. I attended Gräfe's surgical clinic during about six months, and never witnessed any ill result from the most complicated operations performed by the pupils of this excellent institution.

Midwifery is taught in a half-yearly course, from four to six times a week. These lectures which are attended by all medical students, are followed by an operative course on the figure, and the *obstetrical clinic*, which is conducted in the following manner :—

The pregnant woman is admitted into the lying-in institution from eight to fourteen days previous to the probable time of her delivery; she undergoes a careful examination, the result of which is registered in the comparative tables of the establishment. During the time before her delivery she affords the students the opportunity of making *examinations per vaginam*. Every woman is examined twice a week by about eight pupils, who subsequently must give an accurate account of the state of the genitals and the pelvis, of the child's position, and of the probable time when parturition will take place, &c. The professor then makes an examination himself, in order to ascertain the correctness or incorrectness of the pupils' statement. The great importance of these examinations clearly appears from the undeniable fact, that the student, who for the first time examines a pregnant woman, feels and distinguishes scarcely any thing at all, and that very frequent exercise only can lead him to certainty. It is surprising that in any country persons should be admitted to the practice of midwifery, who are almost entirely destitute of this most indispensable part of medical education, and that ill judged delicacy should be the cause of such a lamentable deficiency. The students of the obstetrical clinic are divided into auscultants and practicants; those belonging to the latter class must have visited the clinic as auscultants for six months. Every birth is attended by two students

of each class. When the symptoms of approaching delivery appear, the woman in labour is brought into the parturient's ward, and the four students whose turn it is, are immediately sent for. From that moment they do not leave the parturient till the birth is completed. During the whole process of delivery, the two practitioners afford the necessary manual assistance, while the auscultants are only allowed to examine at proper intervals. From time to time the professor, who always lives in the hospital, or a confidential assistant, visits the parturient's ward, in order to be informed of every circumstance respecting the labour and its management by the students. Should any irregularity take place, the students immediately request his assistance. During all this time the clinical instruction is continued, and the professor always first hears the opinion of the student before he gives his own. The easier operations (in some obstetrical clinics even the application of the forceps and turning) are performed by the students in the preence of the professor. In those clinics where the professor performs the operations himself, the other students are sent for in order to witness it.

At the next visit, which like that in the medical clinic is made daily by the professor and his pupils, the practicant, who has had the management of the labour, gives an accurate report of its whole process, from its first beginning to the expulsion of the placenta. The clinical treatment then proceeds in the same manner as was shown in the description of the medical clinic.

We can assert, that the public is so little prejudiced against those lying-in hospitals, which serve as obstetrical schools, that during the space of a year the student has always numerous cases to attend.

A course on mental diseases, and their treatment, is given in almost every university; visits to the lunatic asylum, and sometimes the clinical treatment of a certain number of cases, serve to illustrate these lectures.

We cannot omit mentioning that the interest which the pupil attaches to the clinic is not a little increased by the annual publication of clinical reports. To this custom, which very

generally prevails at the German universities, the medical public is moreover indebted for the origin of such excellent practical works, as those of Stoll, Frank Reil, &c. and of the more modern but not less distinguished productions of Clarus, Puchelt, &c.

An adequate number of those students who have duly attended the clinics, are admitted to the *policlinies*. In these, poor patients are treated by students, under the superintendence of an experienced and publicly appointed physician. The patients are distributed amongst the students, who, according to the greater or less importance of the case, are directed to visit them once a day or oftener. At a certain hour daily, the students meet the managing physician, and give an accurate report of their cases and the treatment adopted. The prescriptions and other orders are submitted to the physician, who confirms or changes them according to his views, which he invariably explains to the students. New cases are always visited by the physician himself, in order to ascertain whether the diagnosis of the student is correct. If the young practitioner has the least doubt of his own sufficiency, and if it is a dangerous case, the occasional attendance of the managing physician is requested.

It naturally results from the medical police of Germany, that much more attention is paid to the study of *forensic medicine*, than in this country; the numerous and excellent works published in Germany on this interesting branch of medicine strongly confirm our assertion. The half yearly lectures are attended, not only by all medical students, but also by the greater part of the students at law. Practical exercises are added, which consist in judicial post-mortem examinations, in reporting medical visa reperta, and their results in point of law, &c.

To these studies of the medical student at the German universities, the *examinations* which he has to undergo previously to his being admitted to practice, are proportioned. They are calculated to enable the examiners to determine, whether the candidate is competent to enter on his practical career or not; and the former consider due strictness so much their duty to-

wards the public, that the rejection of a candidate is by no means of unfrequent occurrence.

The manner in which the examinations are carried on in the universities of Leipzig and Berlin, is as follows:

At Leipzig, the student usually, after having studied two years, applies to be admitted to the first examination. For this purpose, he must produce certificates from the professors, of his having attended the lectures on natural philosophy, chemistry, botany, anatomy, physiology, general pathology, and of having dissected. The dean of the medical faculty then gives him three aphorisms of Hippocrates, which he must comment on in Latin. He is then *for four hours examined in Latin, on the above-mentioned branches.*

On his applying to be admitted to the second examination, (examen pro praxi,) certificates are required of his having attended the lectures on nosology, materia medica, therapeutics, midwifery, surgery, and the medical and surgical clinics, with testimonies of the respective professors, that they consider him worthy to be admitted to the examination, *which is also in Latin, and lasts four hours.* Should the candidate not have studied at the university of Leipzig, he must during four weeks, take charge of two patients in each clinic, under the superintendence of the clinical professors.

These examinations apply to every candidate for the admission to practice, without any regard to the individual branch which he has chosen. If he intends to practice midwifery, he has to undergo *an obstetrical examination, in which he must perform a few operations on the figure.* After this ordeal, the candidate is at liberty to take his degree of doctor medicinæ et chirurgia, the ceremony of which we omit detailing.

At the university of Berlin, the examinations are still more complicated. No certificates are required from the professors, and all depends upon the result of the examinations.

1. *Extemporale Anatomicum.*—The candidate takes from an urn a ticket bearing the name of some organ. The preparation is then given to him, and after ten minutes he must demonstrate it.

2. *Extemporale Chirurgicum.*—The same takes place with re-

gard to a surgical operation, of which the candidate must detail the indications, contra-indications, the instruments, and various methods of performing it.

4. *Cursus Anatomicus et Chirurgicus.*—The candidate is asked to demonstrate the situs viscerum of one of the three cavities, and then to perform an operation on the dead body.

4. The candidate conducts the *treatment of two surgical* patients under the superintendence of the clinical professor. He keeps an accurate journal, containing the history of each case, the present state, diagnosis, ætiology, prognosis, and the treatment. This is continued for a month, at the end of which the candidate is required to give the diagnosis of ten or twelve cases, and then to show his skill in the application of bandages.

5. The same takes place with *two medical cases,* for six weeks. The journal, and the conversation at the bed-side, are in Latin.

6. The last examination (examen rigorosum) is on *all branches of medicine.*

7. If the candidate intends to practise midwifery, he must produce certificates of his having attended the obstetrical clinic, and afforded his assistance to two or more parturient women. After having written a short treatise on some obstetrical subject, he undergoes an *examination of three hours on midwifery,* obstetrical operations, on the diseases of women and children, and performs some manipulations on the figure.

In conclusion, the following may be considered as the principal advantages of the plan of medical education in the German universities :—

1. Universality of classical education.

2. The period of four years being constantly allotted for the study of medicine.

3. The non-division of the study of the three branches, and the proper division of their practice.

4. The greater facility afforded to the study of anatomy.

5. The more general study of the auxiliary sciences ; as natural history, botany, &c., and the liberality by which the students are supplied with the best means of pursuing these studies.

6. The medical, surgical, and obsterical clinics, and the extent to which the hospitals serve as medical schools.

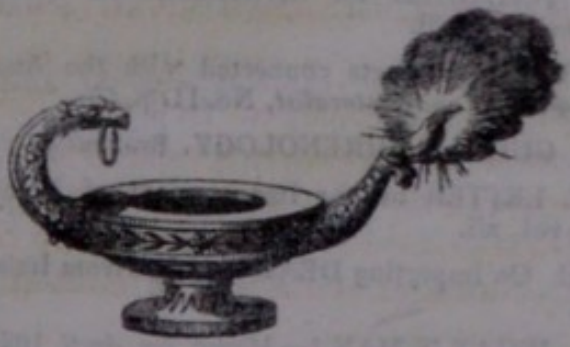
7. The poli-clinics.

8. The course of operations on the dead body.

9. The greater strictness of the examinations previous to the admission to practice.

Such a mode of education and examination, as just described, cannot fail of creating men of science to ornament one of the most delightful professions; and, at the same time, reflects on them, and their schools, greater credit than our medical brethren can boast of in Great Britain.

August 8, 1828.



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