Consecratio medici : and other papers / by Harvey Cushing.

CONSECRATIO MEDICI

AND OTHER PAPERS

HARVEY CUSHING

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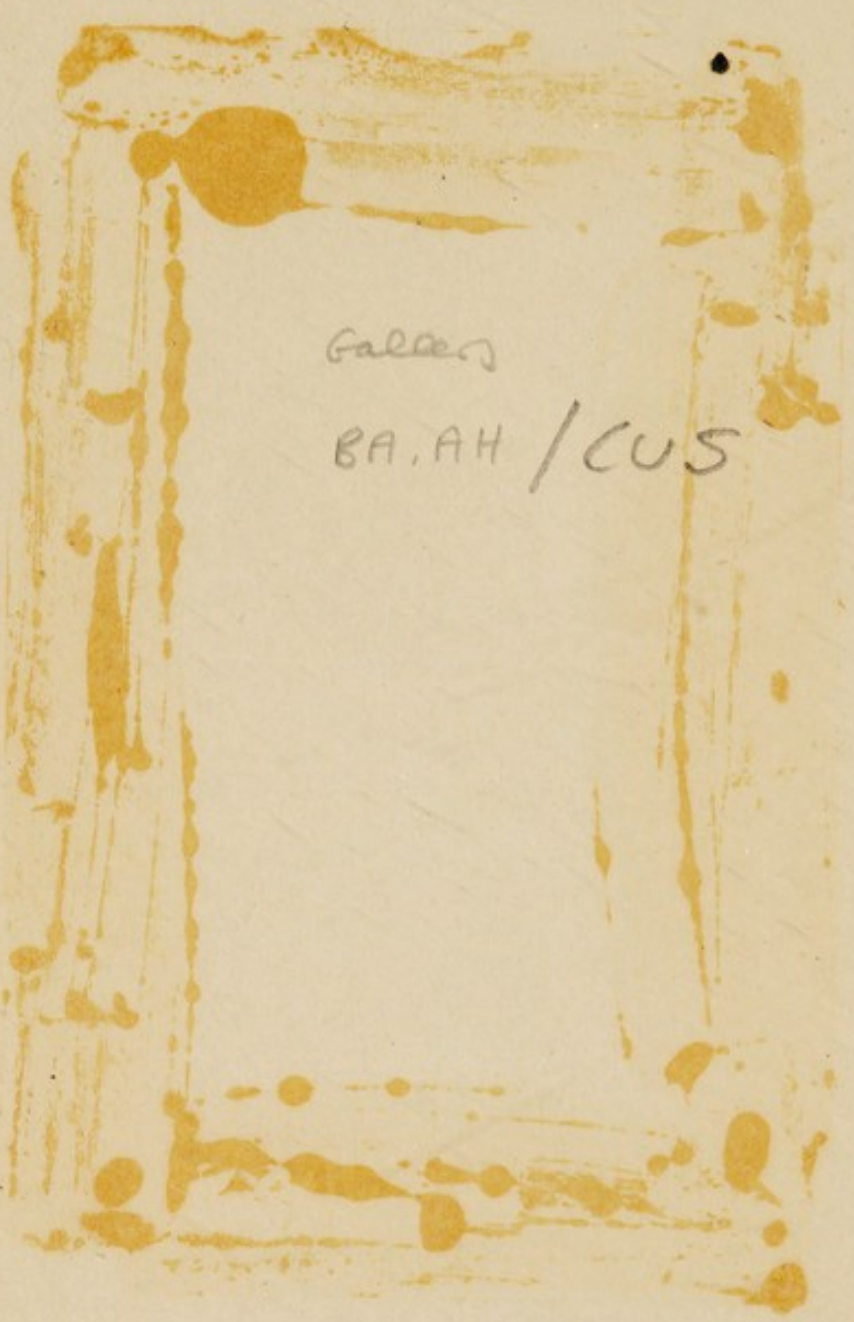

J. Wood Jones

With the regards of the Author

May 1930

CONSECRATIO MEDICI

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AND OTHER PAPERS

BY

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CONSECRATIO MEDICI

I

CONSECRATIO MEDICI [1]

THERE is an old saying that interest does not bind men together: interest separates men; there is only one thing that can effectively bind people, and that is a common devotion. This, a common devotion, more than any other possible influence, serves to overcome the self-depravities and conceits inherent in us which, uncontrolled, represent the chief defect in our natures. Our loyalties, to be sure, — loyalty to nation, to a cause, to community, to school, to family, to friend, — are somewhat akin, yet there may be something of personal interest, prejudice, or defense in these particular reactions which makes them not wholly unselfish.

So let us believe, for our present purposes at least, that "devotion" not only implies a higher standard of self-effacement, but still carries something of its quondam religious significance. And it is of the doctor's consecration to his task that I wish to speak, the kind of unselfish relation to suffering humanity that made Saint Luke the beloved physician no more nor less than it makes many another doctor of name unheard and unsung to-day.

It is this common devotion to their life's work that serves to bind those of the profession into which you are entering with ties more close and enduring than those which hold any other group of people engaged in a common purpose. Nor should it make any difference where or how you may come to be engaged. The lives of countless Weelum MacLures,

[1] Graduation Address, Jefferson Medical College, Philadelphia, June 5, 1926.

in the obscurity of their respective Drumtochtys, have been no less consecrated, could we but know them, than those of the Parés, the Listers, and the Pasteurs on whom the light of history has been turned.

Devotion is an attribute one cannot estimate and record by ordinary standards. How much the practising doctor cares about his patients as individuals apart from their being the source of his livelihood; how much the medical scientist may be interested in promoting science rather than in securing his own promotion; how much the teacher influences his pupils to their best efforts, unmindful of what the curriculum briefly requires of him; how much the student engages in his work for the work's sake, regardless of his marks and rating — all these things depend on a devotion which places spiritual above material rewards.

This may sound, my young friends, like sermonizing. And valedictory addresses to medical students are prone to be commonplace, "platitudinous with the platitudes of a thousand pulpits," as Sterne said was true of most sermons. But there are certain things which concern the code of the doctor, handed down to us from ancient times, which, though commonplace, deserve reiteration on such occasions as this. They are things often lost sight of in these days when the Hippocratic Oath, as supposedly too antiquated for present-day purposes, is rarely read to graduating classes. I rejoice that Jefferson maintains this custom, for there is nothing that expresses so well, as does this justly famous credo, the ideals which from the first have actuated the doctor and have led to the solidarity of the profession you are entering. No guild has a sounder code of ethics; no Masonic group stronger ties of brotherhood.

For no insufficient reason do we as a profession hark back to the fifth century before the Christian Era when the man we venerate as the "Father of Medicine" first cast super-

stition aside, dissociated his calling from priestcraft, and based it on the principles of inductive philosophy. So, tempering them to our modern period, we may well hold fast to those hallowed rules of professional conduct which he promulgated and which have stood the test of usage as long as the canons of the Old Testament, which likewise in these fallen days are become somewhat unfashionable.

My object in making professional devotion a text on your graduating day is to emphasize the doctor-and-patient relationship. However many of you may come to be diverted into other channels of professional activity, I take it that the school whose diploma you have gained still holds the practice of medicine as the primary object of your four years and more of training, and consequently that the prospective patient has from the first been kept in view even if distantly.

In these days when science is clearly in the saddle and when our knowledge of disease is consequently advancing at a breathless pace, we are apt to forget that not all can ride and that he also serves who waits and who applies what the horseman discovers. In some of our schools so great an emphasis has come to be laid on the science courses, with the patient long hidden from sight, that the better students, under the influence of teachers who have never had clinical experience, naturally come to feel that somehow the practice of medicine among the people is an inferior calling compared to the secluded life of an investigator, and that to justify themselves in the eyes of the faculty they must manage to "do a piece of research."

Indeed, when the students in some of these schools reach their clinical years their senior teachers are often men whose perspective is largely institutional, and consequently it has become, for lack of time, interest, or experience, no one's business to give instruction in those aspects of medicine

which will be so important to the greater number of you in the future: the relation of doctor to doctor, of doctor to patient and patient's family, of doctor to community, and of our profession to the others, particularly to the priesthood from which medicine took its origin.

Dr. Thomas Percival thought these matters of sufficient importance to write a book about them for the benefit of his son on his entry into medicine; but for the most of you who have never heard of Percival and his code [1] they are left to be learned in the bitter school of personal experience; and many a promising career may come a cropper from misunderstandings of professional ethics the chief tenet of which, after all, is proper observance of the Golden Rule, not only in our dealings with our patients and our professional brethren, but with society in general.

In our present day when so great emphasis is being laid on keeping people well by periodic health examinations and preventive medicine, all this about medical practice may sound very old-fashioned. But say what one will, the time inevitably comes to each and every one, now in the best of health, when he must needs cry out for some experienced and sensible doctor who can alleviate if not cure his particular ailments, be they physical or mental; and the kind of sagacity and resourcefulness he will expect and need is less laboratory-born than bred of long and sympathetic familiarity with the anxieties and complaints of ailing, damaged, and worn-out human beings. These things were perhaps best learned in the days of student apprenticeships; and our present efforts under the guise of a tutorial arrangement recall something of the old-time elbow-to-elbow

[1] The basis of the code of ethics generally adhered to by English-speaking doctors was formulated in 1803 by Percival, who, besides being a practising physician in Manchester, England, was a mathematician and a natural philosopher, one of the first biometricians, one of the first to urge the isolation of contagious diseases, one of the first to emphasize public sanitation and the importance of what we now call industrial medicine.

familiarity of teacher and pupil and show a growing appreciation of the advantages of a long-abandoned system.

We have gained much for science but have lost much for practice by the course we are following, and I look forward to a time when the pendulum will swing back, not to a day when the spirit of research will be any less active, but to a day when suitable representatives of the clinical departments will be delegated to correlate the teaching in the science courses so that their bearing on what is to come may be constantly kept in mind. A course in pure science unrelated to the patient belongs rather in the college than in the medical school.

It is a common complaint that, in their exercises, clinical teachers fail to draw the lessons they should from the laboratory courses. It is doubtless true that they lag in their familiarity with and the adaptation of the newest disclosures of science; and it is perhaps a lame excuse that science as yet has no obvious bearing on the greater portion of the doctor's daily problems. But in rejoinder the clinician might well ask whether it could possibly harm a teacher of the preclinical sciences to have served a house-officership; or dampen his investigative ardor should he spend even an occasional hour or two in contact with patients in the wards or ambulatory clinic.

Both parties to this mild family disagreement among the faculty must endeavor to see the matter clearly and without prejudice. Through the concentrated application of the scientific method in the fifty years past, medical progress has been nigh incredible. We must therefore make every effort to support and encourage the scientific spirit, for who can foretell what prodigious strides may be taken in another half century? But the capacity for productive research is a rare quality akin to genius, and the future investigator among you will doubtless be found, or find himself, irre-

spective of this or that curricular arrangement. Whether it is necessary or worth while for the majority, who are destined to put to practical purposes the knowledge already gained from the laboratory, to be given such an exclusive preliminary science drill as they are now given in many schools, is a matter of doubt, and a happy solution of this puzzling question will some day perhaps be reached.

You who are graduating here to-day, wherever you land, — in laboratory, in hospital clinic, in practice, — will have occasion to lament the insufficiencies of your preparation. This has been so from the beginning and will be so to the end of time. However secure the foundation may appear to have been laid, you will come to build on it an individual kind of superstructure which could not possibly have been anticipated. "Could I only have had a better grounding in biophysics instead of wasting my time in the clinic!" groans the young laboratory worker who endeavors to solve some baffling problem. "Could I only have had a little more dissection, I should not have mistaken a median nerve for a tendon when I sewed up that cut wrist!" groans the youthful surgeon. "Had I only learned to puncture a bulging eardrum instead of electing that useless laboratory course, I might have saved this poor child from a meningitis!" groans the young practitioner. "If we could only have foreseen this, that, or the other, we would not have spent our time as we did," we groan in unison.

From vain regrets good Lord deliver us. Experience has to teach us many things we have never learned from the schools. You will remember Paré's account of an episode in the little hamlet of Suze sometime in 1537. "See how I learned to treat wounds made by gunshot: not out of books."

Most of you, I take it, will — as Jefferson graduates have done before — come to recruit the ranks of the practising doctor in this great state. Personally I have been too much

astride the fence to take sides strongly in regard to the relative satisfactions of a life so devoted or one dedicated to teaching and investigation. With a background of family practitioners, I have, by the fall of the dice, come to lead a life different from theirs, not so sequestered as that of some, but sufficiently so to let me estimate the recompenses and weigh the satisfactions which come from an existence of the two kinds. Certainly the self-sacrificing career of the practising physician, respected and beloved of his community, is no less, perhaps even more, character-making and ennobling than the secluded life of a pure laboratory worker, whatever be the importance of his researches and discoveries. In either case, "success dwells in the silences though fame be in the song."

We live in an era of specialization, but specialization can be overdone and there is no inherent reason why the qualities of investigator, teacher, and practitioner should not go hand in hand, be represented in a single individual, and he be none the worse for the mixture. So it was, for example, in the case of the incomparable Hunter; so it was, to come nearer home, in the case of two of the great peripatetic teachers, Nathan R. Smith and Daniel Drake, who were associated with the birth of this school of whose diploma you may be justly proud. And should you in your "waiting time," when patients seem few and your outlook uncertain, wish to gain courage and receive stimulus, read the lives of these men and learn what perseverance may accomplish. Contrast your opportunities and training with those of Drake, brought up in a log cabin at May's Lick, over the mountains in what was then the wilderness of Transylvania; and who in the midst of teaching, of founding medical schools, of practice, came to be recognized as the leading climatologist and epidemiologist of his day. All this you will find in the volumes of medical biography, which de-

serve a place on your library shelves alongside your journals and textbooks.

> Excellent courage our fathers bore —
> Excellent heart had our fathers of old;
> None too learned, but nobly bold
> Into the fight went our fathers of old.

But, even better than this, stouten your hearts by reading of the doctor in fiction, and emulate Lydgate, at least up to the point which will warn you against marrying the wrong woman. Familiarize yourselves with the writings of healthy-minded doctors like Oliver Wendell Holmes and John Brown, of *Rab and His Friends*. If you need an antidote for the cynicism of *Arrowsmith*, buy or borrow Sarah Orne Jewett's nigh-forgotten story depicting her own father as *A Country Doctor;* for there are still John Leslies in the country districts and room for many more — plenty of room, too, for Nan; and if she is really serious about it she 's worth to the world a thousand Leoras. Perhaps best of all, if you would learn what unalloyed professional devotion may be and what rewards it may bring, read or reread the last chapters of Ian Maclaren's *Beside the Bonnie Briar Bush* and let the example of Weelum MacLure, to whom I have already alluded, become a part of you.

Still, you need not resort to biography or fiction to learn something of the spirit of devotion that is the mainspring of our profession. You have plenty of examples, living and dead, here in your own school. Being a surgeon, and more familiar with Jefferson's century-long story of surgery than with her story of physic, let us look there for illustrations, the more fittingly since a talented and enterprising surgeon was your founder; and it took no less a person than a fighting McClellan to succeed in such a venture under the very shadow of, and with no little opposition from, the oldest

and most celebrated school in the country, his own Alma Mater. She it was who provided his successor in the chair of surgery on the reorganization of your school in 1841; and the name of Thomas Dent Mütter, who, alas, from overwork died all too young, is held in thankful remembrance through the museum he founded and the lectureship he established — a lectureship which has been of help to many young men, as I, who had the privilege of holding it just twenty-five years ago, can testify.

On Mütter's enforced retirement in 1856, the school for the first time reached out for an example of its own product, and chose a man who had graduated with its second class and who, meanwhile, had gathered as a teacher experience almost as rich and varied as that of Daniel Drake himself, under whose influence he had come in Cincinnati. Young men in those days were less fearful of transplantation than we, and the twenty-eight years during which Samuel David Gross subsequently served here in his fourth chair of surgery saw him rise to the top of his profession. We may well believe that the increasing flood of students, who during those years went out into the world as Jefferson graduates, were deeply influenced by his scholarly example and teaching.

But if the elder Gross and his contemporaries may seem somewhat shadowy figures to you, the mantle he wore as doyen of American surgery has now for long rested on the shoulders of his successor, a man endowed with perennial youth, who seems likely to hold that emeritus position among us for time untold. And as Dr. Keen's spirit dominates time, so the unquenchable spirit of your beloved teacher, "Jack" Da Costa, dominates a disability which would long since have driven a lesser man to retirement and inactivity. It is, furthermore, this same spirit of "never give in" that keeps the star of a frail gentleman shining brilliantly in a galaxy of Philadelphia surgeons, a man whose personal

dexterity enables him to save more lives, and those the precious lives of children, each day, week, and month, than may be given to others to save in a year or in a lifetime. If the Recording Angel keeps score of the numbers any one of us as individuals may possibly have snatched from the very jaws of death, certainly Chevalier Jackson's name tops the list.

Favored is the school that may carry the tradition of men who have shown such professional devotion as these, and whose spirit has conquered time, age, ill health, and circumstance. A wise doctor who knew his patients well once said that in his experience the best work in the world was often done by people suffering from some bodily affliction; and this is a heartening idea you may well pass on in your turn to some of those who may in future years consult you and for whom you may have little to give but encouragement and comfort. You indeed will have to mix many of your prescriptions with a basis of hope, and too little stress is laid, in most courses in therapeutics, on the beneficial effect of optimism and cheer in combating disease.

We are tending to become a standardized country, and it is perhaps on standardization that industrial progress is founded. But standardization of our educational systems is apt to stamp out individualism and defeat the very ends of education by leveling the product down rather than up. The qualities that really count in this world are quite beyond pigeonholing, quite beyond measurement by scales, tape, or mental tests, quite beyond rating by any known system of examination, all of which fail in giving us an estimate of that most precious of all qualities, personality.

The capacity of the man himself is only revealed when, under stress and responsibility, he breaks through his educational shell, and he may then be a splendid surprise to himself no less than to his teachers. There is no profession in which such surprises are more likely to happen than in that

you are entering, no profession which offers greater opportunities for the development of character, provided you will consecrate your lives unselfishly to your tasks as others you would wish to emulate have done before you. In so doing you will meet responsibilities as they come, with intelligence and courage; you will play fair with your fellow men, remembering that the practical religion of the physician is not the promising of bliss in the future but the giving of health and happiness on earth; and, above all, you will hold fast to that noble phrase of Hippocrates: "Where there is love of humanity there will be love of the profession."

I am going to read to you, in closing, a paragraph from a book which I can warmly recommend for its philosophy and humor. You will observe from its title that I may have had it in mind in choosing the text of this, in comparison, most feeble address. It is Stephen Paget's *Confessio Medici*. He says therein: —

> Every year, young men enter the medical profession who neither are born doctors, nor have any great love of science, nor are helped by name or influence. Without a welcome, without money, without prospects, they fight their way into practice, and in practice; they find it hard work, ill-thanked, ill-paid; there are times when they say, "What call had I to be a doctor? I should have done better for myself and my wife and the children in some other calling." But they stick to it, and that not only from necessity, but from pride, honor, conviction; and Heaven, sooner or later, lets them know what it thinks of them. The information comes quite as a surprise to them, being the first received from any source, that they were indeed called to be doctors; and they hesitate to give the name of divine vocation to work paid by the job, and shamefully underpaid at that. Calls, they imagine, should master men, beating down on them: surely a diploma, obtained by hard examination and hard cash, and signed and sealed by earthly examiners, cannot be a summons from Heaven. But it may be. For, if a doctor's life may not be a divine vocation, then no life is a vocation, and nothing is divine.

II

DR. GARTH, THE KIT-KAT POET[1]

(1661–1718)

In the reign of Queen Anne, a pasty-cook, one Christopher, or Kit for short, "immortal made by his pyes," kept a tavern near Temple Bar at the Sign of the Cat and Fiddle. Here was wont to gather a group of the most distinguished men of the time, the patriots that saved Britain, according to the opinion of one who in the succeeding generation bore the name of not the least illustrious of them; leaders of the fashionable world, noblemen, poets, statesmen, soldiers; all fine gentlemen, all earnest Whigs, firmly sworn to support the Protestant succession in the House of Hanover. Of this famous club there were first and last some forty-eight members, including the great Marlborough, Robert Walpole, Godolphin, and Halifax, Addison and Steele, Kneller the artist, and Vanbrugh the builder of Blenheim, Jacob Tonson the famous bookseller, — Pope's left-leg'd Jacob, — and many more besides the subject of this sketch, the popular, the generous, the companionable Garth.

Mary Pierrepont, the daughter of Lord Kingston, one of the noblemen who helped to make up this distinguished coterie, was during her childhood an object of her father's special pride and fondness, and the following incident which in later years she loved to recall has been thus related by her granddaughter. "One day at a meeting to choose toasts for

[1] Johns Hopkins Hospital Historical Club, December 12, 1904.

the year, a whim seized him to nominate her, then not eight years old,[1] a candidate, alleging that she was far prettier than any lady on the list. The other members demurred because the rules of the club forbade them to elect a beauty whom they had never seen. 'Then you shall see her,' cried he; and in the gaiety of the moment sent orders home to have her finely dressed, and brought to him at the tavern; there she was received with acclamations, her claim unanimously allowed, her health drunk by every one present, and her name engraved in due form on a drinking glass. The company consisting of some of the most eminent men in England, she went from the lap of one poet or patriot or statesman to the arms of another, was feasted with sweet-meats, overwhelmed with caresses, and," Lady Louisa Stewart adds with a touch of irony, "what perhaps already pleased her better than either, heard her wit and beauty loudly extolled on every side. Pleasure, she said, was too poor a word to express her sensations; they amounted to ecstasy; never again throughout her whole future life, did she pass so happy a day."

It is pleasing to think that Samuel Garth, the single medical member of the club, may have participated in this scene, and that the child toast, whom he, unlike some others, continued to admire throughout his life, was passed to him in turn for a greeting. Little could he then have thought that her name, both in medicine and in letters, would almost outshine and outlive his own; for the child heroine of this episode was none other than the Lady Mary Wortley Montagu, whose gallant struggle against the popular prejudice and professional jealousy of the times, in her effort to intro-

[1] Lady Mary, according to recent authority (Firth, *Dictionary of National Biography*), was born in May 1689, and the Kit-Kat Club, as such, was supposedly not founded until 1703, so that unless the Club held meetings, as is quite possible, before the designation of Kit-Kats was given them, she was not the child she feigned to have been. There is much confusion in regard to dates of many events of these times, especially in regard to such hearsay ones.

duce the practice of "ingrafting" against the smallpox, must ever make her an object of interest to medical men.

One may perchance be the more readily excused for plunging into an incident almost in Garth's middle life, inasmuch as there are no details of

> How the dim speck of entity began
> T' extend its recent form, and stretch to man,[1]

and but scant ones of the time intervening until he became the popular and well-known figure in the metropolis. He was born of a good family in Yorkshire, probably in 1661; was at school in the village of Ingleton, a neighborhood of most romantic scenery; a student at Peterhouse, the eldest of the Cambridge Colleges, where he matriculated July 6, 1676, received his B. A. in 1679, and five years later a Master's degree in arts. These are the bare facts which carry us through the first twenty-five years of Garth's life without further illumination from contemporary writings. What induced him to take up physic for his life's work seems not to be known, unless it was the direct influence of his college, and the promise for the better in medicine of Sydenham's and Locke's recent and great reforms. The colleges, however, at the time had only theoretical instruction in preparation for practice, and it was the custom for those very few students who, like Garth, took their degree in arts before entering upon their professional studies, to look elsewhere for opportunities to gain practical knowledge. With this object, in 1687 he repaired to Leyden, then approaching the zenith of its medical fame; and there Garth may possibly have touched elbows in his classes with the young Dutchman, Boerhaave, who was destined to become the greatest clinician of his time, and whose name made that of his university famous to the ends of the earth. Four years later (July 7,

[1] *The Dispensary*, Canto I.

1691) Garth received from his Alma Mater the degree of M. D., and, repairing to the metropolis, he was promptly admitted (June 26, 1693) a Fellow of the College of Physicians.

He must early have distinguished himself, for in the following year he is said to have delivered the Gulstonian Lecture, choosing *De Respiratione* as his text. Although a request was made that he should do so, Garth never published this discourse, and consequently we have lost the only one of his strictly medical writings of which knowledge has come down to us.

A further and still greater compliment was paid the young physician three years later, in 1697, when he was asked to deliver the annual oration in Latin before the College on St. Luke's Day — better known to us as the Harveian Oration.

ORATIO LAUDATORIA
IN AEDIBUS
COLLEGII REGALIS MED. LOND.
17MO DIE SEPTEMBRIS
HABITA
A. SAM GARTH
COLL. REG. MED. LOND. SOC.
LONDINI
MDCXCVII.

The public tribute that Garth on this occasion paid to William III, as well as the tirade at the close of the oration against the professional quackery of the times, proved doubly influential in his career; the tribute, an open demonstration of his political affiliations, bringing him later on his knighthood; the tirade immediately, as it made him the acknowledged champion of the College of Physicians in a famous quarrel: for thus he was led to write the poem on which alone his position among the English poets rests. But to explain this we must retrace our steps.

A certain lack of sympathy seems always to have existed between those privileged to prescribe and those who are restricted by law to the dispensation alone of drugs; and at the time of which we are writing a combination of circumstances had fanned latent animosity into a public broil. The apothecaries, for the most part, were uneducated men, and at a somewhat earlier period their relation to the community was so loosely controlled that even the grocers and pepperers were privileged to dispense drugs, and the fact that they were legalized, under certain circumstances, to perform phlebotomy sufficed to bring them intimately into contact with the people as patients. By a charter granted early in the reign of James I, they had been made "Freemen of the Mystery of Grocers and Apothecaries of the City of London," but soon such remonstrance was raised on all sides against their incompetence and such scandal over the adulteration of their commodities that in 1617, owing to the intervention of one of the few distinguished members of their fraternity, Gideon de Laune, the apothecaries were separated by charter from their former associates, the grocers. The new grant placed them under the control of the College of Physicians, and to this body was given the power of inspecting their wares and regulating their actions. This restraint was far from agreeable; its consequences were inevitable. The medical therapy of the time was based almost entirely on empiricism, and the vendors of drugs found, therefore, that it was a simple matter to compete with the qualified practitioners. They encroached more and more on the physician's province, some of them, indeed, amassing large fortunes thereby.

> So modern 'Pothecaries taught the art
> By Doctors' bills to play the Doctor's part,
> Bold in the practice of mistaken rules,
> Prescribe, apply, and call their masters fools.

Thus it was not long before the apothecaries grew away from the restraint legally imposed upon them and, regardless of the College, began to prescribe widely on their own responsibility. Were they threatened with punishment, they retaliated by refusing to call in consultation the physician who had censured them; an action that in many cases might well have ruined his practice. The dependence that many placed on these consultations, even at a later date, is illustrated by the story of Mead, who, in the morning at Batson's coffeehouse, in the evening at Tom's, used to receive apothecaries and charge only half-guinea fees for prescriptions written without seeing the patient. The situation was a most entangled one. The apothecaries defended themselves on the ground that they would prescribe and care for the poor, who could not afford to pay the physician's fees in addition to the expense of the drugs — possibly a just claim were our beliefs in their charitable pretenses not shaken by a knowledge of what were their actual practices.

In 1687 the first effort to counteract these abuses was made by the College. An edict was unanimously passed by that body (July 28, 1687) requiring all the fellows, candidates, and licentiates to give gratuitous advice to their neighboring poor; but the solution of the difficulty was not so simple. It was in the first place, as at the present day, difficult to designate those who were to be considered "poor," and the practice not only led to abuses, but was further frustrated by the inordinately high price immediately put upon all drugs by the apothecaries. As the patients had not the wherewithal to get them filled, prescriptions were thrown to the winds. Under the shadow of benevolence, too, there is said to have lurked animosity toward the apothecaries — a spirit which of itself, if we are to believe the slander, would certainly have been fatal to the successful carrying out of the edict. With the view, however, of rendering it more effectual, it was

determined by a vote in the following year (August 13, 1688) to accommodate the laboratory of the College to the purpose of preparing medicines, the contributors toward the expense being those who were to manage the charity. Such a philanthropy properly controlled would have effectually done away with the abuses of indiscriminate dispensing of drugs, had the apothecaries submitted to it. Not so. They claimed that it was a money-making scheme on the part of the physicians, who aimed thereby merely to undersell them. They even succeeded in raising an opposition in the very College itself among those who at heart and for selfish reasons favored the old system; so that Dispensarians found themselves arrayed against Anti-Dispensarians and the design failed to be carried into execution.

At this juncture, with the College in an embroiled state, Garth, fresh from the university, appeared at the metropolis; he was early admitted a fellow and allied himself unhesitatingly with the Dispensarian party. Courageously, too, since for a youth on foot with little more than his diploma in his pocket to take a stand openly against "affluent tradesmen, rolling by in their carriages," as Jeaffreson puts it, who might seriously injure his prospects, must have required the courage of conviction.

In 1694, the College again succeeded in issuing an order demanding from all members strict obedience to the edict of 1688; and in the following year this new order was presented to the city authorities in the hope of gaining their support, a hope unfortunately defeated. Not discouraged, the physicians of the Dispensarian party actually raised a subscription (December 22, 1696) from among those favoring the charity, each subscribing ten pounds, the money to be "expended in preparing and delivering medicines to the poor at their intrinsic value." To disarm the insinuations of their opponents and to show that the undertaking had the sanction

of a College act, the names of all the subscribers, fifty-one in number, were appended to a printed sheet which was widely distributed. Thus for a time there was an actual distribution to the needy of drugs at cost price, and, though the experiment was perhaps poorly conducted, its philanthropic intent was genuine enough; as Garth says, it was managed with an integrity and disinterest suitable to so charitable a design, though the effort sufficed only to make the long-standing disagreement "break out to fury and excess." The usual form of warfare — a paper warfare, emanating from Grub Street — arose. There are many references to the controversy, even in the more stable writings of the time, and it is apparent that most of the men of education outside the profession upheld the cause of the Dispensarians. Among them was Dryden, as shown by the following lines inscribed to a relative, who "blessed led a country life."

The tree of knowledge, once in Eden placed,
Was easy found, but was forbid the taste;
O, had our grandsire walked without his wife,
He first had sought the better plant of life!
Now both are lost: yet wandering in the dark,
Physicians for the tree have found the bark;
They, laboring for relief of human kind,
With sharpened sight some remedies may find;
The apothecary-train is wholly blind.
From files a random recipe they take,
And many deaths of one prescription make.
Garth, generous as his Muse, prescribes and gives;
The shopman sells and by destruction lives;
Ungrateful tribe! who, like the viper's brood,
From Medicine issuing, suck their mother's blood!
Let these obey and let the learned prescribe,
That men may die without a double bribe;
Let them, but under their superiors, kill,
When doctors first have signed the bloody bill:
He 'scapes the best, who, nature to repair,
Draws physic from the fields in draughts of vital air.

Garth, seemingly, first became an active belligerent in this warfare from the vantage ground of his Harveian Oration, when, as above mentioned, he took the opportunity of "publically ridiculing the multifarious classes of quacks, with spirit and not without humor." Though by nature averse to any violent partisanship, his keen mind, ready wit, and facile pen must have made him a formidable champion for any cause which he felt himself called upon to support. "In those old days," says Lady Louisa Stewart, "people's brains being more active than their fingers, ballads swarmed as abundantly as caricatures are swarming at present, and were struck off almost as hastily, whenever humor or malice and scurrility formed a theme to fasten upon." One of Garth's chance shafts was winged at this time against another rhyming physician, Sir Richard Blackmore, who, Saintsbury says, has been made immortal by his satirists and seems to have been heartily abominated by all for his pomposity and "amiable faith in himself." Garth, ordinarily charitable enough, especially toward his professional brethren and political party, could not overlook Blackmore's Anti-Dispensarian attitude, and to ridicule him composed the following lines, "To the Merry Poetaster at Sadler's Hall in Cheapside."

> Unwieldy pedant, let thy aukward muse
> With censures praise, with flatteries abuse.
> To lash, and not be felt, in thee 's an art;
> Thou ne'er mad'st any but thy school-boys, smart.
> Then be advis'd and scribble not again;
> Thou 'rt fashion'd for a flail, and not a pen.
> If B——l's immortal wit thou would'st descry,
> Pretend 'tis he that writ thy poetry.
> Thy feeble satire ne'er can do him wrong;
> Thy poems and thy patients live not long.

Poor as they are, there is nothing seriously objectionable in the ridicule of these lines, and they suffice merely to illus-

trate the form of these poetical duels. The bad taste in twitting Blackmore with his early life as a schoolmaster is nothing to the vulgarity, even more in accord with the times, which made physical infirmities a favorite object of satire.

Garth, however, was capable of better things than the writing of doggerel verses. There appeared in 1699, in broadside paper form, after the fashion of the times, an anonymous poem in six cantos called *The Dispensary*, in which the history of the attempt to establish gratuitous dispensation of drugs was put into rhyme. The poem had an immediate and unexpected success; was soon after printed in book form; went through two other editions before the year was out; and was so widely read during the next two decades, when its characters and subject matter were still of public interest, that ten authorized and some pirated editions were issued. There were several factors which must have contributed to its success: first among them, the rapidly spreading popularity of the author, whose touch must immediately have been recognized; the unusual form of versification, also, for Garth was among the first to show the influence which Boileau, the great French versifier, was to have on English poetry; possibly, too, the curiosity that must have been aroused by the fact that so many public characters figured in the poem either under fictitious names or with their actual ones feebly masked by hyphenating the consonants.

In his preface to the second edition, the author states his main purpose in writing the poem, for "finding the Animosities amongst the Members of the *College of Physicians* encreasing daily (notwithstanding the frequent Exhortations of our Worthy President to the contrary) I was persuaded to attempt something of this nature, and to endeavor to Rally some of our disaffected Members into a sense of their Duty, who have hitherto most obstinately oppos'd all manner of

Union; and have continu'd so unreasonably refractory, etc.," much such a purpose as an editorial in the *Times* or *Lancet* might have served to-day.

The poem, mock-heroic in kind, opens in Canto I with a description of the College "Rais'd for Use as Noble as its Frame," but in which the God of Sloth had made his lair; disturbed out of his lethargy by the enterprise attending the building of the Dispensary, the slumbering God sends his Phantom to summon *Envy* "to blast their Hopes and baffle their Designs."

In Canto II, *Envy*, the famish'd Fiend, rejoicing at the task, assumes the form of one Colon (Mr. Lee, Warden of Apothecaries Hall) and appears before Horoscope (Dr. Bernard) in his apothecary shop, where "Mummies lay most reverently stale," etc., and where Horoscope was found environed by a crowd of gullible people, promising them future Health for present Fees. Into his breast the Fury breathed a storm of envy against the Dispensarian movement and left it there like a Brood of Maggots to develop.

Horoscope, in Canto III, through his coadjutor, "officious Squirt," calls for a meeting of the Apothecaries at their Hall in Blackfriars; meanwhile he invokes to their aid the Harpy, *Disease*, "Begot by Sloth, maintain'd by Luxury," through a burnt offering of drugs and old prescriptions. Ill omen attends this sacrifice. The apothecaries meet; one advocates friendly advances to the Faculty; another, a bold fight at Honor's call; another, Askaris, more slyly urged a consultation with their friends the disaffected members of the Faculty, "who Int'rest prudently to Oaths prefer." The assemblage was scattered by an explosion in the laboratory of Apothecaries Hall.

Canto IV. At a tavern near Drury Lane, frequented by the apothecaries and where "want of Elbow-room's supply'd in Wine," the company again gather, together with some unprincipled members of the College whom they propose to use as their unwilling accomplices as "Boys hatch Game-Eggs under Birds o' Prey." There an altercation takes place between those advising caution and those clamoring for war. It ends in Horoscope being wafted away to the Fortunate Isles to consult the Goddess there. In oracular fashion she tells him that "Wars must insue, the Fates will have it so."

"Dread Fates shall follow, and Disasters great,
Pills charge on Pills, and Bolus Bolus meet:
Both sides shall conquer and yet Both shall fall;
The Mortar now, and then the Urinal."

Canto V. Mirmillo, one of the traitorous physicians, begins to feel alarm for his safety in this alliance and is on the point of withdrawing when the Fury, *Discord*, appearing before him, frightens him into joining the fray. The apothecary legions meet, the contestants in all manner of armament. Thus, Querpo,

A Pestle for his Truncheon, led the Van
And his high Helmet was a Close-stool pan.

Rumor brought the news of the intended attack to Warwick Hall, where preparations are hurriedly made to receive the assault. In mock-heroic fashion the clash takes place with caustics, emetics, cathartics, syringes, and what not, as weapons, while "Pestles peal a martial Symphony."

Canto VI. In the midst of the battle the Goddess of *Health* appears, calls "enough," and bids Machaon (Millington, President of the College) send a messenger to the Elysian Fields to consult the immortal Harvey as to the best method of terminating their woes. Carus (Garth) is chosen for this mission, and Dante-fashion, with *Hygeia* as his guide, he visits the lower regions. There, together with all sorts of wondrous subterranean phenomena, he sees old Chaos, an awkward Lump of shapeless Anarchy, with dull Night, his melancholy Consort; pale Fear and dark Distress; parch'd-Eye'd Febris; bloated Hydrops; meagre Phthisis; Lepra the loathsome; as well as other Sights that go to "make up the frightful Horror o' the Place." They are at last ferried across the Styx and in the delightful Plain, "where the glad Manes of the Bless'd remain," the Shade of Harvey is found. The Venerable Sage addresses himself to *Hygeia* on the dissentions of the Faculty: —

"Where sick'ning Art now hangs her Head,
And once a Science, is become a Trade."

He finally turns to her companion, Carus, with the admonition that by attending to Science more, and to Lucre less, and by letting Nassau's (that is King William's or England's) health be their chief aim, the College could once more become restored to the position it held under Willis and Wharton, Bates and Glisson.

A storm of unfriendly criticism was aroused by the first appearance of the poem. The design was bad. The execution was poor. The best part of the poem was in imitation of Boileau's *Lutrin* — and much more besides. Garth, however, in the preface written for the later editions, gracefully disarms all of these animadversions of his critics. He is proud of the imputation of imitating Boileau and points out the very lines in which he has done so; he defends his scheme on classical authority and modestly says, "However, I shall not be much concerned not to be thought excellent in an amusement I have very little practiced hitherto, nor perhaps ever shall again."

Of the literary merit displayed in *The Dispensary*, liberally though it was applauded at the time, diverse opinions have been given by later critics. All of them, however, are unanimous in according to it an important position through the influence that it exercised upon the poetical style which continued into the following century. Garth seems, as it were, to have introduced Boileau to Alexander Pope, and Pope's praise of the poem, it will be remembered, was unstinted. In *The Dunciad* appear these lines: —

> Be thine, my stationer, this magic gift;
> Cook shall be Prior, and Concanen, Swift;
> So shall each hostile name become our own,
> And we too boast our Garth and Addison.

and in the footnotes — Pope's own — it is said, "Nothing is more remarkable than our author's love of praising good writings. . . . It must have been particularly agreeable to him to celebrate Dr. Garth, both as his constant friend and as his predecessor in this kind of satire."

Equally unanimous is the opinion of the later critics that this once celebrated poem, after fifty years of celebrity, has ceased to excite common interest. To the medical profes-

sion, however, if not to the community in general, it must always remain of historic import, commemorating as it does the first attempt to establish those out-patient rooms for the dispensation of medicines, which since have become such a universal charity. And whatever may be the actual merits of the poem, Garth, seemingly with no particular literary ambition, nevertheless with this single effort placed himself forever high in the ranks of the English poets. There are other physicians who have courted the Muses and who, unlike Garth, have become renowned more as poets than as physicians. Horace Walpole — as a rule none too lenient in matters of literary criticism — in one of his letters, while most flatteringly commending some poetry of Dr. Darwin's, continues, "Is it not extraordinary, dear Sir, that two of our very best poets, Garth and Darwin, should have been physicians? I believe they have left all the lawyers wrangling at the turnpike of Parnassus . . ."

A few months after Garth had so abruptly stepped into his place in the ranks of English poets, there died the man who had succeeded Ben Jonson in the post of literary dictator and who was to be followed after a fashion by Addison, Pope, and the great lexicographer in turn. From John Dryden, Garth had borrowed the form of couplet which he had so improved, and from him Garth, the physician, "generous as his Muse," had received the immortal tribute of praise in verse. It is pouring old wine into new bottles to attempt anew the relation of a story, of which so many versions have come down to us that it is now difficult to tell wherein lies the truth. Authentic, however, seem these facts. John Dryden died in the house still standing on Gerrard Street in narrow and neglected circumstances on the May-day of 1700, at three o'clock of a Wednesday morning. His body lay in state, twelve days later, at no less curious a place than the

Hall of the College of Physicians, where on Monday, May 13, Garth pronounced his funeral oration, and with many others, "fifty carriages of friends and fifty more besides," attended the body to Westminster, where it was interred between the graves of Chaucer and Cowley in the Poets' Corner.

Garth is generally considered to have rescued Dryden's body from a supposedly ignominious burial, but, whatever part he may actually have played in the matter, certain it is that he obtained permission from the Board of Censors to allow the funeral exercises to be held at the College. Invitations, specimens of which are still extant, were issued to attend the ceremony at this place.

That there is any truth in the wild story of the vexatious events that happened at his funeral, as told in Johnson's Lives and elsewhere, there is no trustworthy evidence. Misstatements, long passing as genuine, were founded on a jocular letter by Farquhar, the comic dramatist, addressed to 'his Dear Madam;' on a poem by Tom Brown; and were revived thirty years later for a monetary consideration, seemingly, by the unfortunate Mrs. Thomas ("Corinna"), then a prisoner for debt. The sources are equally unreliable. Farquhar, indeed, begins the very letter in which his infamous burlesque appears with "I was so fuddled, that I hardly remember whether I writ or not" — certainly an indifferent authority.

According to Johnson, who, it must be confessed, accepted the story somewhat unwillingly, a private interment was to have been held at the expense of Lord Halifax — the Mæcenas of Garth's day. So, on the Saturday following Dryden's death, the funeral procession with a "velvet hearse" was about to leave his door, when Lord Jeaffries, with some rakish companions, happening by, interrupted the proceedings on learning whose private burial it was, promising a large sum

for a public funeral and a monument in the Abbey. Reluctant, the company was persuaded to disperse while the body was sent to an undertaker's. On the morrow, Jeaffries excused his action as part of a drunken frolic. Lord Halifax also, naturally disgruntled, refused to concern himself further with the matter after once having had the Abbey lighted and prepared. The chagrin of the family may be imagined. Their circumstances were such as to make it impossible for them to bear the expense of a funeral; and this is the less to be wondered at when one considers what formidable functions they then were.

At this embarrassing juncture, Garth, as Johnson says, "withal a man of generosity and great humanity, sent for the corpse to the College of Physicians in Warwick Lane and proposed a funeral by public subscription to which he himself set a noble example." Though the improbability of much of this story was pointed out years later by Malone, the fact of Dryden's actual interment on the second of May at St. Anne's in Soho has only recently come to light by the chance discovery of an entry to that effect in the parish register. The circumstances of the disinterment, of the embalming at Russel's, and of the transfer to the College continue to be obscured by uncertainties, and the finale of this marvelous structure of fable, as Johnson relates it, is too absurd to credit: that Garth delivered his oration with much good nature from the top of a beer barrel the head of which fell in during the course of the proceedings; that confusion and ribald disorder reigned during the ceremony — at the College, at the Abbey, and on the march thither. For all of this we are probably indebted to the fanciful imaginings of the befuddled Farquhar. It is perhaps worthy of note that Garth's share alone of the proceedings did not suffer burlesque from his pen, for he said, "The oration indeed was great and ingenious, worthy the subject and like the author;

whose prescriptions can restore the living and his pen embalm the dead."

There is one feature of the ceremony, as related by Thomas Hearne, that deserves passing mention, indicating as it does a side of Garth's character of which more will be said anon: "Mr. John Dryden, the great poet, was buried in Westminster Abbey among the old poets in May, 1700, being carried from the College of Physicians, where an oration was pronounced by the famous Dr. Garth, in which he did not mention one word of Jesus Christ, but made an oration as an apostrophe to the great god Apollo, to influence the minds of the auditors with a wise, but, without doubt, poetical understanding, and, as a conclusion, instead of a psalm of David, repeated the 30th ode of the third book of Horace's odes beginning 'Exegi monumentum, etc.' He made a great many blunders in the pronunciation."

Hearne is not the only one who has thus commented on Garth's apparent irreligion; but why should he have been expected to deliver a sermon under those unusual circumstances? That the proceedings were dignified cannot be doubted, and Garth's selection of the Ode to Melpomene, which was sung to music, was certainly a fitting and beautiful one.

> I have reared a monument, my own,
> More durable than brass.
> Yea, kingly pyramids of stone
> In height it does surpass.

It is almost prophetic of the fact that the spot where Dryden was interred long remained undistinguished by mark of any kind. Not until thirty years later did the Duke of Buckingham place a tablet there, inscribed simply with Dryden's name.

Almost coincident with Dryden's death and the birth of a new century, Anne came to the throne, and with her reign

began what has been called the Augustan era in England. There are, as Goldwin Smith has pointed out, certain grounds that substantiate the comparison. Peace, at home at all events, for Marlborough's operations leading up to Blenheim constituted largely a war of the allies and happily a victorious one; poetry and literature in the persons of Pope, Swift, Addison, Steele, and Defoe; the restoration of classical learning under Bentley's scholarship; and statesmen who almost with uniformity were patrons of letters. But underneath there was much vulgarity, ignorance, and excess. Even in literature, good breeding, as evidenced by such as Addison and Garth, was rare, and barely sufficed to safeguard even them against the coarse demands of the popular taste. The Queen, when she felt so disposed, resumed the practice of touching for the evil. Marauders after nightfall, calling themselves Mohawks, terrorized the citizens by their depredations; and animosities, resultant to party feeling, seem to have been almost equally disturbing to the peace.

The period, too, at least for the fine gentlemen, was one of the tavern and coffeehouse, where in lieu of the daily press the news of the day and the gossip of yesterday were washed down, often with so many bottles that the resultant conviviality commonly saw the day become the morrow. Thus ductile people like poor Dick Steele were led to send late messengers with lanterns to their Dear Prues, begging them to go to bed and promising to come home "within a pint of wine" — a bibulous way of recording the hours.

Many hearsay incidents of these coffeehouse festivities have come down to us, some of them hardly acceptable to modern ears. Of Garth there are numerous anecdotes, indicative for the most part of his readiness and wit. He was sitting one day in the coffeeroom of the Cocoa Tree Tavern near his home in St. James's Street, conversing with two persons of quality, when the poet Rowe, a vain fellow fond of

being noticed, entered the door. He sat in a box nearly opposite to Garth, looking frequently around in the hope of catching his eye. Not succeeding in this, he desired the waiter to ask the Doctor for the loan of his snuffbox, which he knew to be a rare one, set with diamonds, and the gift of royalty. After taking a pinch and returning it without Garth's deigning to notice him, he sent again for it, and soon again. Finally Garth, who knew him well and saw through his purpose from the beginning, took out his pencil and wrote on the lid the two Greek characters, Φ ρ — "Fie! Rowe!" The mortified poet ceased his persecutions.

It was a coffeehouse custom for everyone to pay his share of the entertainment — to "contribute his club" as it was expressed — and it was not long before this term, coupled with some appropriate adjective, became commonly used in designation of one or another coterie of friends. Gastronomy was at first the chief reason for a club's existence. "Our modern celebrated clubs," Addison says, "are founded on eating and drinking, which are points wherein most men agree." Somewhat later Dr. Johnson gave his properly indefinite definition, "An assembly of good fellows meeting under certain conditions." The number of these organizations multiplied enormously; many of them, in addition to mere conviviality, fostered objects of a more lofty nature, as literature and the fine arts. A few of them ultimately developed into powerful political machines, and of these there are two that continue to be of considerable historical interest: one of them made up largely of active Whig members; the other, the October Club, comprising those desirous of the Stewart succession, the active members of the Tory Party.

Garth's Harveian Oration, with its reference to William III, had early been the straw to show the direction of his political tendencies; and, though never a violent partisan at a time when political partisanship meant intolerance, his

culture, wit, and elegance doubtless made him a companion eagerly sought by the clique forming the famous Kit-Kat Club, in which were gathered all the various talents and accomplishments which then gave lustre to the Whig Party.

The early beginnings of this society, its purpose, and the source from which its name was derived are shrouded in some obscurity. It seems probable, however, that Jacob Tonson, the celebrated bookseller, one of the dwellers in "Little Britain," was its prime mover; some have said that for selfish reasons he gathered the young and budding wits of his party at his own expense to the mutton-pie feasts, hoping through this association with them to obtain the refusal of their youthful publications. Tonson seems to have been no more deserving of affection than other publishers of his time so bitterly stung by the "Wasp of Twickenham" in *The Dunciad*, especially if we are to judge from the stories of his relations with Dryden, a triplet from whose pen portrays him, physically at least, in no very favorable light. He had acquired wealth, partly, it is said, by a lucky stroke in the Mississippi Scheme, partly, also, through success in his trade; for during the Whig administration he was stationer, binder, bookseller, and printer to the Crown. After the change in government in 1710, it was largely through his influence that the club held together, and out of its peaceable origin grew into an organization that exerted a powerful influence in political affairs. It was no longer at a tavern, but at his country home in Barn Elms, Surrey, that the meetings ultimately were held.

> One night in seven at this convenient seat
> Indulgent Bocaj [Jacob] did the Muses treat,

and it was to decorate their convivium that Godfrey Kneller painted the celebrated portraits of the members, exerting himself, it is said, as he seldom did at other times.

As described by Steele in the *Tatler*, the custom of making toasts of the fashionable beauties of the time was peculiar to and originated with the society out of which the Kit-Kat Club was formed, and the scene with which this sketch opened was an instance of the annual election. The "toasts" were formally determined by balloting, and when elected they reigned, says the *Tatler*, indisputably, like the Doge in Venice. One finds mentioned in many a paragraph or letter the names of those who were thus forever celebrated by the attention of that illustrious gathering. When the "toasts" for the year had been chosen, it was customary for their names to be scratched with a diamond on a drinking glass, and, ballads being the fashion of the day, rhymes were often added as well. Garth seems to have had an especial facility for turning out these doggerel rhymes, but no one would have lamented more than he their perpetuation, and on a later occasion he excused them as having been spontaneously struck off to meet postprandial demands. They led, nevertheless, to his being designated as the Kit-Kat poet. The whole custom suffered ridicule at the hands either of Pope or Arbuthnot, one of whom wrote: —

> Whence deathless Kit-Cat took its name,
> Few critics can unriddle;
> Some say from pastry-cook it came,
> And some from Cat and Fiddle.
>
> From no trim beaux its name it boasts,
> Gray statesmen or green wits;
> But from this pell-mell pack of toasts,
> Of old "Cats" and young "Kits."

For some twenty years and until death began to play havoc with its membership this celebrated club continued to meet. In 1725 Vanbrugh wrote to Tonson, "You may believe, when I tell you, you were often talked of, both

during the journey and at home; and our former Kit-Cat days were remembered with pleasure. We were one night reckoning who were left, and both Lord Carlisle and Cobham expressed a great desire of having one meeting next winter if you came to town; not as a club, but as old friends that have been of a club, and the best club that ever met."

Few indeed have been the disciples of Æsculapius who have climbed "the severe ascent of high Parnassus" and at the same time been successful in their vocation. For the laity has ever been shy of the physician who allows his mind to soar above the level of most practical and mundane things; and a genius so inclined has, in reciprocation, not uncommonly failed in his profession from an equal shyness of the public. As indicated by Gay's lines, —

> Whenever Garth shall raise his sprightly song,
> Sense flows in easie numbers from his tongue;
> Great Phœbus in his learned son we see
> Alike in Physic as in Poetry,

such a fate was not meted out to Garth, for he continued throughout life to be for the members of the Whig Party what his equally talented contemporary, Arbuthnot, the author of *John Bull*, was for the Tories — the fashionable and honored medical consultant. "Never," says Leigh Hunt, "were two better men sent to console the ailments of two witty parties, or show them what a nothing party is, compared with the humanity remaining under the quarrels of both."

Garth, however, much like Addison in his charitableness and tolerance, seems to have stood aloof from petty professional jealousies and political rivalries, and though zealous for and constant to his party, yet he was very far from having the narrow and malicious spirit so characteristic of the times, and which led, often enough, to hatred of those holding oppo-

site political beliefs. Even Dr. Johnson acknowledges that Garth imparted his kindness equally among those who were and those who were not supposed to favor his principles. But even had he shared in these rivalries, the change in government that followed Anne's death in 1714, with Swift's fall and the reinstation of the Whigs, would have placed him on the top wave of political preference.

With the inauguration of the Hanoverian dynasty, Garth was made the King's Physician in Ordinary, Physician General to the Army, and in the same year was knighted with the hero of Blenheim's sword, so the story runs — presumably the famous diamond-hilted sword which in after years Marlborough's widow, the celebrated Sarah, pleaded for in Chancery lest she should live to see her profligate grandchild, who had succeeded to the title, squander for cash the jewels with which it was adorned.

These honors, according to Chalmers, were no more than the just rewards of his medical merit, though there need be no doubt that they were influenced by his known political affiliations. His social position; his oratorical and poetical success, coupled with the philanthropic spirit that led up to the latter; his natural ability and popularity; possibly, too, the part played in the Dryden incident, all combined to lead him rapidly into an extensive and profitable practice. Cibber says, "He had the happiness of an early acquaintance with some of the most powerful, wisest, and wittiest men of the age in which he lived. He attached himself to a party, which at last obtained the ascendant, and he was equally successful in his fortune as his friends. Persons in these circumstances are seldom praised, or censured with moderation."

In contemporary writings there are many references to his professional skill and reputation. Lady Mary Wortley Montagu writes in 1714 to her husband, "But I should be very glad if you saw Dr. Garth if you would ask his opinion

concerning the use of cold baths for young children," and again, "I hope the child is better than he was, but I wish you would let Dr. Garth know — he has a bigness in his joints, but not much; his ankles seem chiefly to have a weakness. I should be very glad of his advice upon it and whether he approves rubbing them with spirits, which I am told is good for him."

In the collected works of the notorious Mr. Thomas Brown appears the following epistle: —

To Doctor Garth:

Whether your letter or your prescription has made me well, I protest I cannot tell; but this much I can say, That as the one was the most nauseous thing I ever knew, so the other was the most entertaining. I would gladly ascribe my cure to the last; and if so, your practice will become so universal you must keep a secretary as well as an apothecary.

The observations I have made are these: that your prescription staid not long with me, but your letter has, especially that part of it where you told me I was not altogether out of your memory; you 'll find me much altered in everything when you see me, but in my esteem for yourself: I that was as lank as a *crane* when I left you at *London*, am now as plump as an *ortolan*. I have left off my false calves, and had yesterday a great belly laid to me. A facetious widow, who is my confident in this affair, says you ought to father the child; for he that lends a man a sword is in some part accessory to the mischief is done with it; however, I 'll forgive you the inconvenience you 've put me to. I believe you were not aware you were giving life to two people. Pray let me have a consolatory letter from you upon this new calamity; for nothing can be so welcome, excepting rain in this sandy country where we live. The widow saith, she resolves to be sick on purpose to be acquainted with you; but I 'll tell her she 'll relish your prescriptions better in full health, and if at this distance you can do her no service, pray prescribe her

Your humble Servant, Etc.

And so the Churchills, and Lady Hervey, — beautiful Molly Lepell, — the Walpoles, and others among those who,

through their letters, are still well known to us despite the gap of almost two hundred years, often make mention of Garth the Æsculapian as well as of Garth the companion. But, intimate as he seems to have been with those who were socially and politically among the great, his benevolence and true professional kindliness toward the needy seem in no way to have suffered. His reputation for charitableness, as one learns from many sources, was well deserved. "No physician knew his art more nor his trade less."

Poor Dick Steele never forgot his own indebtedness to Garth. He dedicated his play, *The Lover*, to him, saying, "The pitiful artifices which empyrics are guilty of, to drain cash out of valetudinarians, are the abhorrence of your generous mind; and it is as common with Garth to supply indigent patients with money for food, as to receive it from wealthy ones for physic." And another of Steele's tributes to his friend and physician may deserve to be quoted still more at length. The genuine and warm-hearted gratitude which it displays, as well as the gracefully indirect method in which this has been expressed, makes it an acknowledgment of services such as even the most deserving rarely receive. In the *Tatler*, No. 78, Saturday, October 8, 1709, Isaac Bickerstaff records that he has received the following letter: —

Sir,

I am just recovered out of a languishing sickness by the care of Hippocrates, who visited me throughout my whole illness, and was so far from taking any fee, that he inquired into my circumstances, and would have relieved me also that way, but I did not want it. I know no method of thanking him, but recommending it to you to celebrate so great humanity in the manner you think fit, and to do it with the spirit and sentiments of a man just relieved from grief, misery and pain, to joy, satisfaction and ease; in which you will represent the grateful sense of your obedient servant.

On which Bickerstaff (Steele) comments as follows: —

I think the writer of this letter has put the matter in as good a dress as I can for him; yet I cannot but add my applause to what this distressed man has said. There is not a more useful man in the commonwealth than a good physician, and, by consequence, no worthier a person than he that uses his skill with generosity even to persons of condition, and compassion to those who are in want: which is the behavior of Hippocrates, who shows as much liberality in his practice, as he does wit in his conversation, and skill in his profession. A wealthy doctor, who can help a poor man, and will not without a fee, has less sense of humanity than a poor ruffian who kills a rich man to supply his necessities. It is something monstrous to consider a man of a liberal education tearing at the bowels of a poor family, by taking for a visit what would keep them a week. Hippocrates needs not the comparison of such extorsion to set off his generosity, but I mention his generosity to add shame to such extorsion.

Many years later, when writing of Garth in his *Lives of the Poets*, Johnson, as will be remembered, was led for similar reasons, and in like vein, to say of the medical profession: "Whether what Temple says be true, that physicians have had more learning than the other faculties, I will not stay to enquire; but I believe every man has found in physicians great liberality and dignity of sentiment, very prompt effusion of beneficence and willingness to exert a lucrative art, where there is no hope of lucre."

It is regrettable that we have so little information, beyond that conveyed by anecdote, of Garth's private life; regrettable too that much of what we know serves merely to indicate the character of the day rather than of the individual. The customs, the fashions, the morals, were not our own, and our judgment upon them must be given with a light hand. There are some things held up against him — notably irreligion and libertinism — which only the coarseness of the

times enables us to excuse as being less bad in him than in the company he kept. Garth's own reflection upon Ovid's writings we may, however, appropriately turn upon his own character. He says, "It must be granted that when there appears an infinite variety of inimitable excellences, it would be too harsh and disingenuous to be severe on such faults, as have escap'd rather thro' want of leisure, and opportunity to correct, than thro' the erroneous turn of a deprav'd judgment."

During his early life in London, Garth is said to have resided in humble quarters in the Haymarket — according to the Rate Books of St. Martin's-in-the-Fields, "on the East side six doors from the top." It was in a garret of this same street that Addison lived when he wrote *The Campaign*, the poem that started his political fortune rolling; and it is quite probable that both of them were among the distinguished company present at the laying of the corner stone of the Queen's Theatre, now the Haymarket Opera House, designed by their friend Vanbrugh. Another bystander was the much abused laureate Colley Cibber, who subsequently wrote, "Of this theatre I saw the first stone laid on which was inscribed THE LITTLE WHIG in honor of a lady of extraordinary beauty, then the celebrated Toast and Pride of that party." This was Lady Sunderland, Marlborough's second daughter, and it was to her and Vanbrugh that Garth referred in the line, "By beauty founded and by wit designed," which occurs in his Prologue, subsequently read at the formal opening of this famous Opera House.

In the same year, 1705, Garth removed to more fashionable quarters, to St. James's, in fact, where he resided near his friends the Churchills, whose particular favor and esteem he always enjoyed. Here he was married to Martha, the daughter of Sir Henry Beaufoy, and here, so far as is known, he continued to dwell until later in life a country home at Harrow-

on-the-Hill was taken by him for Lady Garth and Martha, his only daughter.

Though his professional labors must have kept him much in town, his affection for the Hill, where many delightful social hours were passed with his friends, was such that he determined it should be his final resting place, and a vault was prepared in the church for the purpose.

The visitations between neighboring country houses, then as now, were many, and Garth's companionship, whether as guest or entertainer, must have been eagerly courted. "On the morrow I am engaged to go to Harrow-on-the-Hill with company," writes Pope in a note to Kneller, and in return we find Garth at the Twickenham Grotto, whence Pope sends word to Lady Mary Wortley Montagu (October 1717), who is still in Constantinople and still an object of Pope's fickle admiration, "Dr. Garth makes epigrams in prose when he speaks of you." It is perhaps but another evidence of that desirable quality for which Garth was so distinguished — his good nature — that his friendships endured so long. It is a quality to which so many allusions are made, and with such a unanimity of opinion that one would weary of it were it not for the realization that two hundred years ago the designation had a widely different meaning from that into which it has now become corrupted — with a suggestion of complaisance and the mental inactivity that accompany ready adjustment to the moods of others, and that too often belong to a wearisome though amiable personality. Of all his contemporaries not even Addison seems to have been so universally liked. In Steele's dedication, already so freely borrowed from, he says, "As soon as I thought of making the *Lover* a present to one of my friends, I resolved without distracting my choice to send it to the Best Natured Man. You are so universally known for this character, that an epistle so directed would find its way to you without your

name; and I believe nobody but yourself would deliver such a superscription to any other person."

The adulation of soft dedications of the eighteenth century must of course be taken into account in this eulogy, though there need be little doubt of the genuineness of Steele's feeling; but there were others notoriously of less kindly instincts who had the same regard for Garth. Eminent among them was "he who hardly drank tea without a stratagem." Garth's friendship with Pope began when the latter was a mere boy, and, although Arbuthnot and Swift may at one time have been Pope's closer intimates, nevertheless cordial relations with Garth were continued with a constancy which the younger man rarely exhibited. The ease with which Pope's animosities were aroused on seemingly the most trivial grounds makes it all the more creditable that Garth remained among the few who first or last suffered in no way from the stings of the poet's satire. His *Pastorals* were written by the stripling minstrel of Binfield when only sixteen, and the second of them, "Summer," was dedicated to Garth.

So later, in his "Epistle to Arbuthnot," he refers to Garth's early encouragement of his work in the lines, —

> But why then publish? Granville the polite
> And knowing Walsh, would tell me I could write;
> Well natured Garth, inflamed with earthly praise;
> And Congreve lov'd, and Swift endur'd by lays.

Good reason indeed had he to feel gratitude toward this patron of his youth, if we are to credit — as we should, for it comes through the Reverend Joseph Spence from Pope's own lips — the story of how Garth, with Addison and Congreve, brought him before Lord Halifax for a reading of the first sections of his translation of the *Iliad;* how his Lordship criticized several passages, requesting that they be altered;

and how Garth, who took Pope home in his chariot, laughed at his embarrassment and told him to leave them as they were, but to thank his Lordship and then go and read them again to him after a few months, which he did to the gratification of Lord Halifax, who cried out, "Ay now, Mr. Pope, they are perfectly right! Nothing can be better."

During their town life they were found together at Button's Coffee House, where they were immortalized by Hogarth's pencil, and they continued to fraternize after Pope left the "dear, damn'd, distracting town" to pass the remainder of "that long illness, his life," at Twickenham. And there Garth, no longer needed as literary patron, probably did more to encourage the poet's feeble body than his verse. Indeed the tables were so turned that Pope became the advocate of his friend's Muse, announcing to Richardson "that there was hardly an alteration in *The Dispensary* of the innumerable ones through every edition that was not for the better; and that he took Garth to be one of the few truly judicious authors."

Garth did not live up to his threat of writing no more. The most pretentious as well as the last work in which he engaged was the editing of a folio edition of Ovid's *Metamorphoses*. Of this Wharton says, "About this time it became fashionable among the wits at 'Button's,' the mob of gentlemen that wrote with ease, to translate Ovid. Their united performances were published in form by Garth, with a preface written in a flowery and lively style, but full of strange opinions." And soon after its appearance Pope wrote to Curyll, August 6, 1717, "Dr. Garth has published a translation of Ovid's *Metamorphoses* by several hands with a preface and a dedication in a new fashion, Folio, price 20*s*. I advise you to borrow it."

Between *The Dispensary*, his first, and this, Garth's last literary venture, there appeared several minor poems, one

of which must needs be mentioned, as an incident arising from it seems to show how well the author deserved his reputation for good nature. In 1710 when the Government changed hands, Garth wrote a short poem of kindly address dedicated to Lord Godolphin on the reverse of his political fortunes. In the Tory paper, the *Examiner*, No. 6, this poem was attacked by Prior, not only for its sense, but for its versification, and with all the outrage of party virulence. Garth had poise enough not to retaliate, but his satisfaction must have been great at the appearance of an unanswerable defense made for him by Addison, who concluded by observing that "the same person who has endeavored to prove that he who wrote *The Dispensary* was no poet, will very suddenly undertake to show that he who gained the battle of Blenheim was no general."

With like restraint Garth had not deigned to reply to the accusation of an earlier time that *The Dispensary* was really the product of another's pen, a slander, raised by the envy of authorship, that would now be forgotten were it not for Pope's lines: —

> With him most authors steal their works, or buy;
> Garth did not write his own Dispensary.

It was the lack of just such good nature that led to the sorry breach between Addison and Pope, which arose out of the jealousies engendered by Pope's and Tickell's translations of the *Iliad*. We find the fat, cringing Gay adding fuel to the fire in a letter addressed to Pope, July 8, 1715: —

> I have just set down Sir Samuel Garth at the Opera. He bids me tell you that everybody is pleased with your translation but a few at Button's; and that Sir Richard Steele told him that Mr. Addison said Tickell's translation was the best that was ever in any language. He treated me with extreme civility, and out of kindness gave me a squeeze by the forefinger. I am informed that at Button's your character is made very free with as to morals etc.,

and one Mr. A(ddison) says that your translation and Tickell's are both very well done, but the latter has more of Homer. I am etc.

It must have seemed odd to all who have interested themselves in Garth's life that, considering the scant notes which are accessible, there is so much said on the subject of his religion or irreligion. It naturally brings to mind the sorry publicity thrust one hundred and fifty years later upon the beliefs of another agnostic, to whom might also be applied the sentiment in Pope's oft-repeated statement that "if ever there was a good Christian without knowing himself to be so it was Dr. Garth." The presumption of his hostility to the Christian faith seems to have been due partly to the irregularity of the exercises at Dryden's funeral, over which he presided, as well as to an early epitaph on Saint-Évremond, accredited to Garth and intended for Westminster Abbey, in which he commended Saint-Évremond for his indifference to all religion.

It does not seem to have been Garth's practice, however, to parade his personal beliefs or disbeliefs, for the tale has come down to us that, being one day questioned by Addison upon his religious creed, he replied that he was of the religion of wise men, and, being asked to explain himself further, he added that wise men kept their own secrets. Whatever may have been these secrets, his friends knew that, as his days became numbered, doubt and uncertainties arose in his mind, and as he neared the end Addison made a futile effort to console him with the hope of a life hereafter, but was turned off with the reply that the doctrines of Christianity were incomprehensible. If, however, we are to believe the story which came from Mr. Blount, the father of Pope's Martha, to Pope, and through him to be recorded among the first of Spence's anecdotes, he repented this attitude on his deathbed. "It was usual for him to say: 'That if there was

any such thing as religion 't was among the Roman Catholics.' Probably from the efficacy we give the sacraments. He died a Papist; as I was assured by Mr. Blount, who carried the Father to him in his last hours. He did not take any care of himself in his last illness; and had talked for three or four years as though tired of life; in short, I believe he was willing to go."

Indeed, not only did he take no care of himself in his last illness, but he actually essayed to have his end hurried, if we are to place further credence on the hearsay anecdotes of the time. I cannot do better than quote again from Spence, who says:—

> When Dr. Garth had been for a good while in a bad state of health, he sent one day for a physician with whom he was particularly intimate and conjured him by their friendship and by everything that was most sacred (if there was anything more sacred), to tell him sincerely whether he thought he should ever be able to get rid of his illness or not. His friend, thus conjured, told him that he thought that he might struggle on with it perhaps for some years, but that he much feared that he would never get the better of it entirely. Dr. Garth thanked him for dealing so fairly with him, turned the discourse to other things and talked very cheerfully all the rest of the time he staid with him. As soon as he was gone, he called for his servant, said he was a good deal out of order and would go to bed; he then sent him for a surgeon to bleed him. Soon after he sent for a second surgeon, by a different servant, and was bled in the other arm. He then said he wanted rest, and when everybody had quitted the room, he took off the bandages and lay down with the design of bleeding to death. His loss of blood made him faint away, and that stopped the bleeding; he afterwards sunk into a sound sleep, slept all the night, waked in the morning without his usual pains, and said if it would continue so he would be content to live on.

It was perhaps this acknowledged attempt to speed the end of his sufferings, coupled with the playful remark accredited to him that he was glad he was dying for he was weary of having his shoes pulled on and off, which led "ill tongues and

worse hearts," as Pope said, "to brand even his last moments as wrongfully as they did his life with irreligion." Can we not commiserate him? A physician, who held not the layman's fear of death; wifeless, for Lady Garth had been buried at Harrow the year before; not having the solace brought by religious faith; and doomed to linger on with a painful illness. It was a Baconian saying that man fears not being dead, but only the stroke of death; but to Garth and many others of his kind, necessarily familiar with death, not even the event is fearful — Garth's "friendly stroke."

> To die is landing on some silent shore
> Where bellows never beat, nor tempests roar,
> Ere well we feel the friendly stroke, 't is o'er.[1]

Memorable are the words of William Hunter to Dr. Combe: "If I had strength enough to hold a pen, I would write how easy and pleasant a thing it is to die."

Beautiful though the view still remains, the pointed spire of St. Mary's of Harrow-on-the-Hill no longer looks out, as in Garth's day, on unbroken woodland and countryside, but on the smoke and roofs of approaching London, apart from whose strife and turmoil he had hoped forever to rest. Forgotten and half hidden by some modern furnishings, in the corner of the chancel one may find a large gray flagstone, on which a part, at least, of this simple inscription may still be read: —

IN THIS VAULT LIES YE BODY
OF YE LADY GARTH LATE WIFE
OF SAMUEL GARTH, KT.
WHO DYED YE I OF MAY,
IN YE YEAR 1717.

SIR SAMUEL GARTH
OBIIT JAN. THE 18, 1718.

[1] *The Dispensary.*

III

REALIGNMENTS IN GREATER MEDICINE[1]

MR. PRESIDENT, LADIES, AND GENTLEMEN: Thirty-two years have elapsed — a full generation — since this Congress, under the distinguished leadership of Sir James Paget, last gathered in London. Among the participants on that occasion were five of the immortals in the history of the medical sciences: Huxley — naval surgeon, zoölogist, palæontologist, educator, philosopher, public servant; Virchow — pathologist, anthropologist, archæologist, statesman, and sanitarian; Pasteur, the chemist, Lister, the surgeon, and Koch, the bacteriologist — among the foremost contributors of all time to the welfare of their kind. On the foundation which these men laid — a new conception of biology and man's place in nature; the doctrine of cellular pathology; fermentation and immunity; wound healing without suppuration; bacterial diseases — a transformed medical edifice has been erected. Methods of investigation, the direct outcome of those which they evolved, we still employ. Weapons which they devised are still, and always will be, effective, not only in a hand-to-hand conflict with individual examples of many of the disorders to which man and the animals needful to his existence are exposed, but, better still, in their prevention.

A few years before that meeting the members of our profession and particularly those concerned with its basic science,

[1] Address in Surgery; Seventeenth International Medical Congress, London, 1913.

physiology, had been called upon in this city to defend themselves against the public charge of cruelty in their pursuit of knowledge. There had been no striking practical demonstration of the value to the common weal of animal experimentation such as an unenlightened public demanded — such, indeed, as an unenlightened profession expected. The defense was based chiefly on the need, even at the cost of animal life, of increased knowledge concerning the functions of the human body; but, despite the warnings and protests of Huxley and a few others, the restrictive legislation, of which you know, was passed. Since then in the British Isles, and consequently in other English-speaking countries, medicine has been placed in the absurd position of defending the character of the labors necessary for its advancement.

But all this is changing, and, indeed, began to change soon after that memorable Congress of 1881. Virchow, though his great contributions had come through mortisection studies rather than through observations on the living, gave an elaborate historical review of the value of experimentation to general pathology. Pasteur, at one of the sessions, presented the results of his work on vaccination against chicken cholera and anthrax. At another Koch gave demonstrations of his newer bacteriological technique. In the surgical section the question of chief moment concerned primary wound healing, and, in the emphatic discussions which followed, Lister, who had perforce been required to conduct some of his investigations in France, described his experiments demonstrating the bactericidal properties of blood serum: between the lines of the printed reports one can easily perceive the coming transformation of antiseptic into aseptic surgery.

The seed of knowledge often finds a better soil when transported to a distance, and in this instance it was across the Channel, where no discouraging blight was put upon the

sort of research that is as necessary for the furtherance of surgery as for that of any other subdivision of Greater Medicine. For it was on the Continent that the principles established by Lister took firm root and, particularly in Germany, were so ardently cultivated through experimentation and practice that modern surgery bears a more vigorous Teutonic than Gallic or Anglican graft. And is it not due solely to this legislative restraint upon the freedom of investigation that in these thirty years this country, which has continued to produce the greatest of names in the experimental sciences free from statutory restriction, has given us few instead of many notable successors to Hunter and Cheselden, to Cooper and Pott and Brodie, to Bell and Paget and Lister, who contributed to the science no less than to the craft of surgery? It would seem, indeed, that the restrictions placed upon animal experimentation have deterred the physician and surgeon from productive laboratory investigation far more than the physiologist, whose inclinations toward research the statutes of 1876 were expressly designed to hold in check; for Great Britain's representatives of pure physiology and experimental neurology, despite the hampered conditions under which they work, stand out as the chief contributors of the generation to British medicine, though the public cannot appreciate, nor the profession for the moment fully understand, the significance of their labors.

The spirit of investigation — all too rare — should be generously subsidized rather than taxed, encouraged rather than hindered. An isolated set of experiments by one participant in that Congress of 1881 is said to have saved enough for France to enable her to pay the heavy indemnity which the outcome of a war had imposed upon her. Nature is loath to give up her secrets; discoveries do not come by chance — they are made by those only who are industriously prepared to observe them; and the inquisitorial methods of

those who seek the light through experimentation, misjudged as cruel, are necessarily stern and persistent, whether the investigator deals with inanimate objects or with animate beings. Possibly Pasteur's greatest scientific triumph lay in a discovery in crystallography, but the same method of work was pursued in his studies of fermentation which inaugurated a new era in the brewing and wine-making industries, in the saving of the silkworm from a destructive parasite, of poultry from cholera, of flocks from anthrax, and in the elaboration of an effective barrier against the most frightful of deaths — that from hydrophobia. From crystals under the microscope, to yeasts, to the silkworm, to chickens and sheep, to man — and when his studies reached man, who was henceforth to be saved from the poisonous bite of his friend and ally, the dog, Pasteur was accused of cruelty to animals. And the name of this simple and loving man, acknowledged the greatest of Frenchmen, but whom France alone cannot claim, is met with hisses when mentioned on certain platforms before gatherings of presumably intelligent people!

This Congress meets again in London, under circumstances strangely similar to those of a generation ago. Again a legislative inquiry has just been forced upon British medicine by those who would abolish experimentation upon animals. But how different the testimony! It bared to the public gaze a science of medicine which in thirty years had become transformed throughout the world as a result of the very activities the Commissioners were called to investigate. Medicine no longer, even as a practising profession, is looked upon as uncommunicative, consulting in the back room as though it had something to conceal from patient or family; for in the individual case the family, and in the general case the public, are not only awakened, but are sufficiently informed to come into an open consultation in the struggle

against disease. Great funds are devoted to the purpose; great corporations are held responsible for the health of their people; formerly uninhabitable zones of the globe are being rid of their plagues; governments, civic, state, and national, not only employ the weapons of attack and defence forged in laboratories whose methods were in question a generation ago, but expect their medical officers to make progressive contributions by further researches.

All these great movements, of which Huxley and Virchow and Pasteur must have had some foresight, are but expressions of the new alignments taking place in the profession of medicine — alignments which affect the surgeon no less than the physician.

It has been a seeming paradox that the medical profession has so consistently endeavored to make of the world a place where there is a constantly lessening need for the medical man. He is, indeed, already feeling the effect of these efforts, and as he becomes more and more a servant of the public health, and less and less a prescriber for individual ills, he philosophically accepts and humanely welcomes this outcome of medical discoveries which the experimental method has already given and will increasingly continue to give.

Disorders which gave bread and butter to his predecessors are disappearing, as smallpox disappeared after Jenner. One injection robs diphtheria of its terrors, another, meningitis. Typhoid fever, which once replenished the doctor's autumnal pocketbook, is now looked upon as a civic disgrace, and where it exists, or is likely to break out, protective vaccination is performed against it. Tuberculosis is everywhere fast coming under state care, and the widespread campaign against the disease, in which those outside the profession are taking no insignificant part, is gradually lessening its ravages. The health of children attending the public schools

is supervised by appointed officers; district nurses and the social-service worker visit the homes of the sick and assume duties which the hospital physician long neglected; a privately endowed Commission takes steps to eradicate hookworm infection from a whole zone of the globe; an organized Red Cross Society, with government affiliation, steps in in great emergencies; governments see fit to pass Insurance Acts which make public officials of the profession at one sweep. Dr. Pound of Cure Lane is being superseded by his young disciple, Dr. Ounce of Prevention Street.

In matters of health the people as a whole have been largely permitted to shift for themselves, and when they have forgotten how large a percentage of the faces of the eighteenth century and before were pock-marked, many of them wish again to exercise their individual discretion regarding vaccination. "Where there is no vision, the people perish." Governments, though interested in the welfare of the domesticated animals, are too often indifferent to the public health, and only in the face of emergencies, the greatest of which continues to be warfare, are they stirred to action, since freedom from disease is as essential as food and ammunition in the prosecution of a successful campaign. Hence have arisen the most striking examples of the effectiveness of preventive vaccination, at first against smallpox and latterly against typhoid.

The effect of the present realignments of medicine of which I speak is particularly apparent in the case of the military surgeon, for the Parés, the Wisemans, and the Larreys, the Pirogoffs, the Dupuytrens, and the Langenbecks of to-day are occupied with preventive inoculation, with the screening of the sick, the protection of water sources; more concerned with the first-aid package than with the extraction of bullets; more often called upon to use the microscope than the scalpel and ligature. Little wonder that from men of this

type great contributions have come. It is a far cry from Guthrie's amputation through the hip joint at Waterloo to Laveran and the discovery of the malarial plasmodium, or to Walter Reed, the mosquito, and yellow fever.

In the search for biological truths, the God-given privilege of becoming an obvious benefactor to his species comes to but few men. No one of the countless inquisitors of nature knows whether the mantle of recognition will fall upon him — or, for the matter of that, especially cares, provided he be given the personal satisfaction of having taken a step forward in knowledge, no matter how trifling at the moment that step may appear to be.

To whom is chiefly due the expectancy of recovery for the consumptive? Is it to Leuwenhoek and the miscroscope; to the father of Lister and to Abbé, who perfected its lenses; to René Laennec and his stethoscope; to Sir William Perkin, whose experiments with the coal-tar by-products furnished the necessary color reagents; to Villemin, who demonstrated its communicability; to Koch, whose genius made possible the recognition and cultivation of the organism; or to Ernst von Leyden's propaganda in Germany, and in the United States to Trudeau, himself a victim of the disease, through whose precepts and example tuberculosis has been moved into the open, where it is being effectively attacked in a campaign of education shared by layman, legislator, and physician alike? Unquestionably through experimentation on animals the most important step in this progress was made — the discovery of the *Bacillus tuberculosis* and its identification as the causal agent not only in pulmonary "consumption" but in the many "strumous" and "scrofulous" disorders which puzzled our forbears.

Where will lie the chief credit for the approaching victory over the great social scourge which since its outbreak in Columbian times has undermined the vigor of the race?

Will it be with those earlier men who gave us the tools of research, the microscope, the culture media, and the coloring dyes; with Wassermann and the possibility of a chemical diagnosis; with Schaudinn, who discovered the spirochæte; with Metchnikoff and the successful transfer of syphilis to the ape; or with Ehrlich, who, by his original methods, has had the triumph of synthetizing a drug possessing a special affinity for the infecting organism but which leaves uninjured the tissues of the infected host? There has been nothing heretofore comparable to this relentless, persistent, certain elaboration of a chemical compound which at a single dose may destroy, within the living tissues, the organism of a dread disease.

What would the opponents of animal experimentation of 1876 have thought could this have been foreseen, this which is only the beginning, with pneumonia and cancer still to be overcome? That the means do not justify the end? That it is unfair to the lower animals, some species of which with unquestioned cruelty man sacrifices for adornment, for sport, for covering, for food; some of which he deliberately mutilates in the process of domestication or in preparation for his table; some of which, like the infected rats and squirrels of plague-ridden districts, he must attempt to exterminate for his self-protection?

But in the search for knowledge the investigator does not exempt himself as a subject of so-called vivisection when lower animals do not suffice for the purpose;[1] nor will he ever hesitate even to endanger his life, whatever may be the ethics of the question, if thereby information is likely to be gained concerning some disease fatal to his kind. To whom is due the approaching transformation of the tropics into a possible habitat for civilized man? Again a series

[1] Henry Head's important studies on the sensory disturbances produced by a purposeful division of a nerve in his own arm may be given as an example.

of investigators on investigators' shoulders, until Theobald Smith, in the case of the tick-infected cattle decimated by bovine malaria (Texas fever), showed for the first time in 1893 that a parasite might be an essential intermediary host in the transfer of a disease from animal to animal. Promptly all bloodsucking parasites of man became objects of suspicion, and ere long convictions followed — first in the case of filaria by Manson; then Ross's demonstration that the mosquito is also an essential link in the cycle of "million-murdering" malaria, a discovery which was made possible through his studies of infected birds. But when it became necessary to establish unequivocal proof in the case of man, the younger Manson, and Warren, of the London School of Tropical Medicine, did not hesitate to submit themselves to the bite of infected mosquitoes sent for the purpose to England from the Roman Campagna.

It is hardly possible for one unfamiliar with the experimental method and its necessary tedious controls to conceive of the patient, unflagging, time-consuming labors on the part of many investigators the world over, often conducted in most unhealthy districts and in the very shadow of death, which step by step, unwavering, led to this final demonstration — labors which in review seem almost beyond the possibility of accomplishment. The discovery of the malarial plasmodium in the blood, the determination of its several varieties, the study of the sexual cycle of its development, the changes in the stomach wall of the mosquito and the lodgment of the sporozoites in the glands of the proboscis, the particular species among the many genera of mosquito concerned, the fact that the female alone is the active agent, the finding of the length of time necessary for infectivity — each step, whether by Frenchman, by Italian, by Canadian, by Englishman, or by German, a triumph of the spirit of research! And no great objection is raised if, in the process,

the mosquito, bird, and man are the subjects of experimentation.

Soon the participation of another species of mosquito in the transmission of a still more dreaded disease was demonstrated in Cuba by the United States Yellow Fever Commission, at which time Carroll, Lazear, and some brave volunteers from the ranks permitted themselves to be bitten by infected parasites — the lamented Lazear dying a victim of the disease he had invited. The imagination of the public is only beginning to respond to these acts of heroism constantly being performed by investigators the world over, performed for humanity's sake, and surely no less but even more heroic than the quickly applauded dangers risked in warfare for the sake of country alone. Far better could our proof of the transfer of yellow fever through the bite of the Stegomyia have come through the sacrifice of lower animals, had animals susceptible to the disease been available for the purpose, but to the members of that Commission there seemed no alternative to experimentation upon human volunteers. And what have been the results? Pestilential districts become habitable; commerce with tropical ports, once annually quarantined because of the recurrence of a dread scourge, continues the year round; across an isthmus formerly plague-ridden two oceans are being joined, where under a former régime shovels alone, without drainage and screens, proved utterly unavailing.

And after the cattle tick and the mosquito all other biting parasites — the flea and the bedbug, the fly and the louse — have risen in dignity from a disgrace to a menace.[1] Im-

[1] Parasitism comes to have a far broader significance in relation to medicine than is covered by bacteriology alone, and from its widespread existence in nature, among plants as well as animals, and from the fact that "every parasite has near relatives that do not possess the parasitic habit," it may be assumed that these habits are acquired, and that consequently some diseases may be of recent occurrence and that still others may arise anew. Metchnikoff has even suggested that among parasites we may look for the latest products of evolution. It is a far cry in the

mediately the patient studies of the insect world by the entomologist, disturbed from his quiet seclusion as a systematist into active participation in medical problems, become of the greatest practical value; and under the wing of preventive medicine his specialty, like that of the helminthologist and protozoölogist, becomes as essential to the medical curriculum as was that of the botanist a century ago. These are astonishing changes to have been brought about by the experiments of one modern scientist who had the training, the imagination, and the patience to investigate the ticks of cattle afflicted with a destructive plague, and after four years of laborious study to identify them as essential agents of the disease.

Herein, it seems to me, lies the weakest point in the opposition to experimentation on the basis of cruelty — namely, that the animals whose preservation is desirable benefit from these investigations as greatly as man. There is no more notable example of this than the case of man's companion, the dog. Through the deserved attachment which has grown out of this companionship, a sentiment has arisen which would exempt the canine species from experimentation. But had such a law been put on the statutes, Copeman's discovery of the bacterial cause of distemper, and of a successful method of inoculation against this most fatal and distressing canine disease, would have been impossible; and the same is true of the fatal malignant jaundice — a parasitic blood disease conveyed by the bite of the dog tick, so prevalent in some parts of the world as to make the rearing of dogs impossible, and for which Nuttall has found an effective remedy and means of prevention. What a credit to the societies for animal welfare could such discoveries have come

history of parasitism from the first given example — the mistletoe, by Pliny — to a hæmatozoön, one cycle of whose development must take place in the body of a bloodsucking intermediary host.

through their own efforts rather than through the efforts of those whose methods of research they are prone to question!

Large sums of money have been wisely devoted to the prevention of cruelty to animals, and much good has been done in the past, but by a strange process of evolution most of those now entrusted with these funds, instead of grasping the opportunity to advance knowledge of the diseases of animals, have devoted their energies to opposing such advance as may be undertaken for the sake of man at some expense to animal life. The future offers a great opportunity for these societies, whose capital is now largely expended on the one hand in the wholesale sacrifice of stray and diseased animals, and on the other in destructive criticism of the methods of those they call vivisectionists; for by constructive investigation, and by the employment of the same methods which have been elaborated by those whose primary object is the study of the diseases of man, they may become as great benefactors to animals, and incidentally to man, as the medical scientists have been to man, and incidentally to animals.

There could be no better outlet for the present wasteful methods of many of these organizations than the establishment of veterinary hospitals, in which modern methods of treating disease could be employed, further investigations made, and students of veterinary medicine taught — the three great functions of any hospital; and there is promise in some communities that this wise step may be taken.

Though less true of many European countries, where veterinary institutes are doing admirable progressive work under government control and in close association with universities, in the United States, and I think the same is true in a measure of Great Britain, most veterinarians have profited not at all by the advance in general medical knowledge of the past generation. This applies particularly to

veterinary surgeons who still trust, in the operations which they venture to undertake, to the rough and casual methods of old, with scant if any pretense of the modern refinements of skillful anæsthetization and aseptic surgical technique. Little wonder that people who are aware of this difference prefer to have their pets, when in need of surgical care, operated upon in an experimental laboratory rather than in many of the established veterinary hospitals. Some years ago, in the surgical laboratory at Johns Hopkins, this work grew to such proportions that a course covering the technique of operative procedures was offered to a group of veterinarians, who there for the first time learned methods which would enable them to save valuable animal lives by procedures which they had considered impossible, and which for the general run of veterinary surgeons had been impossible.

When himself the victim of an operable malady, man voluntarily submits to a surgical operation, which is nothing other than vivisection, aware that the momentary risk and temporary discomforts — happily far less than they were of old, despite the increasing magnitude of the procedures which are undertaken — are but a small payment for the possible and probable ultimate good.

And most experimental procedures in the laboratory today are conducted on the same principles and with the same precautions that are observed in the hospital operating room, and the rewards of experimentation, largely for these reasons, are greater than ever before. This is one of the great contributions which the surgery of Lister has made to the advancement of the medical sciences — a contribution as great as that represented by the immediate benefit to the stricken patient no longer liable to the dangers of wound infection.

It does not seem to be realized by the opponents of such forms of research as entail experimentation upon animals

how few individuals undertake it, for the work requires elaborate preparation, expensive and delicate apparatus, is time-consuming and fraught with baffling disappointments. Ehrlich experimented with 605 synthetically prepared chemical compounds before salvarsan was attained. Painful experiments were necessary before anæsthesia, just as painful surgery was necessary; and the extraordinary thing is that the physiologists of the days before surgical anæsthesia and reactionless wound healing ever learned from animals what they did of the functions of the human body, for the solution of the problems of digestion, circulation, secretion, and nervous action cannot be satisfactorily undertaken if the subject be emotionally disturbed or suffer pain or be not gently and properly cared for. Whatever the conditions may have been in the past, the opponent of research need have no apprehension to-day on the score of the elicitation of pain. And in this connection is it not extraordinary to recall the protestation once raised by poets, divines, and even physicians themselves, against the banishment of pain by chloroform during childbirth — for had not women been fashioned to suffer?

Experimental therapeutics will in time doubtless give us the ideal anæsthetic, a single injection of which will induce a prolonged insensitive sleep, perchance of long enough duration for primary wound healing to occur. Then will the surgeon's weight of responsibility, whether in laboratory or clinic, be greatly lightened, for undoubtedly to-day inhalation anæsthesia itself gives him his chief sense of anxiety, and his patients, whether animal or man, their chief discomforts. Still, in spite of its present defects, anæsthesia — and it is a pity that there is no one man to whom we can unqualifiedly attribute its discovery — shares with Lister the credit of having made of surgery the most important agent which we possess for the cure of disease.

Its principles are so definite, its technique so easily acquired, its performances in the long run so safe, that as a therapeutic measure human vivisection — to use this cruel word in a sacred sense — has almost wholly lost its terrors. The triumphs of surgery stand beside those of hygiene and preventive medicine as the notable medical achievements of these thirty years.

Of the new alignments which have been the outcome of modern surgery I particularly wish to speak. Is it not a striking fact that the health officers comprising the medical corps of our armies and navies — men who have a medical degree, and who may be called upon in an emergency to practise any branch of greater medicine — are called surgeons? I have indicated in some of the preceding paragraphs how far their activities may be removed from handicraft, supposed to be the chief business of surgeons. Though formerly this may have been their sole occupation, they are now coming to use more the armament of the scientific physician and public-health officer.[1] Thus the army medical officer, unhampered by tradition, more nearly fulfills the office of the Greek physician, who, as Sir Clifford Allbutt has so well said, had no more scruple in using his hands in the service of his brains than had Phidias or Archimedes; whereas his brother in civil life still adheres to the traditions of the times when the manual and debasing craft of surgery was cast off from medicine.

Surgery, by force of circumstances, groped its way alone through the dark centuries — a craft largely devoted to the repair of wounds and injuries inflicted in warfare. But its principles were sound, its growth steady — until now, and particularly in the past generation, it has rapidly developed

[1] One should of course not forget in this connection Sir John Pringle, the originator of the Red Cross idea, who may be regarded as the founder of 'military medicine,' and whose volume, *Observations on the Diseases of the Army*, London, 1752, is one of the medical classics.

into the most generally useful therapeutic measure which the physician has at his command. Its principles, moreover, are as profitably employed by the investigator in his laboratory as by the clinician in the case of an individual the victim of disease. It has served to break down medical sects and systems, such as Hahnemannism — for what principle of homœopathy justifies the use of scalpel and forceps? Indeed, surgery has been one of the great factors in the present realignments of medicine, for from Lister and Pasteur as their fountainhead the great streams of progress have flowed, in the case of the individual into the art of surgery, and in the case of the community into prophylactic medicine. Even the physician, who for so long held himself aloof from anything savoring of handicraft, returns to it with that useful instrument, the hollow needle; and paracentesis, lumbar puncture, and the extraction of blood for diagnostic or the administration of drugs and sera for therapeutic purposes by a minor surgical act are an acknowledged part of his therapeutic resources. By a strange transformation, too, he has become the phlebotomist, and the venesections and cuppings, formerly the overworked province of the barber surgeon, are largely practised by him to-day.

Billroth said some thirty years ago, "Die innere Medicin muss mehr chirurgisch werden," and this seems to be what is taking place. Before Billroth's time it was largely internal medicine versus external surgery, for operative measures were necessarily confined to the exposed parts of the body; the visceral surgery of to-day — the larger part of the present surgeon's work, in the inauguration of which Billroth himself played no inconspicuous part — was then inconceivable.

We still retain many of the traditions of those earlier days, days when a pure craftsman, steeled to act in the face of unanæsthetized suffering, amputated, removed surface tumors, ligated vessels, and cut for stone, the fistula, and a

few other ills, with an unerring hand and unbelievable speed. The highroad to surgery was through the anatomical dissecting room, and in these surroundings the operations of surgery were then, and still are, for that matter, largely taught, with the result that the rule-of-thumb operations of one generation are handed on to the next. But the next will never use them, owing to the extraordinary progress ever making in these measures, due to methods of asepsis and the increasing knowledge of surgical possibilities.

To-day an individual of wholly different temper from the surgeon of old ventures to do operative work, and the essentials for his training are of an entirely different order. Descriptive anatomy, useful as it may be to him, is no longer a prime requisite in the terms of the past generation, but his knowledge of visceral physiology and pathology must be broad, his observations of asepsis unimpeachable, his skill in hæmostasis and handling of the various tissues delicate and painstaking. As a training ground the anatomical dissecting room fast gives way to the experimental laboratory.

An entire change in the character of operative workmanship largely explains the transformation in the surgery of the past decade or two. The accurate and detailed methods in the use of which Kocher and Halsted were for so long the notable examples have spread into all clinics — at least into those clinics where you or I would wish to entrust ourselves for an operation. Observers no longer expect to be thrilled in an operating room; the spectacular public performances of the past, no longer condoned, are replaced by the quiet, rather tedious procedures which few beyond the operator, his assistants, and the immediate bystanders can profitably see. The patient on the table, like the passenger in a car, runs greater risks if he have a loquacious driver, or one who takes close corners, exceeds the speed limit, or rides to applause.

And in all of this new visceral surgery it seems to me that the physician has merely come to do his own operating, that internal medicine is merely becoming surgicalized, much as military surgery has become largely medicalized. In the breaking up of Greater Medicine into its clinical specialties, the primary cleavage gave us the physician and surgeon, with medical versus manipulative forms of treatment as their essential distinction. Chiefly on anatomical lines each of these major subjects has broken up into a second or even a third order, but in the case of these further subdivisions it is to be noted that there is an inevitable tendency for operative therapy to become attached thereto, so that we have the ophthalmic or aural or laryngological surgeon, the gynæcological, orthopædic, genito-urinary, or neurological surgeon, according to the direction whither opportunity or training or inclination may have led. Even the obstetrician — the half brother of the physician and surgeon — reaches out for the operative side of the diseases of women, with the complete *Frauenklinik* in mind.

And what is happening in these specialties is an indication of the tendency in the two major branches, for internal medicine and surgery, as the treatment of disease grows less empirical, unquestionably tend to converge. Having the same preliminary training, possessing the same diplomas, some of the graduates of our schools gravitate toward surgery and the greater number toward medicine, but in habit of thought and general attitude toward disease there is little difference to-day between the higher order of physician and surgeon. Though possessing a strong distaste for the act of operating itself, many physicians have admirable surgical judgment and are perfectly capable of the surgeon's craft, just as a well-schooled surgeon should be capable of practising the physician's art. The basis of their training has been the same, and their divergence to-day comes about only

through occupational likes or dislikes. Both have the same familiarity with the more common disorders, — those of the abdominal cavity, for example, — and indeed the surgeon, provided he devotes the time he should to the preliminary study of his case, is apt to hold the advantage over his medical colleague in this regard, unless the latter industriously follows his patient to the operating table, where he can often learn from living pathology much that was impossible from the pathology of the autopsy room.

A clinic, let us say on aneurism, is given on very much the same plan by both physician and surgeon, and their common road forks only at the post of treatment, where down one (and the longer) path beckon Valsalva, Tuffnell, and Balfour, to rest, a low diet, and potassium iodide, and down the other (and shorter), Hunter, Corradi, and Matas, to some method requiring exposure of the lesion through an incision.

The internist has learned that effective operative work cannot be done well for him by one who merely represents his hands, and he would not venture to refer his patient with obstructive jaundice or hæmaturia or pyloric stenosis to a mere operator who did not have the same knowledge of and the same attitude toward the pathological lesion of liver or kidney or stomach that he himself has. This, in other words, is equivalent to the physician's doing his own surgery, for I think it is stupid to say, as has been said, that the surgeon has taken the appendix and gall bladder, and now the stomach, thyroid, and brain, and threatens to take the lungs and cardiovascular system, and so on, away from the physician. It means merely that, as the physician becomes more and more a craftsman and user of instruments of precision, internal medicine and surgery tend to draw together and to overlap, as they have not done since the thirteenth century, when the physician-priests were debarred by ordinance

from undertaking any operation involving the shedding of blood.[1]

In no subdivision of medicine has this been more apparent than in the difficult subject of neurology — a subject which has been conspicuously poor in therapeutic resources. Time was — and not long ago — when under the direction of the neurological diagnostician, who mapped out the field of operation on the scalp, blundering attempts were made to do his cranial surgery for him. The combination was an utter failure, for the same reason that similar combinations had always proved failures before. Not until the operative possibilities of neurology were taken up by those possessing some preliminary knowledge of and interest in the nervous system and its diseases, as was notably the case with Sir Victor Horsley, — in other words, not until certain neurologists began to do their own surgery, — did the recent rapid strides in this direction come about. To-day a school of operating neurologists is being trained to continue this work, for as promising a future lies before intracranial as lay before abdominal surgery; but the error must not be made of permitting surgical specialists to enter this or any other restrictive field of operative endeavor without a broad preliminary training in medicine and general surgery. This mistaken course, critics say, has been pursued in some of the established surgical specialties. That they may lose sight of the patient in their expert knowledge of the disorders of a certain portion of his body is a natural tendency of those who particularize in their work at too early a period.

This undesirable attitude can be forestalled only by a long

[1] By no means should this idea be distorted into an encouragement for doctors with insufficient technical training to undertake their own operations; and I understand there is a widespread tendency in some districts for them to do this, brought about in all likelihood by the fact that, with his diminishing practice, many a lesser physician feels that he can no longer afford to "turn over" his surgical work to another.

apprenticeship in general medicine and surgery before specialization is undertaken, and by subsequent contact and free exchange of ideas with those who continue in more general work. Indeed, the existence of the operating specialist, as contrasted with the general surgeon, is justified only if the former takes advantage of his opportunities to contribute to the knowledge of the disorders he specially treats. When progress ceases to be made, through the intensive studies which the smaller field of work permits, there is every reason why the vagrant specialty should be called back under the wing of its parent, general surgery, from whom under no circumstances should it ever be permitted to wander too far.

The surgical specialties, to change the figure, should represent merely grafts on the parent stem, for in their cultivation as separate plants they may cease to blossom and bear fruit. Indeed, the establishment of subdepartments as offshoots of general surgery in a given hospital is justified solely by the promise of productivity of the individual around whom such subdepartments are permitted to grow, with no anticipation that a successive line of equally competent persons will be found to justify the continuance of this or that specialty in perpetuity. By such a process of inbreeding the stock is rapidly weakened. It has been said that "the specialist should be a trained physician, a skilled surgeon, and something more, but he is often something else — and something less."

One thing which has kept the so-called general surgeon from getting a distorted image of his patient's malady — a habit of which the specialist is often accused — is his wider experience with disease affecting the body as a whole; and it would be rejuvenating to many of the surgical specialties if they could be periodically absorbed by general surgery, to be born again under the leadership of individuals who through fresh contributions could give a new impulse to a senescent subject. On this basis there are any number of

fields which under cultivation could be made to yield abundant crops; for the blood vessels, joints, thoracic viscera, ductless glands, and much else, are as deserving of intensive study from the operative standpoint as were the pelvic organs, the nose and throat, or the genito-urinary apparatus.

And for those who on this basis prove worthy of the opportunities of specialization, and for whom every possible facility, in laboratory and clinic, should be given for intensive work, the most satisfactory rewards are open. In commenting on his thyroid investigations, the celebrated Pirogoff once said to Professor Kocher that "the most perfect satisfaction which one can have in medicine comes through the thorough study of one special chapter in every direction and from every point of view — clinical, histological, physiological, and pathological." No knowledge or experience which in fragmentary fashion may cover a multitude of ills can be comparable to this thorough familiarity with one subject from every possible aspect.

Still the general surgeon is by no means exempt from the frailties of the hereditary specialist. He, no less than others, easily becomes the slave of local custom, a creature of habit, who accepts innovation with reluctance. The customs, good and bad, of a surgical department are easily handed on from chief to house officer, to clinical dresser, with little change from generation to generation. Customs which once were good may have staled, and those whose vision is limited to the walls of a single institution be unaware of it. At the beginning of the present century, twenty years after it was deemed unnecessary by its originator, the carbolic spray was actually to be seen in use in a famous hospital.

A certain loyalty to the methods of a locality, and even to those of an individual hospital, is apt to be cherished and suspicion cast upon the hearsay methods and results of other, and possibly rival, clinics. This, I am told, was formerly

true of your great London hospitals no less than of others. New technical principles, unless they have been observed and their value appreciated, find their way slowly from institution to institution. Reading of methods will not suffice; the objective exchange of ideas, which can come through demonstration alone, is necessary. The rubber glove was in general use in Halsted's clinic for twenty years before it was adopted elsewhere. Those who had not visited his operating room scoffed at the idea. What was to become of our prized *tactus eruditus?* But onlookers gradually became disciples, and now this useful safeguard is so generally employed that the very source of the idea is forgotten.

"Surgical instinct" and the "educated touch" have been overworked shibboleths which have stood in the way of many innovations, particularly those which concerned the introduction into practice of instruments of precision. As told in rhyme by Oliver Wendell Holmes, fun was poked at Laennec and his newfangled toy, the stethoscope. Probably Floyer heard a protest against the "pulse watch," and Wunderlich against the thermometer; and only yesterday was one raised against the instrumental measurement of blood pressure. Had not the hand been industriously trained to estimate the degree of fever by contact with the patient's brow, and the fingers the quality of the pulse at his wrist? Even the Röntgen ray brought misgivings to those skilled in the elicitation of crepitus from fractured bones.

The tendency to disparage the so-called accurate or scientific attitude in medicine, and to make much of the practical doctor or surgeon who is superior to the microscope and other laboratory accessories, is rapidly passing. It was one of Paré's canons that

Science sans expérience
N'apporte pas grand' assurance.

But the confidence which is bred of practice uncrossed with science is still less dependable. Abraham Flexner states that during his study of the North American medical schools he heard much talk of training the practical rather than the scientific doctor, and remarks that the chief difference between them, as far as he can see, is that the scientific doctor is more likely to cure his patient.

The wise custom that prevails among surgeons of attending the clinics and observing the methods and workmanship of others has done much to reconcile these opposed points of view. To make this custom more effective than was possible when indulged in by an individual alone, just ten years ago a small group of surgeons in the United States formed a "Travel Club," which at stated intervals has since visited, in rotation, the institutions of the six or eight important medical centres represented in their organization. At these exercises no papers are read, but a concerted effort is made by the local members of the society and their colleagues to open their clinics, laboratories, and classrooms for inspection while under full operation. Thus, as in our student exercises the present educational tendency is less and less toward subjective and more and more toward objective methods of teaching, so the success of the organization I mention has demonstrated that the same principle is equally applicable to medical societies. Similar traveling groups have come to be established in other divisions of medicine and in more specialized branches of surgery, and I believe, too, that the idea has taken root in England and other countries.

From its foundation, the object of our society, inasmuch as its members were mostly teachers and investigators as well as surgeons, was threefold — to observe the methods of instruction pursued by their colleagues in other cities, to follow at first hand the progress of their laboratory studies, and to attend their surgical procedures in the operation room.

Our early peregrinations disclosed very obvious differences in surgical habits, thought, and workmanship among the various institutions represented in the society membership — differences, however, which in the course of a few years largely disappeared. Unquestionably there is now a more nearly equal and a much higher level of workmanship throughout; and as the members of the organization in one capacity or another are in the position to pass along the instruction which they have received, this will not only have a broadening effect on the surgery of the present, but a still more marked influence on the surgery of the next generation.

As I have said, the application of surgical principles, whether in laboratory or clinic, is constantly becoming more general. The slipper of surgery has been found to fit that Cinderella of Medicine, experimental pathology, whose coach now has devoted outriders representing all departments. Observations which even in the hands of a Bernard or a Cohnheim were impossible before the era of reactionless wound healing now become possible, and not only may the counterfeit of conditions of disease be produced and studied without the complicating element of sepsis, but, with surgical methods, the Pawlows and Carrels of the laboratory bring about altered conditions which shed new and important light on physiological processes.

All this has led to the establishment of special laboratories of surgical research, where modern operative methods are particularly applied; but as a matter of fact they are nothing more than laboratories of experimental pathology, or, better still, of experimental medicine — as the Institute in St. Petersburg and the Hunterian Laboratory in Baltimore are called. The establishment of similar institutions elsewhere indicates that an increasing number of surgeons to-day have instincts which lead them into the broader aspects of disease and away from the mere operative tasks that formerly kept

them in the dissecting room. Other than this there is no special significance in these laboratories, where investigations are undertaken which are as appropriate for anatomy, physiology, biochemistry, or pathology, as for medicine or for surgery.

Indeed, the definite boundaries formerly separating these subdivisions of the curriculum have become so overgrown by surgicalized experimental pathology that it is sometimes difficult to tell when the investigations of one department are trespassing on the preserves of another, nor does it much matter if the common goal is the advancement of medical knowledge. This unquestionably is a development in the right direction, for it is a peculiarity of the medical sciences, as Huxley once remarked, that they are independent in proportion as they are imperfect. Even anatomy, long a purely descriptive science, is adopting the experimental method. At Johns Hopkins a professorship of physiological anatomy has recently been established, and the Carnegie Institution has founded an institute of experimental embryology and has put a great anatomist at its head. These are straws of promise for the future anatomist, and he will be brought into closer contact than before with the physiologist, the pharmacologist, the chemist, and the pathologist, who themselves already touch elbows so intimately that many of the problems which engage one of them might suitably be undertaken in the laboratory of one or the other of his colleagues.

In consequence of this lessened departmental insularity, all react far more quickly than heretofore to a ray of light disclosing some new aspect of disease, just as they do to some novel method of study which reopens a door long closed against profitable investigation. The glands of internal secretion and their interrelations, brought to the fore primarily through the clinic; the principle of intravital staining,

with all its promising ramifications, introduced by the experimental therapeutist; the studies of cellular physiology which refined methods of tissue staining promise to make so fruitful; and the growth of tissues *in vitro* by the experimental anatomist — these occur as immediate illustrations.

Indeed, the possible prompt application by the clinician of many of the discoveries made by his colleagues in the medical sciences, as well as the fruitfulness in turn of the hospital clinic in problems suitable for the pure scientist, have served to realign them so that in some institutions the physiologist and pharmacologist have wisely been given posts comparable to that long held by the pathologist alone. Thus, through experimental or physiological pathology, — or by whatever term one may wish to designate the present rejuvenation of a method which is having such a strong influence in the unification of their labors, — biologist, morbid anatomist, therapeutist, hygienist and sanitarian, physician and surgeon alike, are brought into closer copartnership than has heretofore been thought necessary or advisable. And as the physician and surgeon develop under the influence of a closer contact with their brethren of the nonclinical medical sciences, the leaders of these two branches will of necessity come more and more to hold an academic attitude toward their posts.

This inevitable tendency, so far as our hospitals and schools are concerned, will have a revolutionizing effect on clinical medicine and surgery. The change cannot be made in a moment, any more than it was possible in a moment to place anatomy and physiology and the other preclinical sciences on a full-time academic basis; but, once established, we would no more recede to the earlier conditions, where energies were divided between school and practice, often to the detriment of the school, than we would now in the case of the so-called scientific branches.

And this brings me to the final subject on which I wish to touch, one which of late has aroused much discussion and has been thoroughly ventilated here in London before the Commission on University Education — namely, the relation toward the hospital and medical school to be held by the new order of physician and surgeon and their junior associates. Herein lies a matter of great concern to many and a problem which will not be solved by shunning it.

Our great public hospitals have ceased to be grievous and infected places, and people are rapidly losing their dread of them. Meanwhile, as disease becomes better understood, the complexities of its accurate recognition and successful treatment become ever greater and require the studies of an increasing number of coworkers — a situation which makes a most unsatisfactory matter of the office or home consultation. In consequence, people in greater and greater number desire when ill to enter institutions for study, and this applies to the well-to-do as well as to the poor. . . .

No, the practitioner cannot be chemist, neurologist, bacteriologist, ophthalmologist, radiographer, surgeon, and what not rolled into one, and do effective work. The Jonathan Hutchinsons of the profession are, alas, rare. And, as the coöperation of those expert in special lines becomes more and more necessary, the tendency will grow for these conjoint studies of individual cases of disease to be carried out in properly equipped hospitals, where the data essential for a diagnosis can be more quickly and effectively accumulated and the paraphernalia for treatment kept in smooth running order from constant use. This is particularly true so far as it concerns surgery, for in proportion as this form of therapy is the more dangerous, so much the more need is there for surrounding it by every possible safeguard against misuse or accident.

The more difficult and complicated problems of disease

will thus gravitate to large institutions where no longer "visiting" appointees, but directors of hospital units in continuous service, aided by a correspondingly adapted hospital administration, can uninterruptedly devote themselves to their work without entering into competition for practice beyond the walls of the institution. For when advantage is taken of a hospital position to make it a highroad to practice, the visiting physician or surgeon immediately becomes a less valuable institutional servant, if for no other reason than through the dissipation of his energies. When this abuse is widely corrected the family physician of old, so rapidly passing as a type of practitioner, and than whom no more useful member of the community ever existed, may again come into his own, with an even larger and better field than before, and quick to take advantage, in his more difficult and serious problems, of institutions where the chiefs of service are in no sense his competitors, but rather his coadjutors. Owing to the present dismemberment of medical practice into its many specialties, the public has begun to feel that there is no balm and no physician in Gilead.

Meanwhile it will be the *energetische Imperativ*, to use Ostwald's symbol, of the salaried hospital incumbents to take advantage of their opportunities to observe and investigate conditions of disease for other and higher reasons than the expectation of financial returns from competitive practice. They will also instruct and be instructed by their full-time junior associates, and these in turn by the student body, without whose actual aid and stimulus a properly modeled hospital organization can hardly survive, and who in return will receive, in addition to the advantages once attached to the old apprenticeship system, the added benefit of contact with the active work of coöperating departments.

The cry has been raised that this evolution of the physician and surgeon will make teachers incompetent to instruct those

who are to enter practice, but this same cry was once raised against the appointment of a full-time physiologist, anatomist, and pathologist, whose loss of contact with practical medicine, it was presupposed, would disqualify them on these same grounds. After all, is not the essential thing to inculcate in the student's mind the habit of acquiring clinical knowledge for himself? And there is no possible way of doing this except by bringing him into immediate touch with the sick bed. This, in the terms of Huxley, makes for centrifugal education, whereas our customary methods are centripetal in direction, with the effort to drive formulas into the student's head rather than to teach him how to produce ideas of his own. In an address on this subject, Henry Fairfield Osborn aptly said that "the measure of a teacher's success lies in the degree with which ideas come, not from him, but from his pupils."

These, then, are some of the transformations and realignments which are taking place in medicine, and which, directly or indirectly, have come through the great contributions made a generation ago by those with whose names this address was introduced: the public, not only awake to the great developments in medicine which animal experimentation has made possible, but ready to participate in their application for the general welfare; the physician at large, the valued family adviser, reaching out toward the important problems of hygiene and prevention of disease, while the individual patient, as the complexities of disease unravel, needing more and more specialized and more and more surgicalized treatment, gravitates toward the modern hospital; the preclinical science departments, which formerly existed in splendid isolation, with their fences down, owing to the leveling influence of experimental pathology; hospital organizations undergoing changes which will ultimately require

the full time and continuous activity of those who serve them for the benefit alike of student, of science, and of patient.

The kaleidoscope of medicine is turning. These are merely some of the present rearrangements of the images as I see them, new patterns from original fragments, for "is there any thing whereof it may be said, See, this is new? it hath been already of old time, which was before us."

IV

WITH THE BRITISH MEDICAL CORPS IN FRANCE [1]

Monday, May 3, 1915. — The companionable Muhr motored me up from Paris this lovely spring day through a wonderful pastoral country, so deserted that it gave the impression of having cultivated itself without aid of human hand. Except for an occasional military motor, we had the road between towns practically to ourselves all the way from St. Denis to our destination. Through Presles, Beaumont-sur-Oise, Beauvais, Poix where we stopped for lunch, Abbeville where the Tommy and Piou-Piou join hands, and where England now governs by courtesy as long ago under Henry the Second she came to rule by force. We began to get a smell of the sea at Nouvion and thence on through Montreuil, — once *sur-mer* though now ten miles inland, — through Samer, and so about four we purred into busy Boulogne.

We were directed to No. 13 General Hospital, which occupies the large casino by the Avant Port at the edge of the bathing beach. There H—— was encountered, and he promptly escorted us up the narrow path to the Château where Sir George ——, Colonel S——, Colonel W——, and he have their quarters. A room was provided for me, and we were promptly furnished with the inevitable tea and cake. A number of other officers of the R.A.M.C. came in, and after we were well "jammed," I bade good-bye to my gentleman chauffeur, over whom there was some embarrass-

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ment, for they appear to be much more strict here than in the French zones. Permission to visit the hospitals with us, which he would have been very glad to do, could not be granted without consulting officialdom.

Different armies, different customs, no doubt — even among the several French armies as I have observed. They were aghast at the kodak with which I was armed and had freely used elsewhere, though I fired it from time to time openly and without being warned. There were no mysterious passwords such as we had always been given in the sectors of the second and sixth armies. But, in place of this, one had to learn the cryptic initials which the Britisher habitually uses: the "G.H.Q." means the General Headquarters, the "R.A.M.C." the Royal Army Medical Corps, the "A.S.C." the Service Corps, the "D.G.A.M.S." (overseas) the Director General of the Army Medical Services, who of course has his "A.D.A.M.S.'s," — namely, his assistant directors, — and so on down the line through other combinations of letters to the "M.O.'s," who are the regimental medical officers. Road sentries were comparatively few, and most of them French except near the G.H.Q., where not only was there an alert, clean-shaven Tommy, but a stolid *poilu* alongside of him, each with his different manner of saluting.

After tea H—— and S—— took me back to No. 13, where I saw an amazing number of head and spinal wounds, for they often receive daily convoys of 300 recently wounded. These two men have an unparalleled opportunity, not only to be of great service to the individual wounded but, when this is all over, to make a contribution to physiology, neurology, and surgery which will be epochal. But this is almost entirely a personal matter with them, for — as I was told at the War Office — "we are engaged in a serious war, not in a piece of scientific research." It 's the same old story — unquestionably the scientific spirit of these two men is making

them infinitely more capable of and interested in giving the very best attention to their patients.

Well, the things chiefly dwelt upon this afternoon were the group of longitudinal sinus injuries, mostly from gutter shots along the vault of the skull, which are characterized by a striking rigidity of all four extremities. The condition resembles the spastic paraplegia following birth injuries, and they attribute the clinical picture to a vascular injury of a particular sort. But, however this may be, the injury is quite recoverable spontaneously, and they therefore no longer operate on wounds of this type unless there are some complications compelling them to do so. Though recognized and described in isolated cases as in Osler's recent report, nowhere, so far as I am aware, has anyone observed and studied such a large group as these men have had. We must have seen ten or twelve this very afternoon, all of whom will be evacuated in a day or two, for these hospitals must endeavor to keep empty. Another group of injuries that were new to me were the transections of the spinal cord in the lower neck, which show, in addition to the total paralysis, an extraordinary lowering of body temperature, — which sometimes falls to 93° F., — and the suppression of urine, with death in two or three days, consciousness being retained to the end.

On the whole, No. 13 is a good example of the large overseas hospitals of the English R.A.M.C. In its activity the service corresponds to that of the large hospitals at Amiens and Compiègne of the French *Service de Santé*. The comforts are slight, the attendance insufficient, the work, though it naturally varies, is from time to time, as at present during this second Ypres affair, simply overwhelming — perhaps as many admissions a day as the American Ambulance might get in a month. And the wounded, bear in mind, are seriously and acutely hit, rushed on from one and all of the

casualty clearing stations a few miles back of the line as soon as transportation is possible. Records, if kept at all, must necessarily be utterly inadequate, so that such clinical notes as H—— manages to jot down are purely personal ones. Indeed, in rushes no notes whatever can be made, and the wretched tags, insecurely attached to a button of the wounded soldier's uniform, are often lost or become rumpled and completely illegible — far less practical than the French tags with which we have become so familiar. There were two poor aphasic chaps from some Scotch regiment who were necessarily listed as "unknown" since all identification marks had been lost in transit.

The wounded to-day at the casino number 520, not counting the 200 who are under canvas; but occasionally in active times they run up to 900 with an attending staff which varies in number from ten to sixteen. There were none but very ill men, all bed patients, and in the huge restaurants, which contained about 200 closely packed cots, there may have been three or four nurses and as many orderlies. It 's a big job, in the midst of which the Englishman stops for tea, and everyone — even down to the Tommy — has time to shave; and it 's this taking-it-quietly that possibly enables the Britishers to see things through with some measure of composure.

And so at seven, back to dinner at the Château where there was a pleasant mess with pleasant guests, among them W——, who was as bright and chatty as he was iconoclastic. A good deal about wounds, antiseptics, infections, and several digs at W——, which he parried with his customary cleverness. Much about the Indian troops, who seem to have been disappointing on the whole, and who broke last Thursday before the gas at Ypres, so that the Germans might have got through to the sea but for the rally of the Canadians. Still, the poor things are in a cold season, in a strange land far from home, and they are paralyzed by this artillery business,

to which kind of warfare they are perhaps less accustomed even than the others. More, too, about self-inflicted wounds of which there are many; for, as Sir George says, the skulkers in an ordinary war such as that in South Africa simply lag behind, whereas here the men must go into the trenches where a panic may seize them and where there is no officer's back to keep your eye on and to follow where he may lead. These wounds appear to be particularly common among the Indians. In a recent large convoy of wounded, there were, say, 50 wounds of the left hand, five of them among the white and 45 among the Indian troops — a disproportion too great to be a mere accident of figures. The men, when questioned, explain that the top of the trench gets shot away by the enemy's fire and that they have to push the earth and sand-bags back with their left hands. Powder stains, of course, would tell; but they have learned to interpose something — formerly a piece of wood, until the splinters found in the palm were recognized as a telltale. It is not always possible to be sure; and the Indian sergeants would hardly peach on their own men. If men are suspects, or are actually caught, punishments are inflicted; but I do not know that there have been any executions hereabouts for this offense, as has been true elsewhere. And then more about asphyxiating gas and the question of retaliation and the difficulty of making the common soldier appreciate the moral reason for not fighting the enemy with his own and terrifying new weapon, even were the materials at hand.

As an example of how little the Tommy knows of what is going on around him in the larger field, and of the uselessness of questioning him, W—— told of a man who had been brought in from a trench the other day with a minor head wound. W—— was trying to get some information as to what was taking place, particularly as the man was covered with tar. "Well, you see," says the Tommy, "my

pal, 'e 'd bought a pack of cigarettes an' 'e 'd paid five francs for 'em and along comes a bloomin' shell and knocks 'is 'ead off afore 'e 'd ever smoked a one of 'em!" "Yes, but tell me something about the tar and what you were doing at the time you got hit," said W——. "I tells you, sir, 'e 'd never smoked a one of 'em when it knocked 'is bloomin' 'ead off." And that 's all W—— could get out of him, and it 's the story of the fighting around "Wipers" he 'll tell to his grandchildren and nothing more.

It is a drizzling night when we turn in with our shutters carefully closed. The town below is as dark as a pocket except for the four or five powerful searchlights which are burning holes in the low-lying clouds, for, as H—— says, it 's a good night for a Zeppelin raid.

Tuesday, May 4. — After breakfast, with Sir George to pay our compliments to the local A.D.A.M.S.; and this introduction will apparently suffice without the necessity of my carrying such papers as would have been required in the French army zones.

We expected to visit not only the evacuation trains but the hospital ships as well, there being two at the moment in the port, but there was no time for the latter. One hospital train was just pulling out, and another was in preparation for leaving — French rolling stock, pretty well gutted, but mostly composed of the usual second-class cars which, owing to their lateral doors and undivided compartment seats, take stretcher cases very well. It 's disconcerting to think, in the case of our having a war, that none of our passenger coaches could be used for other than sitting cases, and that stretchers could only be put in the baggage cars or through windows after a train was made up.

Colonel G——, an effective and vigorous Irishman, was in charge of the transportation, and said that he had carried 184,000 people up to the end of March. In the past week

alone, about 10,000 wounded have been brought in to Boulogne. I do not know how many trains they can keep moving, but at the moment there were nine at the front — that is, I suppose, at the railheads near the clearing hospitals scattered along behind the thirty-one miles of British front, from just north of Ypres through Armentières to the neighborhood of La Bassée. And a pretty short line it appears on my Taride map in view of the munitions one sees going up and the destruction that come back. Each one of Colonel G——'s trains is about 300 metres long, this being the limit, and is composed of 23 cars, and can carry 250 stretchers and about 150 sitting cases — the *couchés* and *assis* of the French. On each train, too, there are 45 attendants with three doctors and three nurses; and it takes as a rule from four to eight hours to get back to Boulogne from one of the clearing hospitals. There is a cross rail from Dunkerque south, which often ties them up, and, of course, food for guns and men has the right of way. Each train has a kitchen capable of cooking for 300 people, a supply car, and so on; but in view of the fact that one can pass from compartment to compartment, and, worse, from car to car, only on the outside footrail, it must require considerable dexterity on the part of the attendant, particularly if he happens to be dispensing soup. I hardly think the system is quite as impressive as at La Chapelle; but then I did not see any unloading, and as the army and Red Cross stretcher bearers do it all, it is more simple than in Paris, where every small hospital has its car and its own drivers at the station.

Well, we leave the station after our long inspection. And finally back to No. 13, where S—— is finishing up his morning's operations, and afterward I saw a number of the recently "gassed" cases — two of them still conscious, but gasping, livid, and about to die, and I hope they did n't have to wait long, poor chaps. *C'est la guerre.*

And so to lunch, from which I escape for the proposed visit to the hospital base at E—— on the coast some fifteen miles south of Boulogne, where are clustered in course of preparation seven large hospital units, each of which will accommodate 1040 wounded. These units correspond with those which the D.G.A.M.S. is planning to officer under regulations of the Geneva Convention, from the United States — from Harvard, Rush, the Johns Hopkins Hospital, and Columbia; and I gather that the early contingents will be destined to work here. With the available beds already in and about Boulogne, these seven hospitals will bring the number up to nearly 20,000. Colonel L——, the Sanitary "Boss" of the Army, was there — pleasant and agreeable as ever; but Colonel C—— did the honors and we thoroughly inspected the place. For business only, unadorned and unattractive, and some day the heat reflected from these sand dunes on these corrugated iron buildings will make them nigh intolerable. Some of the wards were bad — so narrow that one row of cots must be placed end on; and then the doors, wide enough for a stretcher, were too narrow to transmit a cot. But criticism is cheap, and there was much to commend.

We saw, too, many encampments of recruits in and about the neighborhood, and an aviation field, and we finally return by another route along a very pretty road where are pecaeful hamlets and little of war in evidence. And so about five, as planned, we pull up at the Meerut Hospital for wounded Indians on the hill back of Boulogne. It was becoming overcast and cool, but tea had been set out for us in the woods back of the hospital buildings, where there were numberless song birds and wild flowers in profusion, which for the moment interested Colonel W—— and Sir George far more than wounds and gunnery. Most attractive fellows, these men of the Indian Medical Service. It may be that

only a certain kind of Englishman takes such a foreign position, or possibly the contact with the natives, and the patience this requires, is a character-making experience.

It was fascinating to see the Indians close at hand, especially for one who has never visited India; and I was agog over them, from the first glimpse of the cooks squatting over their little outdoor open ovens, patting and roasting their bread cakes or "chuputty," to seeing them stroll about with their variegated turbans as nonchalant as though they were at home. They are congenital thieves, I judge, and only a day or two before a cache in the woods had been unearthed where an Indian orderly had buried eight pairs of riding breeches, but what disposition the magpie had expected to make of them I can't imagine. There are said to be about 40,000 Indian troops in France, and an ethnological tangle they make indeed — great, lank, bearded Sikhs, mostly six feet and over, moving along with a glide like a camel, and alongside the little slant-eyed Mongolian Gurkhas. It 's tough for the little fellows when they have to go into trenches prepared by Sikhs or Coldstream guardsmen, out of which they can hardly climb; and I presume it may work the other way, too, for there can't be much protection for a Sikh pulled off his horse and made to take his turn in a recent trench which sufficed to protect a Gurkha. The varied religious tenets, particularly those which apply to food, must try the souls of the I.M.S. commissariat.

In the hospital, where many except the attendants were without their turbans, one learned to distinguish some of these strange fellows. The tall Sikhs and Jats with their fuzzy crimped beards and long hair are unmistakable anywhere after a first introduction; the Dogras, hill men from between the Punjab and Kashmir, wear a distinctive little moustache and a queer little tuft of hair at the crown of the head. The little Gurkhas and the Garhwals are Mongolian

in type and wear a pigtail and are like enough, I observed, to make Colonel W—— occasionally ask of a man whether he was Gurkha or Garhwal. One Gurkha had a badly wounded hand, which he will never use again for much, and he was begging to get back to the line; for two of his brothers had been killed, and he wanted to revenge them even if he lost his own life — but what matter, since they will all be transfigured! For this belief, I may add, they will rarely permit an amputation — for what 's a future life on one leg or, if the case may be, on no legs at all?

And so back to the Château for dinner, with other guests, and more talk about the casualties which to April were estimated at 180,000; about the changed site and character of the wounds, many of which early in the war, when the trenches were shallow, were foot and lower leg wounds, whereas now with the deeper and squared trenches it 's mostly heads; about the scarcity of bayonet wounds which are seen — for in these days of close fighting little if any quarter can be given, and not many prisoners can be brought back, horrible as this may seem; about the mediævalism of the war, not only going back to the bayonet but beyond, to the grenade and bomb-throwing devices like the Roman ballista, to casques and armor, to burning oil and the "stinkpot" of the Chinese, and stranger still, to the belief in the legend of the angel of Mons and the Agincourt bowmen. And finally H——, S——, and I slip away and have a pow-wow until midnight over neurological matters.

Wednesday, May 5. — We get away a little later than expected, headed for the G.H.Q., fifty kilometres or so to the eastward, along the national highway and through quite a different country from any that I have as yet seen. Hedges and willows line a busy roadside, where soldiers are at work trimming, cutting, and piling fagots and brushwood; and

the road itself, which is undergoing repairs, is crowded with A.S.C. people and their horses and wagons. Past camps of recently landed boys in fresh khaki, past an aerodrome, and on into country which begins to have a Flemish tone, with windmills and canals, though we are still in what is called France. The G.H.Q. occupies a lovely old town, the occasional glimpses of whose towers as we approach along the road are very fine.

We finally dismount somewhere on a side street, pass many sentinels, and mount the narrow dark stairs to the busy and crowded offices of that important person the overseas "D.G." Then, under the guidance of Sir W——, who, poor man, has just lost his son in the trenches, and in company with our Mr. Bacon, whom we pick up, we visit the Belgian refugee camp at Malassise. Mr. Bacon, who now holds a commission in the British Red Cross, has just completed the task of gathering up these unfortunates, large numbers of whom since the bombardment of Poperinghe have crossed the border from the remaining tiny corner of free Belgium. Typhoid has been rife among them, but, thanks to antityphoid vaccine, it is now fairly well in hand, some 40,000 having been inoculated — over 100,000 injections! The several hundred men and children that we saw were largely convalescent, and were either wandering around the patch of woods in which the many rows of large hospital tents were pitched, or were working on the roadways, all wearing the familiar blue French convalescent uniform. One of Sir W——'s M.O.'s asked us to see a very sick man with the possibility of a gall-bladder complication, and I was very much impressed with the careful study and full notes the M.O. had made of the case, a sample, I presume, of all others under his care.

On to Bailleul, which is our immediate destination. All along this part of the way were great hop fields, with the

plants barely up, but the poles and wires all strung ready for them like veritable entanglements twenty feet high. Bailleul itself, some fifteen miles southwest of Ypres, is at present one of the most important clearing hospital centres for the English sector, being a railhead on the main line which formerly passed from Calais through Lille to Nancy. A typical Flemish town, in normal times a peaceful lace-making place of some 13,000 inhabitants with two old picturesque Flemish churches. But to-day it is a bedlam, packed with motor cars of all kinds though ambulances predominate, since, owing to the recent evacuation of the clearing station at Poperinghe, the burden has fallen heavily on this place. We visit only one of the several hospitals — an old monastery, where a long line of ambulances at the moment were being unloaded. Many of the field ambulances and stations have recently been targets for German shells, and there has been a very heavy "take in," as they say, for several days.

A most effective young officer, Captain L——, is found methodically going over the cases which are being packed in the large receiving room — examining wounds, doing the necessary emergency operations, removing tourniquets, ligating vessels, giving antitetanic injections, and so on. Extraordinary how rapidly it is all done. Through this single hospital 43,000 wounded have gone, and there are three other clearing hospitals in Bailleul! No wonder Colonel G—— is busy with his trains from Boulogne. I looked at the men's tags to see where they had come from, — that is, from what field hospital, — and was again disturbed to see how flimsy, insecure, and illegible the labels were — attached to a button merely by a slit in the tag. There have been 300 "gassed" victims admitted here in the past twenty-four hours, and all told they have received here about 1000 cases since this business began, with about 30 deaths—

not so bad after all, at least for those who manage to get back this far.

I gather that the English system of evacuating the wounded, not unlike the French, corresponds with the printed regulations prepared before the war, except that at present there is no need of stationary intermediate hospitals between the clearing hospital and the temporary overseas base hospitals at Boulogne and Rouen. The wounded are either brought off the fields by the unsung heroes of this war, the regimental stretcher bearers, or else they make their own way at nightfall as best they can to a regimental aid post, which, like the *poste de secour* of the French, is merely a place of temporary refuge in a copse, a dugout, or the cellar of a ruined building somewhere. Here their first dressings are usually applied, or first aid, such as in rare instances may have been given on the field or in the trenches, is supplemented. Thence by hand cart, or some horse-drawn vehicle, or possibly even by motor, they reach a field ambulance or dressing station which, like the one we are to visit at La Clyte, corresponds to the *ambulance de première ligne* of the French and is in the zone of battle. From there the wounded are taken in turn by motor ambulances to such a clearing hospital as this at Bailleul; thence by a hospital train to one of the temporary base hospitals near Boulogne; then via Boulogne-Folkestone by hospital ship to "dear old Blighty," to a hospital train again, to a general hospital somewhere, to a convalescent home whence comes a final discharge, or back into service, as the case may be. This is all very fluctuating as the local character of the war changes, and to-day the bearers from the field ambulance often work up to the aid posts, and the duties of the two may so overlap that the bearer party, which goes out every day from the field ambulance, may even camp near the trenches. And remember, too, that the wounded man may never leave

his original stretcher for sheets and a bed until he reaches England.

The R.A.M.C. men are given a heroic service, and they figure high in the casualty lists. It 's dangerous business to-day near the front, and much of the work must be done at night and without lights, for the Red Cross in this war does not serve as much of a protection. The main aim, of course, is rapid evacuation of the wounded from France, and I am told that wounded have been known to reach St. Thomas's Hospital in London eighteen hours after they have been in action. Yet in this particular sector in which we are, it is a variable three miles or so from the aid station to the field ambulance, another six or seven to this clearing hospital, and about fifty-five from here to Boulogne. Of course, the character of work of a clearing hospital such as we have seen is largely one of classification and proper distribution, and though its capacity may be small, say 200 beds, 1500 wounded may easily pass through in a day.

There is further talk at lunch of the gas attacks and possible ways of combating them without giving in to the Tommies' demand for retaliation, but the general feeling is rather a gloomy one; for if things keep on this way and the wind does n't change, Calais may soon be in the enemy's hands. In the emergency the soldiers are being supplied with some makeshift respirators, but how effective they will really be remains to be seen. Professor Haldane is back again and thinks the gas is the cheap commercial chlorine which always contains some bromine. It is blown through long tubes passed out of the loopholes of the trenches. It must have been long prepared for, and the recent German claim that the Allies had been using asphyxiating gas was probably the usual ruse to prepare the public mind. Undoubtedly in the high explosive shells of the Allies, in melanite, lyddite, and so forth, there are gasses which have asphyxiat-

ing qualities, but these effects are evanescent and subsidiary to the explosive quality of the agent.

Well, we 've more than gobbled our simple lunch by this time and go back for another look at the station. The entire convoy of cases has been sorted over, relabeled, and passed on, and the great room is empty except for a few men who need immediate attention; a brachial artery is being tied for a secondary hemorrhage by a junior M.O. It is all very simple — nothing so elaborate as an X-ray machine and no beds except the few for officers. In one large room, under a new wooden roof, — for a Taube dropped a bomb on the old one ten days ago, — there were closely packed rows of wounded awaiting further transport, lying on their stretchers with their muddy boots protruding from under heavy blankets. In one row were seventeen head cases — men in every possible stage of intracranial injury, many of them needing the immediate attention of S—— or someone like him in a fully equipped hospital, and they 'll reach Boulogne to-night, I trust.

Then we saw many of the severely "gassed" men who had come in this morning, — a terrible business, — one man, blue as a sailor's serge, simply pouring out with every cough a thick albuminous secretion, and too busy fighting for air to bother much about anything else. Others seemed to be pulling through, though they looked bad enough. We went on into the officers' building where were a lot of little cubicles and real beds, simple iron cots though they were, and here, too, were some queer things. One officer, also a victim of the gas and happily recovering, must have ruptured something in his mediastinum, for he was blown up with a surgical emphysema of astounding degree — cheeks, neck, thorax, abdomen, and thighs. It felt as though there were a layer of air between skin and chest wall about two inches thick. We saw, too, with McK——, the young pathologist, some

recent autopsy specimens which showed the extreme subpleural emphysema and the almost solidified lung which characterizes the terminal process.

It 's getting on toward three o'clock and A—— takes me in his car while Sir George and Mr. Bacon follow, and we proceed through Locre with windmills and hop fields on all sides. Dodging lorries and ambulances, which highly irritate A——, and with the sound of continuous gun fire constantly drawing nearer, we finally reach La Clyte. Almost as we dismount, an aeroplane circles up from this side of the line and, as it rises, — we judge to about 5000 feet, — it sails out to the eastward in the direction of Ypres, and we hear the guns and see the white puffs of German shrapnel, all of the shells appearing to explode behind and below. And then another machine — a Taube — ascends from far beyond, and it looks like an engagement, but Mr. Englishman appears satisfied with his reconnaissance and sails away to the north and disappears from sight.

In the ambulance there are a number of very sick men, mostly with abdominal and cranial wounds, now too ill to be evacuated; from here we go out and investigate some adjoining sheds where there are other bad cases, but we do not stop to look at them in any detail, it 's too harrowing.

And so we finally make our adieus and take our way to the bottom of the hill where we are to get a glimpse of Ypres and its surroundings, whence all the sounds of firing emanate. Up a short winding road, past a line of newly made English trenches, and then out on to a little cleared space. It would have been interesting enough as a simple, lovely, pastoral view across Belgian countryside; but here we were watching a distant struggle for a city — one of the most desperate as yet in this world's war. From this same point, says A——, King George, when he was here, watched the bombardment of Ypres, happening to have a cloudless day. To-day is

a little misty, but this may possibly after all add a little to the spectacle. On the horizon line, we can clearly see the cathedral clock tower and what remains of the Cloth Hall, and a little to the right the elevation of Hill 60, which has figured so much in the *communiqués* of late — and which this very afternoon, as we subsequently learn, is again falling into German hands through the aid of asphyxiating gas. The lines have been drawing in on the Ypres salient since last Thursday when this gas business began, and the Germans are only about a mile and a half away instead of three miles as before, despite the heroic counterattack of the Canadians.

Then we go up a little higher for a still better view, wondering whether we are to be permitted, as this is an important observation hill. But there are no sentries, and we see nothing of any observers except for a single engineer who is heliographing to some distant point. On the very top is a little stone farmhouse and an old mill and some women squabbling over a flock of geese, and from the foot of the windmill a wonderful panorama is unfolded, and the cannonading continues, and one can see the line of battle by the smoke on the horizon encircling Ypres and running up on Hill 60. A most impressive sight. There was heavy firing from some big guns somewhere just to the right of us, — Canadians, they said, — and finally two aeroplanes appeared again and got fired at; and the tension was only relieved for me when after about an hour Sir George slowly straightened up and strolled over to the edge of the little clearing, and picking a violet put it in his buttonhole.

We finally wandered down another path through a pretty wood to the road where our motors were awaiting us. And so we started back through Locre to Bailleul, through the crowds of soldiers and their officers dressed so much alike that many officers wear a patch of some bright cloth sewed high up on the back of their coats so the men can identify

them in attacks, — for officers still lead and soldiers after all merely follow, — past lorries and ambulances, and A.S.C. horses and men, and an aerodrome from which a biplane starts out drumming and throbbing just over our heads, and so through Bailleul and back, by the same road we came, to the G.H.Q. once more.

Refusing an invitation to dine at their mess, we start back in the hope of getting in by dark over the road we came. But at a little place called Wizermes, disregarding a sign pointing south which says "to Boulogne," we continue on for several miles when an obdurate French sentry turns us back — "nothing allowed to go west over this road to-night." A movement of troops, we presume, and we must retrace our steps. It begins to grow dark, and the orderly finds he can't light his acetylene lamps; so we have to feel our way in the dim reflected light of the road slowly to Clêty and thence westward along an interminable and lonesome detour to Desvres and finally to Boulogne, some thirty miles after dark, and glad we were to get there by 9.30.

After a pick-up supper, learning that S—— was winding up a busy operative day at No. 13, H—— guides me down there — literally so, for it was black as tar and he has to count the steps as we descend the twisting path down the hillside. And we are in time to see S——'s final case, a bad shell wound of the right parietal region with a big piece of obus and countless fragments of bone and a definite though well-localized infection. It was a very careful, neat, and expeditious performance.

And so back again through the pitch-black town, we grope our way up to our lodgings; and this was plenty enough for the day, and making these heavy-eyed notes before turning in has been an effort.

V

WILLIAM OSLER, THE MAN[1]

WHATEVER may be said of Sir William Osler in days to come, of his high position in medicine, of his gifts and versatility — to his contemporaries, love of his fellow man, utter unselfishness, and an extraordinary capacity for friendship will always remain the characteristics which overshadow all else. Few so eminent and so industrious come in return to be so widely beloved for their own sake. Most of us do well with what Stevenson advises, — a few friends and those without capitulation, — but Osler had the God-given quality not only of being a friend with all, high or low, child or grown-up, professor or pupil, don or scholar, but what is more, of holding such friendships with an unforgetting tenacity — a scribbled line of remembrance with a playful twist to it, a note of congratulation to some delighted youngster on his first publication, the gift of an unexpected book, an unsolicited donation for some worthy cause (and giving promptly he gave doubly), a telegram to bring cheer or consolation, an article to help a struggling journal to get a footing, a cable such as his last on the day of his operation to his old Hopkins friends, which was given by them to the press for the benefit of countless others who shared their own anxiety — all this was characteristic of the man, whose first thoughts were invariably for others.

He gave much of himself to all, and everyone fortunate enough to have been brought in contact with him shared

[1] The Thursday Evening Club, January 1, 1920.

from the beginning in the universal feeling of devotion all had for him. This was true of his patients, as might be expected, and he was sought far and wide not only because of his wide knowledge of medicine and great wisdom, but because of his generosity, sympathy, and great personal charm. It was true also — and this is more rare — of the members of his profession, for whom, high or low, he showed a spirit of brotherly helpfulness untinctured by those petty jealousies which sometimes mar these relationships. "Never believe what a patient may tell you to the detriment of another physician" was one of his sayings to students, and then he would add with a characteristic twist, "even though you may fear it is true." He was preëminently the physician to physicians and their families, and would go out of his way unsolicited and unsparingly to help them when he learned that they were ill or in distress of any kind. And no one could administer encouragement, the essential factor in the art of psychotherapy in which he was past master, or could "soothe the heartache of any pessimistic brother," so effectively and with so little expenditure of time as could he.

During one of his flying trips to America some years ago, as always with engagements innumerable, he took time to go from Baltimore to Boston for the single purpose of seeing a surgical friend with literary tastes who for some months had been bedfast with a decompensated heart; and James Mumford, for it was he, always said that this unannounced visit was what put him on his feet again. I knew of his doing the same thing for an Edinburgh physician of whose illness he heard by chance just as he was leaving the steamer in Liverpool. He was due for an address before the British Medical Association in Oxford, but without hesitation he took the first train to the north and managed to get back to Oxford just in time for the address, blithe and gay as though he had not spent two nights on a train. Indeed he was

never known to be late and was somewhat intolerant of tardiness in others. "Punctuality is the prime essential of a physician — if invariably on time he will succeed even in the face of professional mediocrity."

The universal devotion he engendered was no less among those with whom he came in contact outside his profession, and his points of contact through his varied interests were innumerable. Man, woman, or child — and in children especially he delighted as they did in him — felt, from the first moment of meeting, a rare fascination in his personality. In a poem, "Books and the Man," dedicated to Osler and read before the Charaka Club, March 4, 1905, Weir Mitchell recalls in these three verses their first meeting in London twenty years before.

> Do you perchance recall when first we met —
> And gayly winged with thought the flying night
> And won with ease the friendship of the mind, —
> I like to call it friendship at first sight.
>
> And then you found with us a second home,
> And, in the practice of life's happiest art
> You little guessed how readily you won
> The added friendship of the open heart.
>
> And now a score of years has fled away
> In noble service of life's highest ends,
> And my glad capture of a London night
> Disputes with me a continent of friends.

On Osler's seventieth birthday, just passed, the medical world set out to do him honor — unknown to him, for he was one to elude public testimonials and did not suffer adulation gladly, quick as he was to give praise to others. For this occasion many of his former pupils and colleagues in Baltimore wrote a number of papers containing the sort of things rarely said or written about a man or his work until

after his death. Among these papers is one by his present successor there, on "Osler the Teacher" which deserves quoting in full, and which after an enumeration of his traits ends with this picture of the man as his hospital associates and students remember him.

If you can practise consistently all this . . . and then, if you can bring into corridor and ward a light, springing step, a kindly glance, a bright word to everyone you meet, arm passed within arm or thrown over the shoulder of the happy student or colleague; a quick, droll, epigrammatic question, observation, or appellation that puts the patient at his ease or brings a pleased blush to the face of the nurse; an apprehension that grasps in a minute the kernel of the situation, and a memory teeming with instances and examples that throw light on the question; an unusual power of succinct statement and picturesque expression, exercised quietly, modestly, and wholly without sensation; if you can bring into the lecture room an air of perfect simplicity and directness, and, behind it all, have an ever-ready store of the most apt and sometimes surprising interjections that so light up and emphasize that which you are setting forth that no one in the room can forget it; if you can enter the sick room with a song and an epigram, an air of gayety, an atmosphere that lifts the invalid instantly out of his ills, that produces in the waiting hypochondriac so pleasing a confusion of thought that the written list of questions and complaints, carefully compiled and treasured for the moment of the visit, is almost invariably forgotten; if the joy of your visit can make half a ward forget the symptoms that it *fancied* were important, until you are gone; if you can truly love your fellow and, having said evil of no man, be loved by all; if you can select a wife with a heart as big as your own, whose generous welcome makes your tea table a Mecca . . . if you can do all this, you may begin to be to others the teacher that "the chief" is to us.

Little wonder that he was idolized by the students! He took pains to know them by name, gave up an evening in each week to successive groups of them at his home, learned them as individuals, and never forgot them. And it was the same with his hospital juniors, whether they happened

to be members of his own staff or not. Preserved among some papers I find this characteristic undated note of *circa* 1898, concerning an early effort which had been submitted to him. It is scribbled in pencil on a bit of paper.

A. A. 1. report! I have added a brief note about the diagnoses. I would mention in the medical report the name of the House Physician in Ward E & the clin. clerk, & under the surgical report the name of the House Surgeon who had charge. We are not nearly particular enough in this respect and should follow the good old Scotch custom. Yours, W. O.

This habit of giving credit to everyone who may have been brought into contact with a case was most characteristic of the man. Even his *Text-Book of Medicine* contains so many references to places and people that it led to these amusing verses taken from a long poem by a student, which appeared in the *Guy's Hospital Gazette* some years ago: —

For why should it matter to usward,
If Osborn has sent you a screed,
Or why have you sought a brief mention of Porter,
Or Barker, or Caton, or Reed?
I sometimes am seized with a yearning,
In Appleton's ledger to look,
What fun it would be if we only could see
Whether each of them purchased the book!

But when of the names we are weary
(Directories muddle the brain),
We 're provided by you with philosophy too
In the trite Aphorisms of Cheyne.
Geography also you teach us,
Until I came under your thrall,
I don't mind confessing that Conoquenessing
I never had heard of at all.

But with all his abundant learning, his high spirits, his playful wit and love of a practical joke, he was incapable of offending. "If you can't see good in people see nothing."

Charitable to a degree of others' foibles, even when he had to oppose or to fight in public for a principle, he did so without leaving hurt feelings. This lay at the bottom of the great influence he exercised and the universal admiration felt for his character.

Probably no physician while living has been so much quoted or so much written about, and the chief periods of Osler's eventful and migratory career are too well known to need more than brief mention.

His father, a clergyman, Featherstone Lake Osler, with his wife, Ellen Pickton, left Falmouth, England, in 1837 and settled in the Province of Ontario, Canada. William, the eighth of their nine children, several of whom have become highly distinguished in Canadian affairs and in the law, was born July 12, 1849, at Bond Head. A graduate of Trinity College, Toronto, in 1868, he took his medical degree four years later at McGill University; then after two years of study abroad, returning to Montreal in 1874, he leaped into prominence as the newly appointed Professor of the Institutes of Medicine of his Alma Mater. A professor at twenty-five, in a chair which covered the teaching of pathology and physiology! And there followed ten years of active scientific work which laid the foundation for his subsequent eminence in his profession.

In 1884 he accepted a position in the University of Pennsylvania, and five years later was called to Baltimore as Professor of Medicine in the newly established Johns Hopkins Medical School. There, marrying in 1892 Grace Revere, the widow of Dr. S. W. Gross of Philadelphia, he remained for sixteen years. It was the Golden Age of the Johns Hopkins, during the presidency of Daniel C. Gilman, and during this period through his writing and teaching Osler became recognized, one may say without exaggeration, as the most eminent and widely influential physician of his time.

Many calls to other positions during these years met with refusal until in 1904, when fifty-six years of age, he accepted the Regius Professorship of Physic at Oxford, the most honored post in medicine that the United Kingdom can offer. Though this position on a royal foundation centuries old (Henry VIII, 1546) is a sinecure and was doubtless accepted to give leisure for literary pursuits, he was not one to take advantage of ease. The succeeding fifteen years in Oxford represent, if possible, a period of even greater activity and more far-reaching influence in many directions than the fifteen years at the Johns Hopkins, where despite his absence his stimulating spirit, of work for work's sake, still reigns.

Established in a delightful home where he and Lady Osler continued to dispense their unbounded hospitality, so much so that 13 Norham Gardens came to be known as the "Open Arms," elected a Fellow of Christ Church, Wolsey's College, put upon the Hebdomadal Council, a small body which takes the initiative in promulgating all the legislature of the University before its submission to Convocation, he was soon appointed one of the curators of the Bodleian Library, and elected a Delegate of the University Press. There can be no doubt but that these latter positions gave him his greatest extra-professional pleasure and satisfaction during his Oxford life, and to the Library and the Press he gave largely of his time.

But Oxford, with its hoary traditions, its strict adherence to the humanities, its comfortable spirit of *laissez faire*, had drawn into its net a restless spirit who knew the modern outside world, and he was responsible for such changes even in the established procedures of the Bodleian as were thought impossible of accomplishment, if indeed modern library methods were really desirable. But a man, particularly when energetic, unselfish, and likable, who could talk

Aristotelian philosophy with the dons at the high table and at the same time knew science, and the value of laboratories as well as libraries, could not but leave his impression on the ten centuries, more or less, of Oxford's habits and customs.

There were, indeed, many Oslers: the physician, the professor, the scholar, the author, the bibliophile, the historian, the philanthropist, the friend and companion for young or old. Though no man loved his home more or kept its doors more widely open to the world, he was in demand everywhere, and was eminently clubable. Few dinners of the Samuel Pepys Club, the Roxburghe or the Colophon Clubs, of the inner circle of the Royal Society, of his college, failed to be enlivened by his presence; and he had just been made a member of the famous Johnson Club, one of the oldest and most select dining clubs in existence.

His Oxford home, even more than in Baltimore, had become such a gathering place, particularly for Canadians and Americans, that how the scholar did his work was a mystification to many. An omnivorous reader with a most retentive memory, possessed of a rare literary gift and with the power of immediately concentrating on the thing which was to be done, no matter what had occupied his attention the moment before or was laid out to be done the moment after — these were probably the explanation of his great productivity.

With it all he was a writer par excellence of countless brief missives — even the fragment penciled on a postcard during one of his outings and sent to a distant friend, whom some incident had led him to recall, invariably contained some characteristic message, quip, or epigram worth preserving. During a brief sojourn in Paris in the winter of 1908–1909, he wrote: —

I 've just been going through the Servetus Trial for Astrology, 1537. 'T is given in full in du Boulay's History of the University

of Paris. I wish you could see this library. I 've wasted hours browsing. Meanwhile I 've read through six volumes of Swinburne. I did not know before of his Children's Poems. We are off on the 13th, first to Lyons to see Symphorien Champier and Rabelais. We 'll stop at Vienne to call on Servetus and Appolos Revoire, doubtless the father of the late Paul Revere.

He subsequently went to Italy, and may there be trailed by a letter and by some picture postcards, on a quarter of which he could squeeze much in his fine writing.

CANNES

A great coast. Such sunshine. We have been here 1½ weeks — delighted with everything. This is a gorgeous spot. Where I put the + is the little town of Gourdron. They had to get high up on account of the Moors. I am thinking of settling at Monte-Carlo — they say there is a good opening. I lost $.25 in five minutes and then stopped. We go to Rome on the 7th. So far as women are concerned this is the Remnant Counter of Europe. . . .

MILAN

I forgot whether I wrote about the Vesal Tabulæ sex at the San Marco — I think I did. Splendid as illustrating the evolution of his knowledge — also of Calcar as they are very crude in comparison with the 1542. Nothing much in Pavia — nothing in comparison with Bologna and Padua. Library good — no Vesal items of moment, not even the 1543. A 1st ed. of Mundinus, but no plates. I have not been able to locate a single Mundinus MS. — I wonder where they can be. The Ambrosiana here is a fine collection. I had 5 original MSS. of Cardan to look over — the autobiography is complete — he wrote a wonderful hand — no wonder the printers liked to get his copy. Hopli here has no large stock — tho' the best publisher in Italy. Love to the bairns. . . .

ROME

Rome at last! Wonderful! What pigmies we are in comparison with those old fellows. So much to see and everything intensely interesting. I have not yet been to the Vatican Library. Splendid bookshops here. I have already got some treasures. Redi and Valisneri — splendid editions. Love to the darlings.

FLORENCE

Yours came this morning — two days late for personal attention to your Lang commission. I was recalled to Rome (stranded American) and I *sanctified* my fee by buying three copies of Vesal. 2nd edition, fine one for myself. A first for McGill (300 fr. was stiff but it goes for 500 !) and another for the Frick Library. I was sorry to miss the Rhazes — the Brussels Library secured it. I have two copies also of the Venice edition of the Vesal. Have you one ? I will send your list to Lang. They are Germans and know their worth. I bought one *Imperialis* for the sake of the Vesal picture — they have another which I will ask them to send. The Gilbert facsimile is good and the Berengarius. Did I tell you I got the original Gilbert at the Amherst sale ? I got a beauty Aristotle 1476 de partibus animalium at Laschers. This place is of overwhelming interest — libraries, pictures, etc. The Laurentian library is just too splendid for words — *7000 chained mss.*, all in the putei designed by Michael Angelo. I have a photo of the end of one for you. The bookshops are good. B—— one of the best in Europe. He has 500 incunabula on the shelves, a Silvaticus — a cuss of no moment — of 1476, a superb folio, one of the first printed in Bologna — fresh and clean as if printed yesterday and such a page ! but . . . asks 1500 francs. His things are wonderful. But really auction sales (are) is the only economical way to get old books. The dealers have to put up their prices to pay interest on the stock. I am sorry not to have seen the Junta Galen — there are 5 Venice editions of that firm ! By the way the Pitti picture of Vesal is very fine — I am looking for a photo — the beard is tinged with grey. . . .

Re Alcmeon, see Gomperz Greek Thinkers — he was the earliest and greatest of the Magna Graeca anatomists. We go from here to Bologna, Padua, Venice, &c. I have a set of Votives for the Faculty — terra-cotta arms, legs, breasts, yards, eyes, ears, fingers — which the votaries hung in the Æsculapian temples in gratitude to the God — the modern R. C. ones are wretched (tin) imitations.

I am in a state of acute mental indigestion from plethora — it is really bewildering — so much to see and to do.

NAPLES

Thus far on the trip. Glorious place — glorious weather. I wish you were *mit*. I dreamt of you last night — operating on

Hughlings Jackson. The great principle you said in cerebral surgery was to create a commotion by which the association paths were restored. You took off the scalp — like a *p. m.* incision — made a big hole over the cerebellum and put in a Christ Church — whipped cream — wooden instrument and rotated it rapidly. Then put back the bone and sewed him up. You said he would never have a fit again. I said solemnly, I am not surprised. H-J. seemed very comfortable after the operation and bought 3 oranges from a small Neapolitan who strolled into the Queen-Square amphitheatre! I have been studying my dreams lately and have come to the conclusion that just one-third of my time is spent in an asylum — or should be!

Two years later, in 1911, he made a winter's trip to Egypt and as usual was enthusiastic about all he saw and did. Here is a somewhat longer letter.

S. S. "SETI"
Feb. 22nd, 1911

Such a trip! I would give one of the fragments of Osiris to have you two on this boat. Everything arranged for our comfort and the dearest old dragoman who parades the deck in gorgeous attire with his string of 99 beads — each one representing an attribute of God! We shall take about 10 days to the Dam (Assouan), 580 miles from Cairo. Yesterday we stopped at Assiut and I saw the Hospital of the American Mission — 200 beds, about 20,000 out-patients. Dr. Grant is in charge with 3 assistants and many nurses. I found there an old Clevelander . . . who had fallen off a donkey and broken his ribs, and on the 8th day had thrombosis of left leg. He was better, but at 76 he should have stayed at home. The Nile itself is fascinating, an endless panorama — on one side or the other the Arabian or the Libyan desert comes close to the river, often in great limestone ridges, 200–800 ft. in height; and then the valley widens to eight or ten miles. Yellow water, brown mud, green fields, and grey sand and rocks always in sight; and the poor devils dipping up the water in pails from one level to the other. We had a great treat yesterday afternoon. The Pasha of this district has two sons at Oxford and their tutor, A. L. Smith, a great friend of his, sent him a letter about our party. He had a secretary meet us at Assuit and came up the river to Aboutig.

We had tea in his house and then visited a Manual Training School for 100 boys, which he supports. In the evening he gave us a big dinner. I wish you could have seen us start off on donkeys for the half mile to his house. It was hard work talking to him through an interpreter, but he was most interesting — a great tall Arab of very distinguished appearance. A weird procession left his house at 10 P.M. — all of us in eve. dress, which seemed to make the donkeys very frisky. Three lantern men, a group of donkey men, two big Arabs with rifles and following us a group of men carrying sheep — one alive! chickens, fruit, vegetables, eggs, etc., to stock our larder. We tie up every eve about 8 o'clock, pegging the boat in the mud. The Arabs are fine: our Reis, or pilot, is a direct descendant, I am sure, of Rameses II, judging from his face. After washing himself he spreads his prayer mat at the bow of the boat and says his prayers with the really beautiful somatic ritual of the Moslem. The old Pasha, by the way, is a very holy man and has been to Mecca where he keeps two lamps perpetually burning and tended by two eunuchs. He is holy enough to do the early morning prayer from 4 to 6 A.M. with some 2000 sentences from the Koran. It is a great religion — no wonder Moslem rules in the East. Wonderful crops up here — sugar cane, cotton, beans and wheat. These poor devils work hard but now they have the satisfaction of knowing they are not robbed. We are never out of sight of the desert and the mountains come close on one side or the other. To-day we were for miles close under limestone heights — 800–1000 feet, grey and desolate. The river is a ceaseless panorama — the old Nile boats with curved prows and the most remarkable sails, like big jibs, swung on a boom from the top of the masts, usually two and the foresail the larger. I saw some great books in the Khedival Library — monster Korans superbly illuminated. The finer types have been guarded jealously from the infidel, and Moritz, the librarian, showed me examples of the finer forms that are not in any European libraries. Then he looked up a reference and said — "You have in the Bodleian three volumes of a unique and most important 16 cent. arabic manuscript dealing with Egyptian antiquities. We have the other two volumes. Three of the five were taken from Egypt in the 17th century. We would give almost anything to get the others." And then he showed me two of the most sumptuous Korans, about 3 ft. in height, every page ablaze with gold, which he said they would offer in exchange.

I have written to E. W. B. Cyclops Nicholson urging him to get the curator to make the exchange, but it takes a University decree to part with a Bodley book! Curiously enough I could not find any early Arabian books (of note) in medicine, neither Avicenna or Rhazes in such beautiful form as we have. I have asked a young fellow at school who is interested to look up the matter. We shall have nearly a week in Cairo on our return. I went over the Ankylostoma specimens with Looss and the Bilharzia with Ferguson — both terrible diseases here — the latter, a hopeless one and so crippling . . . They must spend more money on scientific medicine. Looss has very poor accommodations. The laboratories are good, but the staffs are very insufficient. The hospital is impossible. I am brown as a fellah — such sun — a blaze all day. We reached Cairo in one of those sand storms, the air filled with a greyish dust which covers everything and is most irritating to eyes and tubes. This boat is delightful — five — six miles an hour against the current, which is often very rapid. The river gets very shallow at this season, and is fully eighteen feet below flood level. I have been reading Herodotus, who is the chief authority now on the ancient history of Egypt. He seems to have told all of the truth he could get and it has been verified of late years in the most interesting way. To-morrow we start at 8 for the Tombs of Denderah — a donkey ride of an hour. We are tied up to one of Cook's floating barge docks, squatted outside is a group of natives, and the Egyptian policeman (who is in evidence at each stopping place) is parading with an old Snider and a fine stock of cartridges in his belt.

P. S. 24*th*. Have just seen Denderah and the Temple of Hathor. Heavens, what feeble pigmies we are! Even with steam, electricity, and the Panama Canal.

What fun to travel with a spirit like this — and he rarely went anywhere without having two or three youngsters on his trail. The summer his Oxford decision was finally made two of us crossed with him, indeed shared the same small stateroom, and, as I recall it, were not permitted to pay our share. We learned something of his methods of work, and had we not been on this intimate basis he would have ap-

peared to us, as to the other voyagers, as the most carefree individual aboard. As a matter of fact he was always the first awake, and we would find him propped up with pillows reading or writing, and his bunk was so cluttered with books during the whole trip that there was scant room for its legitimate occupant. He breakfasted while we dressed, and then went on with his morning's work while the rest of us wandered about the deck with good intentions but usually with an unread book under our arms. At luncheon he would appear and the remainder of the day was a continuous frolic. We roped in the ship's doctor and got up a medical society of the physicians aboard. I find that I have preserved the programme which he arranged.

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All this was doubtless very frivolous, but he spent no idle hours, and getting enjoyment out of trifles at the proper

time and making others participate was as characteristic of the man as were his hours of industry when sitting down to the day's work.

Few scholars have received more recognition for their work, few have received so many honors or carried them so well. With it all he preached and practised humility. To quote from one of the essays in *Æquanimitas:* —

> In these days of aggressive self-assertion, when the stress of competition is so keen and the desire to make the most of oneself so universal, it may seem a little old-fashioned to preach the necessity of this virtue, but I insist for its own sake, and for the sake of what it brings, that a due humility should take the place of honor on the list.

His charm as a writer had much to do with his great success as a teacher, and his bibliography, covering a period of forty-nine years, is most extensive — 730 titles, including his collected essays and addresses, having been assembled by Miss Blogg in commemoration of his last birthday. There is a great range of subjects besides those pertaining to medicine and medical history. His *Text-Book of Medicine*, of which nearly 200,000 copies have been printed, kept constantly under revision, translated into French, German, Spanish, and Chinese and now entering on its ninth edition, was written during his early years in Baltimore and since 1892 has been read — nay devoured — by countless medical students and graduates alike. It remains probably the most used and most useful book in medicine to-day.

As is well known, his attachment to young men and his fondness for literary allusion once got him into trouble by a quotation from *The Fixed Period*, one of Anthony Trollope's many novels, which probably few have read and which is difficult to obtain, as the present writer knows to his cost. Thus the remark about chloroform, really Trollope's, was made in the course of his farewell address to his devoted

Baltimore colleagues and friends, many of whom were over sixty, an age he was approaching himself. And he would have been the last to have offended them. It was an address full of deep feeling for all that he was soon to leave behind, but the representatives of the press who were present singled out this one remark to be headlined. The sad feature of this episode is that it stands as one of the best examples of the heartlessness of the press when an opportunity offers itself for copy, no matter who may be sacrificed. On the eve of his departure from America the notoriety probably hurt him considerably, though he wisely made no reply, not even at the great banquet which was given him at the time by the profession of the country, on which occasion Weir Mitchell presented him with the rare Franklin imprint of Cicero's *De Senectute*. He knew when to keep his tongue as with a bridle.

His Ingersoll Lecture on "Science and Immortality" is a good example of his charming literary style, and there is an interesting story of how he came to accept the lectureship, which others must tell. It was given late in 1904, a few months before his transference to Oxford, when he was in great demand everywhere and by everyone and could find no time for its preparation. Finally, a few days before the date of the occasion, he slipped away one night to New York, hid in the University Club, and wrote the lecture in a single morning. It is so full of allusion that to appreciate it fully one must read it with the Bible in one hand, the *Religio Medici* in the other, and *In Memoriam* near by. In this he gives his own *confessio fidei* to the effect that, as Cicero had once said, he would rather be mistaken with Plato than be in the right with those who deny altogether the life after death.

At seventy, in the forefront of activities innumerable, of unusual physical vigor and buoyancy coming of a long-lived race, William Osler's death may be regarded as a conse-

quence of the war. No human being loathed strife more than he; few had been as successful in avoiding it in any guise. This characteristic made him suffer unduly from the very outbreak of the conflict. He nevertheless threw himself into it with characteristic energy in connection with the War Office, on committees, in hospitals; and as a senior consultant to the Forces he received a Colonel's commission. The British reply to the famous German professional note issued early in the war was, I believe, written by him and shows the man's spirit and, as always, his charity.

His only child, Revere, an Oxford undergraduate and his father's devoted playmate, who too hated strife, on coming of military age underwent training as a field artillery officer, was commissioned Lieutenant, served with his battery with great credit for a year in France, and was mortally wounded in action September 2, 1917, in the Ypres salient. Thus the great-grandson of our Paul Revere who roused Lexington and Concord lies under a wooden cross in Flanders in the corner of a foreign field that is forever England. By a strange coincidence, a number of American officers, who knew what grief this would bring, were there to bare their heads at his Last Post.

From this loss, particularly heartrending to one of his nature, the boy's father never fully recovered. Though unchanged in his outward dealings with people and affairs, he suffered much from insomnia and his health was so undermined that he became an easy prey to an old enemy, bronchial attacks. He finally contracted pneumonia and died suddenly on December 29 from one of its complications which had made an operation necessary.

At the time of the farewell dinner in New York in 1905, Dr. Osler confessed, under the emotion of his reply to the tribute that had been paid him, that to few men had happi-

ness come in so many forms as it had come to him; that his three personal ideals had been, to do the day's work well, to act the Golden Rule in so far as in him lay, and lastly to cultivate such a measure of equanimity as would enable him to bear success with humility, the affection of his friends without pride, and to be ready when the day of sorrow and grief came to meet it with the courage befitting a man.

During these last two years, though he must have felt at times, as did his anxious friends, that possibly his span was run, his spirit was unflagging. His son, though essentially an out-of-doors boy, through living in an atmosphere of books, acquired bibliophilic tastes of his own and had formed, like Harry Widener at Harvard and Alexander Cochrane at Yale, a valuable collection of imprints of the Tudor and Stewart periods. To this collection Sir William subsequently made many additions from his own carefully chosen books and manuscripts. He and Lady Osler presented the collection to the Johns Hopkins undergraduates as a memorial to their son, to become something like the Elizabethan Club at Yale, a rallying point for young college men with literary and bookloving tendencies. He worked, too, at every odd moment, to complete, as far as possible, the unique catalogue of his own lifetime collection of treasures relating to the history and literature of medicine, ranging from a medical tablet from Sardanapolis through a series of priceless manuscripts and incunabula to the essential contributions to medicine in their originals of our own time.

This incomparable collection with its elaborate catalogue, which is not a mere enumeration of volumes but is largely biographical, indeed autobiographical in character, is destined for the library of McGill, where he held his first chair in medicine. Sir William, as may not be generally known, had lately been offered but had refused the position as the head of that great Canadian university. He also received a year

ago the unusual offer from both political parties that he stand as fusion candidate for the Oxford seat in Parliament, but refused on the ground that it should in justice be offered to Asquith.

As President of the Classical Association, one of his most notable addresses, and, so far as I know, his last, on "The Old Humanities and the New Sciences," was given before that body in Oxford, May 16, 1919. That a scientist and physician should become president of the most eminent group of British scholars, whose aim is to "promote the development and maintain the well-being of classical studies," would seem incongruous did one not know the man whose Greek Testament always stood by the *Religio Medici* at his bedside. Disclaiming that he had "ever by pen or tongue suggested the possession of even the traditional small Latin and less Greek," in this remarkable address, given in his most brilliant style, he makes a plea for no human letters without natural science and no science without human letters.

It was inevitable that the address should be colored by frequent allusions to the war and appeals for individual service to the community. Quoting Plato's *Republic*, that "States are as the men are, they grow out of human characters," he concludes with this paragraph: —

> With the hot blasts of hate still on our cheeks, it may seem a mockery to speak of this as the saving asset in our future; but is it not the very marrow of the teaching in which we have been brought up? At last the gospel of the right to live, and the right to live healthy, happy lives, has sunk deep into the hearts of the people; and before the war so great was the work of science in preventing untimely death that the day of Isaiah seemed at hand "when a man's life should be more precious than fine gold, even a man than the gold of Ophir." There is a sentence in the writings of the Father of Medicine upon which all commentators have lingered, ἦν γὰρ παρῇ φιλανθρωπίη, πάρεστι καὶ φιλοτεχνίη — the love of humanity associated with the love of his craft! — philanthropia and

philotechnia — the joy of working joined in each one to a true love of his brother. Memorable sentence indeed, in which for the first time was coined the magic word *philanthropy*, and conveying the subtle suggestion that perhaps in this combination the longings of humanity may find their solution, and Wisdom — philosophia — at last be justified of her children.

Two of Osler's lay sermons to students have been published, in which his own life habits are more or less reflected. In one of them given at Yale, where he was giving the Silliman Lectures in 1913, he offered "his fellow students" a way of life — "a path in which the wayfaring man cannot err, a life in day-tight compartments, the main business of which is not to see dimly at a distance, but to do what lies clearly at hand."

In 1910, "Man's Redemption of Man" was delivered at a service for the students at the University of Edinburgh. Osler unconsciously chose as his text from Isaiah what he himself has been to those who knew him.

> And a man shall be as an hiding place from the wind, and a covert from the tempest; as rivers of water in a dry place, as the shadow of a great rock in a weary land.

VI

THE PERSONALITY OF A HOSPITAL[1]

Among those present at the birth of ether anæsthesia, seventy-five years ago, was a mummy who played a useful part in the early history of this hospital and who might have said, could his lips have been unsealed: "All these things are familiar to me, for I was a disciple of the great physician, I-em-hetep, of the third dynasty of the Pharaohs, four thousand years before your Hippocrates. With me in Thebes were entombed medical papyri which someone may some day find. They will tell, as do our sculptures, that with instruments of copper we did just such operations as this, and quieted the patient with opium and hellebore, while the 'Black Art' gave us substances such as you do not seem to use, to put in our wounds to prevent putrefaction — and in our bodies, too, after death, else mine would not be here. One thing that has befallen many of my people I have escaped, for our mummified bodies since you began taking us from our tombs have often been ground to powder and used to heal the maimed and afflicted of these later times."

As human beings are pretty much alike inside, so are hospitals. In military parlance, both "take in" and both "evacuate," and between these processes divers functions are performed, similar in all instances and of interest particularly to the physiologist on the one hand, and the hospital director or commanding officer on the other. They differ chiefly — both hospitals and human beings — in their external trappings, in their occupation, and in their personality. Of these attributes it is with the last I propose to deal.

[1] Ether Day address, The Massachusetts General Hospital, October 16, 1921.

Raiment counts for little, and the humblest may cover a personality capable of permanently influencing the motives, the ideals and actions, of countless others. So also many of us have known hospitals under perishable and tattered canvas which possessed an individuality, character, and spirit often found lacking in others encased in a more enduring shell of brick and mortar. Still, a covering of some kind is essential, and, though styles change for hospitals as for men, some which may be thought old-fashioned will always possess a charm of association, and the "garb of stone and of that kind called Chelmsford granite" hammered out at the State Prison, "wrought with uncommon labour," in accordance with the design supplied by Charles Bulfinch, was justly considered, a hundred years ago, to make of the Massachusetts General Hospital the handsomest edifice in the State. Well might John C. Warren and James Jackson, together with one thousand and forty-seven subscribers, whose great bounty made this famous institution possible, have felt pride in it then and have expected much from it for all time.

But however well infant or institution comes to be adorned, the essential thing is what handsome does, and apparel has little to do with this — unless, indeed, so much attention is paid to habiliments that they are a handicap to freedom, affect personality in the individual, and limit personnel to the institution. They may actually prove an incumbrance if in this world of competitive effort others laboring in their shirt sleeves are not to pass them by. So it is not the externals or the inherited wealth, social position, or occupation of an institution any more than of an individual that gives it renown; it is the character of the service it performs — the quality more than the quantity of its work which enables it to establish and to maintain leadership. For as age creeps on and movement becomes hampered by joints encrusted with tradition, the more it feels the strain of competition.

Age, after all, is a relative matter. A year ago the Brigham Hospital — a youthful upstart in this community — celebrated its eighth birthday. There happened to be staying with us at the time as my *locum tenens* an English surgeon representing a London hospital which was also about to celebrate its eighth birthday. The essential difference lay in the fact that St. Bartholomew's hesitatingly reckons its birthdays in centuries, for it was eight hundred years ago when the jester Rahere, to fulfill the vow made to St. Bartholomew, took holy orders and laid, just outside the wall of old London, the foundations of "Bart's" where, barely missed by the great fire, they still remain. Compared with that ancient hospital the Brigham is mewling in its nurse's arms and the Massachusetts General disports in knickerbockers.

How brief, indeed, have been its hundred years! There are still living to-day those who were born before that September first of 1821, when the first patient, a medical case, was admitted to the east wing of the old Bulfinch building. My own contemporaries go back an exact quarter of the way, to 1895–1896, when we were house-pupils here, and Dr. Shattuck, beside me, goes just half way back, to 1871, when he first began to walk these wards already so familiar to his distinguished father before him. What we are to celebrate to-day, therefore, is the birthday of a hospital ten decades young, not old — a hospital which has not slipped back from the ideals and enthusiasms of its founders nor shown any tendency to become hidebound in the course of years by the very past which ennobles it. Fortunate it has been alike in its traditions and in those who have passed them on. For nearly the full century there has been a Warren here; the first of them, like Clotho, begat this hospital, and the second and third, like Lachesis, did as much to keep the thread running smoothly from the spindle without a

snarl. Except for the Bells and the four Munros of Edinburgh, possibly no community, certainly no hospital, has ever boasted such famous medical dynasties as this with its Warrens, Jacksons, Bigelows, Shattucks, and Cabots.

What are the elements that make a hospital what it comes to be as the years roll round? Given two institutions side by side in the same community, with the same purpose, the same organization, the same initial endowment, and starting at the same time, differing only in their personnel, how quickly, how unconsciously, do they assume different characteristics and acquire differing personalities! Nothing should be more alike than two sister ships, yet in time how markedly different is the life aboard! How alike and yet how different are Andover and Exeter, twin offspring of a single brain; Harvard and Yale; Boston and New York; Massachusetts and Maryland! Each as an institution in which people combine for definite and similar objects has become a composite of many personalities, — some dominant, some less so, — all, living or dead, nevertheless discernible however faintly in the ultimate picture.

So of each of us, whatever our station may have been, who has passed happy days in this beloved place, there remains some record, and I like to feel that I can discern even after twenty-five years a faint imprint of myself and of my brother before me, shown in some trifling custom, or point of view regarding the making of observations or of recording them, or even the better pinning of a swathe or smoothing of a pillow. Obscured though one's personal record be in the composite of the hospital made up of the more enduring contributions of countless others, it nevertheless gives each of us who have been of the Massachusetts General Hospital a fractional right to speak on an occasion such as this in a somewhat intimate way.

A hospital may be likened to a hive. What gives it

character is not its queen but its workers and producers. "We and the hive are one"; and as in Kipling's story of Melissa and the Wax Moth, if softness and content enter in through the reactionary influence even of a single individual, the effectiveness of the whole society may be altered. Better the independent life of a solitary bee than the social life of the hive which comes to subsist on itself. It is from flowers outside that honey must be gathered. The best may be found in the hollow of an old tree and the most tasteless in a patent hive arranged for the Ohs! and Ahs! of exhibit, with all modern improvements in glass and tile. The Bee Master, like a proper hospital trustee, does not gauge productiveness on this basis. For a hospital must be something more than a well-kept boarding house for the indigent sick, and experience has long shown that such a one too often becomes the plaything for politicians and a habitat for drones and weaklings.

Wise in their generation, the two founders of this great institution had very definite objects in view. It was eleven years before the event we are celebrating — the actual opening of the hospital — that they circulated among their fellow townsmen that celebrated letter inviting subscriptions for the foundation of a hospital as something other than an almshouse, one of the chief collateral advantages of which were the facilities it would offer as a training ground for students.

Though an almshouse and a public dispensary were already in existence and the nebular beginnings of a university medical department had for some years been apparent on the Cambridge horizon, the project formulated by these two far-seeing young men, based on their experience abroad and set forth on August 20, 1810, may justly be regarded as the corner stone not only of the Massachusetts General, but of the Harvard Medical School as well.

The story of the relationship of the original Massachusetts

Medical School, as the old Mason Street School was called, both to university and to hospital, is too long and complicated to enter into here, important though it is in the chronicles of both institutions. A tripod cannot balance long on two legs, much less on one. A university medical department built on a course of theoretical lectures without laboratories and a clinic can have no permanent stability. No more can an independent school or an independent hospital. A university and a school without hospital connection, a school and a hospital without the academic influence of university connection, may perhaps for a longer time stand on two legs with the other in the air, but the position is insecure and easily toppled over by the first rival unless all three supports are firmly planted.

The two founders were university professors, and the pamphlet issued by them in 1824, shortly after both school and hospital were in operation, shows that they considered the two to represent a teaching unit even though established under separate corporations. It would unquestionably have been better for permanent stability, as they doubtless foresaw, could the two institutions have been under one control or at least have had an interlocking directorate and have been geographically adjacent, for it was obviously their original purpose to open the wards to students.

Their pamphlet read: —

> The administration of public infirmaries very properly embraces a twofold object — the relief of the sick, and the instruction of medical students. With a view to the promotion of both these ends, the Massachusetts Hospital, while it gives accommodation to the full extent of its means to the sick poor, gives also admission, which was at first conditional, but is now *free*, to the students of the medical class, attending the lectures of the physicians and surgeons. . . . Students are admitted to the patients to enable them to become practically conversant with the symptoms of disease and the operation and influence of medicinal agents.

Could anything have had a more modern sound than this statement? It lacks but one note — the third great function, indeed obligation, of a hospital, the advancement of knowledge embraced in that much abused term "research." But Warren and Jackson, being men of imagination, were fully aware of the best means of encouraging the spirit of progress: namely, a convenient medium of publication. The old *New England Journal of Medicine and Surgery* (1812–1828) had already been started as the official organ of the embryonic medical department five years before the birth of the school and nearly ten years before the hospital was erected. But shortly after both were in running order this weekly magazine became, as the *Boston Medical and Surgical Journal*, the acknowledged mouthpiece of the combined institutions which, if not officially interlocked, were to all intents and purposes so, as the professors in the school were likewise the appointees in the hospital. Indeed, the first page of each issue during 1828 actually carried a vignette of the Massachusetts General Hospital, and in the first number it was expressly stated by the editors that "it is their intention to introduce the practice of the Massachusetts General Hospital, especially the surgical part, whenever anything interesting occurs in it." Accordingly, to the widespread renown of both institutions, the early numbers of the publication were devoted to this object.[1]

[1] Nor did the founders stop here. Through the liberality of Ward Nicholas Boylston, student prizes were offered for the best medical dissertations. A student's society was established and the founder recommended preparatory studies to the students who should avail themselves of courses in natural philosophy (the biology of the day), botany, mineralogy, chemistry, the arts, belles lettres, ancient and modern languages, and so forth, in the university. Not until the end of the century, with the opening of the Johns Hopkins Hospital and Medical School, when Osler, supposedly for the first time in this country, actually took the students into the wards and put them to work there, and made them attend society meetings and publish their observations in a school organ for publication, was anything done for the advancement of medical teaching on better and more imaginative lines than those proposed by the founders of this institution, whom we must recognize as men with a vision far ahead of their time.

What happened to check the fulfillment of their ideals I do not know. It is a matter which concerns the hospital's composite personality of which I am speaking. I fear that even Jackson and Warren, as time went on, became somewhat lukewarm in the matter of having students about except by sufferance, and came to feel with the trustees that the hospital could stand alone and was sufficient unto itself. When, in 1846, the North Grove Street School was contemplated and the hospital trustees were approached in regard to the matter, they replied to the letter from the professors of the Medical School with courtesy but with indifference, stating that

> . . . in regard to the subject of building a Medical College in immediate proximity to the grounds of the Hospital, they cannot perceive any advantage to this institution to arise therefrom; but they think they can see that some disadvantages would be occasioned thereby.

True, students in a hospital, like children in a lodging house, are not an unmixed blessing either to landlord or to servant, and in those days the occasional Bob Sawyer and Ben Allen perhaps served to make the whole group seem rowdy and unruly. So when we were internes here fifty years later, I think everyone, from staff to orderly, felt an aristocratic aloofness and indifference to all students except a favored few, an attitude which they were quick to feel; and though a few lectures were still held in the old North Grove Street building, the school ere this had definitely abandoned its old site and had begun its migration southward to warmer climes.

It was a misfortune, I think, for both institutions, for though not an actual divorce it was an agreement to live apart, and despite its present geographical separation, as close a tie as possible with the school in accordance with the views of the founders is something the Massachusetts General Hospital will surely do everything in its power to foster. But all hospitals differ more or less in their attitude toward

students, just as they do in other matters. Each reflects the superimposed reactions of the succession of officials, who have made its composite personality what it is. Nor was the reaction of which I speak at all peculiar to the Massachusetts General, for it was even more strongly developed in the great hospitals in New York, in many of which students were actually barred from the wards, to the detriment of both school and hospital. In London, on the other hand, after the closure of the famous Windmill School started by the Hunters, the hospitals like St. Mary's, St. Bartholomew's, and the united Guy's and St. Thomas's, took a school unto their very bosoms, for better or for worse, as an integral part of the hospital; and since then the student body, always present, has done much to color the life and affect the characters and keep the spirit of youth in these ancient foundations. And there is no question but that a hospital is safeguarded, so far as the care of its patients is concerned, if its attendants are under the constant fire and criticism of watchful students of the modern type who are the best possible stimulus to industry, to punctuality and to thoroughness on the part of the senior workers.

It was not until 1861 that surgery came to predominate in the activities of the Massachusetts General, and though the excess number of surgical cases dropped off considerably after the Civil War, they soon increased once more by leaps and bounds until in our days, in the '90's, the proportion of surgical to medical admissions was five to three. Nevertheless, from the beginning of its history — from that first operation on September 21, 1821, for prolapsus ani — surgery took a prominent place here, a circumstance, before the days of anæsthesia, due more to the professional eminence and the writings of Warren *primus* than to the number of surgical admissions.

Indeed, fewer surgeons than physicians were needed in those early days when, as a matter of fact, there was no great difference in the training of those whose tastes led them to practise surgery as well as physic and midwifery. Operations were few and far between and of no great variety, though of their kind they were doubtless done with a deftness, rapidity, and aplomb no longer the fashion, for surgery has ceased to be the spectacular occupation it once was.

For reasons somewhat difficult to understand, unless it be that the ritual of the operating room is of more general interest than the prescribing of drugs at the bedside, it has been the custom from the earliest days for hospitals to tabulate and publish lists of these performances. So in the first advertisement of the combined Massachusetts General Hospital and Massachusetts Medical College already quoted, there was given a list of "the important surgical cases and of *Operations* performed in the Massachusetts Hospital by the Professor of Anatomy and Surgery."

Of the few cases admitted during the last four months of 1821, six were regarded as sufficiently important to be included. One of them was a simple fracture, another a dislocation of the hip,[1] so that only four involved actual cutting operations. The first of these, on September 21, as stated, was a simple ligation as for hæmorrhoids. The second was

[1] The note of the preliminaries to "operation" in this case and its outcome read as follows: —

"On the day of the admission of the patient — he was ordered to take Sulph. Magnes. oz. 1 Fol. sennæ oz. 4ss — and to live light. The next day a warm bath was ordered. At 2 o'clk. he began taking Tart Antimonia, gr. — every ten minutes — until the operation. — He took five grs. when vomiting was induced. At 3 o'clk. was bled to about 16 oz. — but no faintness was produced. The operation was then immediately proceeded with; and after continuing it about an hour, the case was abandoned as hopeless."

There is a sequel to this story. It concerns a malpractice suit which was dismissed because the jury disagreed. The man died forty years later, and J. Mason Warren having secured an examination, the specimen, showing a particularly rare form of dislocation which had not been recognized, remains to this day a feature of the Warren Museum. Patients often outlive their physicians, and a follow-up system — to the end — may overlap two generations.

"for the stone," and the graphic recital of the procedure ends with the ominous statement that the patient was "untied and carried to bed." The third, a few days later, was for popliteal aneurysm, the ligatures on the artery being left long, to "come away" which they unfortunately did not do, so they finally were cut short and the patient ultimately was sent home with a persisting sinus. The fourth operation was for fistula in ano.

The surgical treatment of these particular maladies reaches back as far as historical records permit us to go. Since the days when knights, weighted down by heavy armor, spent long hours in the saddle on the way to Palestine and back, the principles of treating ischiorectal abscess and "the fistula" had been known; and in those days, indeed, the disorder was so common that there were specialists for it like the celebrated John of Arderne, who wrote a treatise on the subject in colloquial Latin in the year when Edward the Black Prince "was taken to God." The operation of lithotomy, too, known to have been practised by the ancients, continued to be performed through the Middle Ages by itinerant cutters for stone, just as cataract and hernia operations had been, and probably the skill and anatomical knowledge of John C. Warren was not greatly in excess of that finally acquired by the famous Franciscan lithotomist, Frère Jacques, three hundred years before. He it was who originated the lateral perineal operation with its "unerring thrust" and the removal of the calculus in a few seconds — fifty-four, I believe, was Cheselden's record in the century before Warren. The only one of these first four operations, therefore, which involved a relatively new principle, was that for aneurysm, which consisted in the ligation of the artery in the femoral canal well above the lesion — a procedure which had its origin in John Hunter's experiments of the century before.

During the second year twenty-one "important surgical cases" were recorded, and in 1823 just twice as many, all of them, as before, with but few exceptions involving procedures whose origin is lost in antiquity. There were amputations (twice of the breast), circumcisions, operations for broken and necrosed bone, for cataract, for hæmorrhoids, for the removal of surface tumors. The only operation in this later list not known to history was performed on February 18, 1823, when Warren cut the facial nerve for *tic douloureux*, an evidence of the fact that the recent discoveries by Charles Bell and Magendie of the difference between motor and sensory nerves were yet to be fully interpreted. Naturally the pain was not relieved, and eight days later the inferior maxillary nerve was divided by trephining the jaw, a novel procedure at that time. These nerve-dividing operations and the Hunterian ligation for aneurysm may be regarded, therefore, as the only operations with a relatively modern aspect in the entire list, and it is worth pointing out that without experimentation on animals we should not have known that aneurysm could be so treated with safety to the limb, and also that without it we might to-day be no less confused than Warren was regarding the function of the nerves of the face.

These things are mentioned as a contrast to the amazing transformation which surgery was destined to undergo through the two great discoveries of the century, one of which burst on the world full blown in its effectiveness in a single day, in these very halls. The full significance of the other, which came thirty years later, really the more important of the two, was less easy to comprehend, and it made its way more slowly in the face of reactionary opposition.[1] For

[1] Röntgen's discovery near the end of the century should be mentioned as a third, for it has already enormously affected surgical procedures and, what is more, the X-ray now bids fair to become a substitute for the knife in the treatment of many conditions which have come to be regarded as surgical.

even though pain was abolished by anæsthesia during the immediate performance, surgery necessarily remained a last resort until the dangers and horrors of suppuration were eliminated. Despite the fortitude, resourcefulness, and skill of those early surgeons, they were fighting an ambushed and, indeed, unimagined enemy; and the scene, the method, and, alas, too often the outcome, has been depicted in its imperishable pathos in such stories as that which tell of Alison Graeme and her devoted Rab.

Being a landmark in the history of medicine, naturally enough the culminating event of the century in the surgical history of this hospital was reached on October 16, seventy-five years ago, when it was first demonstrated "that ether may be applied with safety, so as to produce insensibility during all surgical operations." So far as the Massachusetts Hospital is concerned, it has always seemed to me that it was of no consequence who discovered ether, who first learned of its anæsthetic qualities, who first made use of them to produce insensibility, who first conceived the idea that the drug might be utilized during major surgical procedures; for none of the central figures responsible for the subsequent unhappy controversy were in any way connected with the institution, nor, so far as is known, were ever within its walls till one of them, his secret drug in hand, made his way to the "Dome" on that eventful October day of 1846. But the onlookers could have told you that it took something other than the chemical knowledge of Jackson and the practical ideas and imaginative powers of Morton to complete that scene, and this something was the courage of the man who ventured to permit the crucial public experiment on a human body, no less than that of Gilbert Abbott, who submitted to it. Lost in the altercation over the discovery, too little stress has been laid on this important feature of the historic episode.

Can any surgeon here imagine what his reactions would be if an obscure dentist should come to him saying that he had a secret drug which would abolish all evidences of vitality necessary for the period not only of an operation, but for wound healing as well; that it would be a great boon to humanity, and would he please try it on his next patient? A drug producing these effects would be far less remarkable to us to-day than was the abolition of sensation under ether to our predecessors of seventy-five years ago. Warren assumed a great responsibility, and when it was over, his "Gentlemen, this is no humbug," if that is what he really said, must have been uttered with immeasurable relief. Patients have since been known to die under ether administered even by experienced hands. Suppose Gilbert Abbott, with his trifling nævus of the neck and five-minute operation, had succumbed to this strange vapor!

But what robbed surgery of its terrors was not so much anæsthesia as Listerism, blessings to mankind as both have proved to be. Dexterity and speed were the essentials of operating before anæsthesia, and the momentary agonies incidental to such operations as were undertaken, dulled as they were by alcohol or opium, were as nothing compared to the tragedy and suffering of the almost inevitable infection. It was not anæsthesia which opened the belly, the chest, the joints, and the head to the surgeon; it was the control of sepsis nigh forty years later.

Between these two great epochs in the history of medicine the outstanding figure in this hospital was that brilliant individualist, Henry J. Bigelow. He had just been appointed in his twenty-eighth year, as full surgeon. He was present at the first ether administration. He wrote the first paper on the subject of anæsthesia, and from that time until his retirement nearly forty years later, he became so increasingly dominant in the activities of the hospital that it came to

take on largely the complexion of a surgical institute. To be sure, he had distinguished surgical contemporaries in Samuel Parkman and J. Mason Warren; while J. B. S. Jackson, Henry I. Bowditch, George Cheyne Shattuck, Jr., and, for a time, Oliver Wendell Holmes were his medical colleagues, but none of them has left his name so closely linked with the hospital, nor did any of them so enduringly stamp the place with his own personal hallmark.

Cheselden with St. Thomas's Hospital, Sir Astley Cooper and Guy's, Dupuytren and the Hôtel-Dieu, Hunter and Brodie with St. George's, Pott, Abernethy, and Paget with St. Bartholomew's, Robert Liston and University College, Lister and the Glasgow Royal Infirmary, just as in more recent times the elder Gross with the Jefferson Hospital, Horsley with Queen Square, and Halsted with the Johns Hopkins — so Henry J. Bigelow and the Massachusetts General are names the medical world will couple for all time. These examples come readily to mind, for the accomplishments of each of these outstanding figures have become merged with the institution which made their labors possible, and in each case the institution has justly taken unto itself a large portion of the individual's reputation.

In days gone by it was an association more often established between hospitals and their visiting surgeons than with their physicians; and though there are many notable exceptions like Louis and La Pitié, Bright and Addison with Guy's, Stokes and Graves at the Meath Hospital in Dublin, nevertheless the contact seems less intimate even in these examples, and perhaps Osler's name coupled with the Johns Hopkins is the most outstanding example of what I have in mind among the list of our great physicians.

This is a thing which I think hospital trustees are prone to overlook — that the attendants must be encouraged in every way to merge themselves more completely with the

institution, for it goes on forever, whereas they are but creatures of the moment in its life. The hospital should not only hold itself responsible for the character of the work and protect the workers if necessary by insurance, but it should at the same time receive the chief credit for any outstanding and notable performance.

I do not mean to imply that such influences as this prevailed in Bigelow's time, but merely that they are the most favorable influences whereby something comparable may be encouraged to happen again. For Bigelow himself was unique — not the product of an environment. It is given to few men to establish what may be called a School of Surgery, and in his day his school was undoubtedly the foremost in the land. Even long after Bigelow had passed, when surgery had risen high on the wave of Listerism and was beginning to invade the body cavities, and even though our existing chiefs at the time, Porter and Warren, Homans and Beach, Richardson, Cabot, Mixter, and Harrington, were men of unusual character and attainments, the Bigelow traditions still dominated and those of us who had never seen him nevertheless felt the influence of his commanding personality. For was not the very amphitheatre named for him, his famous chair still in use, his lithotrite to get out, and James Mains — peace to his ashes! — to tell us with what éclat things once were properly done?

Bigelow's dominance in the composite personality of the hospital is all the more remarkable when one considers the eminence in the profession of his even more distinguished father and of the physicians I have mentioned who were his contemporaries. But there will always be a larger supply of well-trained physicians than of surgeons from which a hospital may draw. To be acceptable, the physician requires a special combination of head and heart; the surgeon of head, heart, and hand — a rarer combination, which

comes partly by gift and partly by training. I know of no better example of this combination at its best than my talented and lamented predecessor in the school, Maurice H. Richardson. In the days before Morton and before Pasteur and Lister, this disproportion in numbers between physicians and surgeons was even more true than now when it seems there may be successful surgeons with hands alone, and little heart and still less head — a dangerous kind of fellow to let loose in the community, either in or out of a hospital.

The antiseptic era came too late for Bigelow, for though the third Warren in 1870 after a visit with Lister in Glasgow brought back with him some rolls of carbolized lac-plaster, the adoption of Lister's first principles made their way somewhat slowly, for there were none here who had been actually trained under the master. The carbolic spray of somewhat later date was, I believe, first used by John Homans who, according to report, being not particularly pious, used to start his operations with "Brethren, let us spray."

Once introduced, however, antisepsis was equally hard to dislodge, and not until 1892 did C. A. Porter and Franklin Balch, as internes, purchase for the hospital its first Arnold sterilizer. Some years later, there still remained a crock of carbolic solution full of small sea sponges, used instead of gauze for sponging wounds except on special occasions; and I recall that our instruments of general use were still scalded rather than boiled and, what is more, after use, were scrubbed, wiped, and put away by the lowest house officer — a most certain way of shortening their period of usefulness.

During Bigelow's era the advances in surgery were largely along mechanical lines. There have been few surgeons who could see through a mechanical problem more clearly than he, and his inventive genius reached its highest mark, possibly, with the invention of his evacuator, to express the purpose of which the word "litholapaxy" was coined. The

pathological era which followed had its beginnings in the '70's, when it was brought home by Warren *tertius*, the first of the Massachusetts General Hospital surgeons to break away from traditions and get his training elsewhere than in the anatomical dissecting room. Versed in the new technique of section-cutting and staining, after two years in Vienna, a session with Cohnheim (then Virchow's assistant in Berlin) and another with Ranvier in Paris, Warren, on his return, introduced here these new methods which have had such an important influence on the development of surgery. His studies on keloid, on the columnæ adiposæ, on the classification of tumors of the breast, together with his *Surgical Pathology*, made him the James Paget of his hospital, as Warren *primus* had been the John Hunter.

But this new learning which came from turning the microscope on disease, though first introduced by a surgeon, was not long to remain solely in the surgeons' hands. It was time for the hospital to have its own pathologist, and with the return of Fitz from abroad shortly after, the pathological building was erected and he was put in charge. There, some fifteen years later, on a unique autopsy table devised by Bigelow, the underlying nature of the disorder which in time took surgeons out of the pelvis into the belly was finally disclosed and was designated "appendicitis." Anæsthesia christened by Holmes, litholapaxy by Bigelow, appendicitis by Fitz, are three unquestioned offspring of the Massachusetts General Hospital whose names are enrolled in the baptismal register of medical terms.

But the long tradition of the anatomical dissecting room and surgery learned on the cadaver could not be shaken off abruptly in favor of the experimental laboratory. John C. Warren, it may be recalled, held the combined Chair of Anatomy and Surgery for thirty-two years (until the year after ether was first used); and though the post was then

divided, O. W. Holmes taking anatomy, for the next fifty years the anatomical demonstratorships were held successively by Hodges, Cheever, Porter, Beach, Richardson, Mixter, Newell, Conant, Munro, and Brooks — all but two of them surgeons with appointments here. The dissecting room without doubt was the best possible training ground until pathology and physiology became more essential than regional anatomy, after surgery seriously invaded the body cavities and began to lop off the diseased appendix instead of arms and legs, which, except in wars, we manage now better to preserve.[1]

Up to our lights, back in the '90's, surgery in its transition stage was done here exceptionally well, and there was a most healthy rivalry between the services, of which there were then three, — East, West, and South, — each with its own distinctive personality. How looked down upon were we of the newly established "South" by those of the other services, each with its long and enviable genealogical list of internes scratched upon the lid of the senior's desk. My brother, I remember with amusement, was shocked to find that I was not on the East side which had been his. But each of us felt his own service to be the best, and endeavored to make this assured by establishing traditions, better, if possible, than those of the others. So with my contemporaries of the short-lived "South," I look back with an enduring sense of obligation to our four chiefs — to that resolute and picturesque pioneer John Homans, who twenty years before had been privately advised not to do ovariotomies here, yet persisted in so doing; to C. B. Porter, master of operative technique; to Jack Elliot, with his brilliant gifts and uncanny surgical instinct, and to the youngest of them, William

[1] In his Life of Lister, J. R. Godlee has recorded that in 1865, at the University College Hospital, there were 200 operations performed, 40 being amputations. In 1912 there were 2000 operations, 18 being amputations.

Conant, most generous and considerate of his hard-working juniors.

To place the time for a younger generation, we were just beginning to count the leucocytes in the blood, to operate for appendicitis in the interval, and hesitatingly to expose the gall bladder through a small opening, for the upper abdomen was still largely a closed territory. Dr. Warren had just brought back from Röntgen's laboratory a small tube about the size of a goose's egg, and with it Codman and I ground out on the old static machine the first faint X-ray picture of a hand ever taken here.

A good deal of it, to be sure, in the retrospect appears somewhat old-fashioned, and we were misled in many ways. We operated too much by the clock; the wealth of material was utilized in no way except for added experience; cases were insufficiently studied before operation; our fracture dressings were so neat and laboriously made we would hesitate to take them down to see if all was well beneath; we disdained the students, forgetting how recently we had been of them; there was rather too much display and operative rivalry at our Saturday morning public exhibition of skill; too much of the week's hard work was postponed for a prolonged Sunday morning visit which left us with no day of relaxation; there was no spur whatever to productiveness, no encouragement to follow up a bad result, whether to its home or to the deadhouse.

But these things were merely an expression of the times: they were not peculiar to this hospital alone, and if there were faults, we juniors who reveled in the life and its opportunities were unaware of the fact. We controlled the staff, in our estimation, who by sufferance did such operations as we allowed, and the Almighty with our help cared for the patients afterward — and usually got them well. And the trustees? If they existed, we saw them not, though vaguely aware that

they made all those wonderful things possible. They, we felt sure, were only interested in the cost of a bed and its occupant per diem — not why it was that Martha survived her operation while Mary did n't; that Patrick's hernia recurred while Michael's did n't — not how these things might be done better, but only in the numbers of Marthas and Patricks and others the hospital took in and evacuated each year. They were the Bee Masters, we the Workers, and it is little to be wondered at, therefore, that to us, as to successive generations of house officers, the orderlies, the nurses, the servants and minor officials continuously here were what, even more than the staff, according to our view, gave personality to the hospital.

Opportunity was in our grasp. Each could add something if he would. Had not Herbert Moffitt just left the most perfect set of records as a standard for all to copy; was not Richard Cabot at work with a microscope in the small laboratory, engaged in that mysterious occupation called research; was it not possible for any other of us to do something original, to leave some imprint of ourselves on the old place, to add our mite which would be remembered by others to come afterward and perhaps unconsciously influence them?

Who could have been that marvelous though anonymous scribe who a century ago penned those wonderful case histories in the first volumes of hospital records in the Treadwell Library, which remain an example to all house officers, for they have never been excelled?[1] It would make for some historian an interesting study to trace in these and subsequent volumes the records of the generations of what have always been called "house-pupils" and to see how

[1] Dr. A. J. G. Marcet, an exact writer, in his *Essay on the Clinical History and Medical Treatment of Calculous Disorders*, published in 1817, mentions that no great London hospital then kept any regular record of cases. (Norman Moore.)

far the promise of their future life as there recorded came to be fulfilled. It would be interesting to learn how far their failures as well as their successes are attributable to the encouragement or repressions which this succession of young men in their formative years received at the hands of the Massachusetts General Hospital — whether it is because of the character of their training or in spite of it that success, and of what kind, has come to them. Here lies opportunity for another kind of an end-result study, of interest and importance.

As I look back on those of my own generation it seems to me that there have been three outstanding contributions for which the hospital may take credit. One of them is represented by the writings of Mumford, who more than anyone who has served here since "The Autocrat" possessed a gifted pen. And though his essays cannot be claimed by us, that experience which enabled him to write the best surgical textbook of his day was purely received here. It was through his highly developed histrionic sense, furthermore, that Dr. Warren's suggestion of these Ether Day anniversaries was taken up and developed. Then, also, the credit of two great reforms belongs to our generation, both of which are identified with the Massachusetts General Hospital. They both concern the after-result of the patient's hospital sojourn. With the name of Richard Cabot one will be forever linked, and it stands, I think, as the most significant accomplishment in the whole history of the hospital — more even than the introduction of anæsthesia, for in this case the idea, the man, and the fulfillment belong indissolubly to the institution. The other great reform, though of a different nature and launched with a different purpose, nevertheless also has its important sociological bearings. In this case also the idea originated here, but the man, a modern Luther,

nailed his proclamation to the church door, preferring this method or martyrdom to the more persuasive ways which an Erasmus would advocate. This involved, too, a question of personality. Nevertheless the idea as well as the man was a product of the Massachusetts General Hospital, and a great nation-wide movement has been started which is bringing hospital boards everywhere to see that they have obligations which not only concern numbers and cost of patients, but also of work performed and its outcome.

There are, indeed, ways open for every individual to make his personal contribution to the institution he serves, and in developing my theme I have been interested more in what those associated with the Massachusetts General Hospital have left here than in what they contributed to their profession beyond the hospital walls. Some of the surgeons have been inventive and have perfected new apparatus or instruments; some, like the Warrens, have written important surgical treatises, and J. Mason Warren's *Surgical Observations*, dedicated to the trustees, is a work of high order, a Massachusetts General Hospital publication from cover to cover; some have originated novel surgical procedures, like the lamented Frank Hooper's operation for adenoids, or S. J. Mixter's œsophageal operations, or have worked out the underlying cause of some imperfectly understood disorder, as E. A. Codman did for subacromial bursitis; some, like C. B. Porter, have influenced surgery less by the written word than by their example of technical skill and enthusiasm as clinical teachers; some have developed new fields of work leading toward specialization, as did John Homans and Arthur Cabot; and almost all, without exception, have been such dextrous and resourceful operators that one may hardly single out an individual unless, possibly, Maurice Richardson may be taken to represent the Massachusetts General Hospital ideal of later days.

But it is on the personality rather than on the personal accomplishments of these surgeons and of others who have been connected with the hospital that I would dwell, for it is their combined individualities rather than their individual contributions which in the end have produced that complex which we recognize as giving to the Hospital its particular flavor, tone, and color. It is an intangible thing — this distinctive character of one hospital which makes it differ from others of its kind. Like an old wine, it has acquired a certain quality which only comes with age, and which a new institution cannot imitate, for it represents the fusion of the countless personalities of all those who have worked for it or in it, no matter how lowly — of a nurse or house officer or orderly, no less than of a trustee or superintendent or member of the staff.

I think the faithful Hugh McGee has the record for service, fifty years in fact, but James Mains with his Parkinsonian tremor was the mainstay of the Bigelow amphitheatre for nearly as long. Then there was Barry, inimitable mimic of surgeons who had gone before, Pipper the night orderly, "Out-Patient" John, and Louis Brown who first came a boy with osteomyelitis and died here thirty years later from complications of his old malady, meanwhile having become, as a photomicrographic expert, a most useful and loyal servant of the Hospital. Strongly represented too is the personality of that beloved Walter Dodd, who from an apothecary clerk grew to have charge of one of the first and best X-ray departments in the country and, like the soldier he was, stood by his gun in the service of the hospital to the end — "doubly dead in that he died so young." All these are represented no less than, perhaps even more than, those of greater fame who were given more prominent rôles and received the plaudits, but gave far less time to the performance.

Nor need the list be so restricted, for women — many of

them — have done their part, even Nellie and Ellen in the Flat, dear old Maggie the waitress, Bridget Gibbon in the laundry, who for thirty-four years has known better than anyone else which of the surgeons and their pupils, East or West, was the least tidy. Then, too, there have been women higher up who for hours have stood wearily handing things to imperious and impatient surgeons, or have for so many years spent unselfish hours, like Miss McCrae, in giving nurses the distinctive stamp of the Massachusetts General Hospital Training School. A woman, indeed, with vision and opportunity, may even be one of the outstanding figures, as has been true of St. Thomas's Hospital, in whose annals Florence Nightingale shares the honors with, if she does not even outshine, such as Mead and Cheselden, whom Alexander Pope immortalized.

So let us remember that someone other than a visiting physician or surgeon may indelibly stamp his personality on the hospital he serves. In the old Blockley Hospital in Philadelphia a tablet has been erected to Thomas Owen, who for some thirty years as head nurse of the men's medical floor was known to successive generations of attendants and residents, most of whom are forgotten, or at least their association with that picturesque old hospital has been, while his will remain for all time. And why? Because he gave all that he had to the institution, and it left him famous, whereas the others, a good many of them, used the old Philadelphia Hospital not infrequently for political or private ends, and are buried in oblivion. Such a one as this Owen was Jim Skillen, originally a Massachusetts General Hospital ward tender, who came back here to die of an incurable malady after passing uncountable years as janitor of the Medical School. There he probably meant more to more students than did any individual teacher, for he at least knew us all by name and had very clear and forcefully expressed notions

as to our individual worth, as well as to the worth of our many instructors.

Example has much to do with the perpetuation of traditions, especially when there is a succession of hero-worshiping and imitative juniors; and if a hospital's personality is, as I believe it to be, its chief asset, the thought should quicken the sense of responsibility of everyone, be he trustee or lowly servant, for it is in the power of any individual to modify this quality. He who is willing to do something more than follow a prescribed routine and who merges himself most with the active indoor life of the institution, giving even at personal sacrifice the most time to the attainment of this end, is certain to be the best and longest remembered.

And here my theme must end. Every hospital recognizes more or less clearly its set obligations; what helps or hinders most in their fulfillment are the crystallized traditions which give an institution its particular individuality. In the development of this quality countless people, however unconsciously, have contributed — those whose charity has given comfort and peace of mind, as well as those whose professional skill has brought physical well-being to the maimed and sick; those who have brought the greatest sympathy and understanding to the problems of the young people here to learn; those who may never have come in special contact either with patients or with students but, freed from the killing routine of the clinic, have applied themselves to the forwarding of knowledge; those who have managed the business affairs of the hospital and its relations to the outside world; those, too, who have made the beds, kept the books, answered the phone, cooked the food, done the wash, stoked the fires, scrubbed the floors, and killed the rat — in the hospital Jack built.

VII

THE PHYSICIAN AND THE SURGEON[1]

WHY, in God's name, in our days, is there such a great difference between the physician and the surgeon? The physicians have abandoned operative procedures to the laity, either, as some say, because they disdain to operate with their hands, or rather, as I think, because they do not know how to perform operations. Indeed, this abuse is so inveterate that the common people look upon it as impossible for the same person to understand both surgery and medicine. It ought, however, to be understood that no one can be a good physician who has no idea of surgical operations, and that a surgeon is nothing if ignorant of medicine. In a word, one must be familiar with both departments of Medicine.

No one can be a good physician who has no idea of surgical operations, and a surgeon is nothing if ignorant of medicine. This, Gentlemen of the College, is my chosen theme, and lest you think it a novelty of my own, I hasten to add that the paragraph quoted is transcribed from writings which exist for us only in manuscript, since Lanfranchi, called the founder of French surgery, who expressed this sentiment, lived two centuries before Gutenberg.

When one considers the healthy unification of Hippocratic medicine, why *was* there such a difference in Lanfranc's time, and must we admit that the difference he lamented still exists in ours? Does the shadow of the mediæval schism dividing medicine and surgery, and both from the church, — which originated, history tells us, in a thirteenth-century papal decree forbidding the participation

[1] American College of Surgeons, Presidential Address, Boston, October 27, 1922.

of the clergy in any procedure involving the shedding of blood, — does the shadow of this schism still lie upon us? What difference, after all, *is* there between physician and surgeon except in the kind of cases each of them chooses to treat and in the therapeutic measures applied? And in view of many centuries of separation, do we tend toward reunion or further separation? These are questions which concern in no small degree the very existence of this College.

We certainly have stumbled along widely divergent therapeutic ways, we lay physicians and lay surgeons. The great physicians of ancient days were first of all given over to polypharmacy inherited from the Arabians, then to the Law of Signatures with its astounding botanical therapeutics, then to a period of heroic bleeding and purgings and sweatings. Homeopathy followed, and taught the profession a much-needed lesson, and finally cellular pathology and bacteriology came to revolutionize physic by arousing a profound skepticism in regard to the efficacy, whatever the dose, of most of the drugs abundantly prescribed for symptomatic purposes. This gave to the traditional practices a staggering blow, and the coal-tar products with synthetic chemistry finally closed the physic garden, drove plants, with a few notable exceptions, from the pharmacopœia, and botany from the curriculum.

While all this was going on, much time was spent in evolving "systems" of therapeutics based upon bizarre interpretations of pathology which followed one another in succession, the Brunonian doctrine being one of the last, whereby diseases were either sthenic or asthenic; and a century and a half later we still hear "asthenic states" spoken of as ones which need supporting treatment by alcohol, so that even in these dry days the physician is privileged to prescribe the drug that was said to have been Brown's personal undoing, though he lived north of the Tweed.

It is an old saying that the wisest physician is he who knows the uselessness of the most medicines. Nevertheless, in an unfortunate alliance with the apothecaries, at about the time the surgeon was entangled with the barber, the eighteenth-century physician was accustomed to write prescriptions for patients he had n't seen, while enjoying good company in the coffeehouse. Some measure of common sense in matters therapeutic was finally knocked into the profession by the growing appreciation of the self-limitation of many diseases; by the success first of Hahnemannism, and later of other cults, like Mother Eddy's, which revived the therapeutic importance of a neglected principle well known in the Æsculapian temples, namely the influence of the mind upon bodily ailments, particularly when imaginary in large part, as so many of them are. Mr. Dooley once sagely remarked that "if the Christian Scientists had a little more science and the doctors more Christianity, it would n't make much difference which you called in — provided you have a good nurse." And there is no doubt but that Florence Nightingale and her successors have also had much to do with modifying our modern methods of treatment.

But the profession has not entirely regained its therapeutic sanity under these benign influences. Those uncritical and poorly trained physicians who live in glass houses and give welcome to the prescriptions of certain pharmaceutical establishments which elbow their way to our desks on leaflets and postcards, cannot throw stones at the laity who give no less a welcome to nature-healers, herbalists, chiropractors, bonesetters, patent-mediciners, and charlatans beyond enumeration. Little wonder that many persons, both lay and professional, have about come to the conclusion that we had better limit the number of students in our schools, and let a smaller number, better trained, devote themselves to the prevention of disease, and, through

public-health measures, keep the bulk of the community well in spite of itself, in much the same way that we protect our live stock.

While all this has been going on through the centuries in physic, the surgeon was pursuing an entirely different way, independent of tradition, and, for the most part, be it said, in rather bad company. A handicraftsman, often a rude, uncultivated, and ignorant though practical fellow of itinerant proclivities, he was rarely utilized in the schools; and when so employed, he acted merely as the tool of the more learned and socially more respected physician. He had broken away from established authority; he ventured to write in the vernacular, and sometimes to operate without the physician's permission; indeed, he did many unorthodox things. However, he was greatly needed, especially in time of war: as Charles V used Vesalius; as four successive Bourbons used Paré; Elizabeth, William Clowes; Charles I, Richard Wiseman; and, to give an example from more recent history, as Napoleon used Larrey. Thus he came to be respected at court, even though he was kept out of the faculties, where he was looked upon with scorn not untinged with jealousy. An outcast both of church and profession, he finally climbed into professional and some measure of social esteem about the middle of the eighteenth century by way of the barber pole. But his long and quarrelsome alliance with the Guild of Barbers, humiliating enough, was peaceful when compared with the quarrels of the physicians and apothecaries.[1]

[1] Sir William Stokes in an article entitled "The Altered Relations of Surgery to Medicine" (Tr. W. Lond. Medico-Chir. Soc., 1888, iii, 126–7), wrote as follows: —

". . . In the interests not only of the social, but also of the scientific position of the surgical profession, the injunction, such as it was, of these two corporations (the Surgeons' and the Barbers' Company) was undoubtedly a calamity, and it helped to give the physicians the vantage ground which they occupied so long, and in which they were still further strengthened by an enactment made in Elizabeth's reign, prohibiting surgeons from prescribing internal medicines. As a proof that the inferior position, socially and scientifically, was maintained up to a comparatively recent period, I may mention as a fact which I learned from Mr. Colles, who

A short century after the surgeons succeeded in breaking away from this alliance with "barbery" and were readmitted into the schools on the same footing as the physician, there came Lister on the heels of Pasteur, to revolutionize, not only surgical therapeutics, but, at the same time, by the introduction of surgical cleanliness, the very hospitals in which both physic and surgery are practised. And so it has come about that while the physician to-day has busied himself in perfecting elaborate methods of diagnosis for many chronic disorders, he rather shrugs his shoulders over therapeutics; whereas, on the other hand, treatment by operative methods has developed so amazingly that in the hands of some enthusiasts it has shown a tendency to run away with itself.

Thus, in very rough outline, the two main clinical branches of Medicine, long separated both socially and professionally, have grown in ways so divergent that the fact of their origin from a common stem has become obscured by an accumulation of therapeutic débris left by a succession, on the one hand, of theorists who, like the modern endocrinologist, may perhaps see the patient as a whole, but through a mist, and by the modern surgical specialist who sees only a part, but that part so disproportionately he is tempted to remove some of it. The time is at hand at least for some judicious pruning, both of physic and surgery, and for the removal of sufficient rubbish to permit the main stem of Medicine and its roots of Science to be properly exposed and aërated. This process will be good for both root and branch, but more particularly will it benefit the branches if it has the effect of making the surgeon less of a

informed me that his father, Abraham Colles, had stated that at the commencement of his professional career in Dublin, when a consultation on any important case was held, the surgeon was not as a rule permitted to be in the room where the physicians held their deliberations, but, after the consultation was over, he was informed whether his services would be required or not."

pure technician and more of a physician, and the physician more capable of utilizing some of the minor procedures of surgery and with a better understanding of the major ones.

In a word, one must be familiar with both departments of Medicine, and this is no less true to-day than in the thirteenth century. By no means did Lanfranc, in the statement quoted, mean to imply that physicians must practise surgery — merely that they will be the better physicians the better their understanding of surgical therapeutics; and, on the other hand, that no surgeon should be regarded as qualified to undertake operative procedures who is not primarily and thoroughly grounded in medical diagnosis. A graduate in Medicine may have a very wide knowledge of surgery or even be a successful teacher of the subject without necessarily being himself an operator, just as one may have a thorough knowledge of music without being a performer. So, also, there may be many activities in which a physician may engage, beneficial to his profession, without necessarily "practising" or prescribing drugs.

However, when in common parlance we differentiate physician and surgeon, we do so only on the basis of therapeutics, and, granting the same underlying knowledge of disease, this is all that separates from Medicine proper homeopathy and osteopathy and all the other therapeutic cults, each of which reaches some degree of sanity so soon as it undertakes to perform surgical operations, as in time it is inevitable each one of them should do. There is nothing homeopathic about the scalpel, and when surgery was permitted to creep into this doctrinaire school it was near its end. The osteopath and chiropractor and eclectic and all the others may beware of this, for so soon as they come to engage in surgery, then a thorough medical grounding will be necessary; hence the natural end of all such cults is that,

dead or alive, they will become swallowed in time by the general profession, distasteful as the dose may be.

Unquestionably, what chiefly influences the direction of its growth is the way in which Medicine as a whole is taught — the way in which its various subdivisions are presented to the student, and the relative stress laid upon them. Whatever their spirit of altruism, most of our students enter the profession as a means of livelihood, and are likely to be influenced by what seems to them, given an ordinary degree of ability, to be the most likely road to an income-producing end, whether it be as a laboratory worker, or public-health official, or physician, or surgeon, or specialist of any sort. A disproportionate amount of teaching, or better and more personal teaching in one subject over another, whereby the student's interest is aroused and he begins to feel a certain amount of confidence in his knowledge, will inevitably lure in that direction the larger number.

The periodical turnover in our programs is an evidence of the fact that faculties show a perennial dissatisfaction with existing conditions, and strive each of them to find a better average allocation of subjects, little realizing that it makes no great difference — that the fault lies with us the teachers, not with the program; for Medicine can be successfully taught from many angles if only students are properly stimulated and encouraged to observe and think and do for themselves. But what has become particularly apparent of late is that the curricular tree has become overloaded by grafting upon the clinical branches an undue profusion of specialties, few of them of fundamental importance even though they doubtless bear fruit of marketable value which dangles before the student's eyes so alluringly that he is prone to forget, or to overlook entirely, the source of origin of the specialty in Greater Medicine.

There has been a great reaction against this, and our sup-

posedly more progressive schools are engaged in lopping off a number of these clinical branches. Some schools, indeed, have come to pay so much attention to the root and stem that, if we do not beware, the top will be cut back so far that there will be neither foliage nor fruit — no medical practice whatsoever — and thereby encouragement will be given to the growth of every conceivable form of quackery, which will spring up around us as have the schools of the chiropractor, to fill the depleted ranks of the profession; and the indifferent public is probably worse off than it was before. Far better than this would it be for us to send out after two years of clinical study alone, with some additional knowledge of public health, a group of men to be licensed as Bachelors of Medicine, who at least could attend to the ordinary ailments and health of the rural districts, where public opinion is largely made and from which legislation, detrimental or otherwise to the interests of the profession in its campaign for sanitary measures, is likely to emanate.

It is a curious commentary on our methods, that, while we have come to emphasize the importance of teaching the pre-clinical sciences by practical laboratory exercises so that the student may at least have some first-hand knowledge of the scientific method and may learn to interpret and observe for himself, we have tended, if not to abandon, at least to postpone to the end of the course, these very methods so far as the clinic is concerned. To be sure, we have long outgrown the time-honored quiz as the basis of teaching, than which nothing could have been less practical. A student may know his textbook thoroughly — may, for example, give without hesitation, when asked for them in an examination, all the symptoms of that vanishing disease, typhoid fever; but if he has to utilize his own observation, senses, and wits, and dig out, himself, the essential symptoms and signs which make the diagnosis possible, he is so incapable of reversing

his acquired mental processes that the idea of typhoid fever never enters his bewildered head. Only by prolonged contact with the patient at the bedside can he come to take a good history, to make a proper examination, to learn to separate the wheat from the chaff of the patient's complaints; all of which must precede the interpretation and the treatment of the existing disorder.

The so-called case system of teaching has become highly developed and popularized in certain schools — a diagnostic exercise whereby, through the process of elimination and logic, the predigested data acquired by a variety of people are presented for discussion and analysis. Such a method is excellent for training in the law, since in the legal profession one argues on the basis of authority and accumulated testimony, in accordance with which satisfactory judgments can be rendered and punishments meted out without even seeing the culprit. But the medical profession has long since broken away from dogma and authority, and though the case system, given a lively instructor, provides an interesting exercise in medical diagnosis far superior to the old-time quiz, when carried far it has the great danger of making logicians of the students, rather than practical physicians. There is some danger lest the student be led to feel that it is unnecessary for a diagnosis to examine the patient oneself — someone may get the history, another make a physical examination, still others supply the X-ray findings, the laboratory tests, and so on, while all that the modern physician needs to do is to sit and expound, as did the mediæval anatomist while the barber did his dissections for him.

Excellent as they may be, there is nothing practical about such exercises, and if overemphasized they are bad for both teacher and student. For the teacher, because he gets out of the habit of making his own thorough examination of the patient; for the student, because he gets an impression

that the diagnosis, which an autopsy may confirm or otherwise, is the only thing of importance, and treatment for the most part futile.

Meanwhile the patients in their homes, in the dispensary, even those in the wards, would like to know what these professors, who admittedly are having difficulty in telling, without looking at the organs, what certain people died from, are going to do to relieve their individual backaches or troublesome coughs — and perhaps it would be just as well to go to a chiropractor next time. Indeed, it takes a good deal of explaining to make clear that multitudinous laboratory tests are necessary preliminaries to the recognition of his malady. All too often, alas, the knowledge thereby gained fails in any way to make him more comfortable or to prolong his expectation of life. The patient submits to all this and is very glad to know, in the abstract, that diagnosis has become a laboratory science which employs the modern principle of piece-work, and that the medical profession looks forward to the prevention of many existent diseases from which posterity will be exempt — but "meanwhile, doctor, what can you do to relieve my present discomforts so I may get back to work?" He is inclined like the Irishman to ask, "What has posterity ever done for me?"

The program in all of our schools still retains one essentially practical clinical course to which attention may be drawn — a course forced upon us by Boards of Registration, else even this might be curtailed or lost. It exists in the case of obstetrics, for no student is allowed to get his license unless he has actually, himself, supervised a certain number of confinements. Here is an actual test of the medical novitiate's resources, the one practical test of what he may be able to do in a possible emergency in a patient's home. Nor would any of us wish to see the students robbed of this invaluable experience. On the contrary, it would be an

admirable thing if the principle could be extended and every student, before his graduation, be required, under the control and supervision of his teachers or the district physician of the community, to engage in an actual house-to-house practice, armed perhaps with nothing more than a clinical thermometer, a stethoscope, his fingers, and wits, supplemented perhaps by a microscope and a few simple dyes. In this way he might learn something at least of the living conditions which modify the health of the people he now only meets in the dispensary, surrounded by all of the paraphernalia and instruments of precision supposed to be necessary for a diagnosis. It is a leaf one might take from the book of certain of the training schools for nurses whose candidates must prove their capacity to engage in actual home practice before they can qualify for a degree.

One of our highly trained young physicians, long-time resident in a teaching hospital, recently confessed to me that he had just been through one of the most valuable experiences of his ten years of medical study. He had passed his summer on an island where was a large summer community, and in the absence of any local physician he had volunteered to hold office hours and prescribe for the needs of his fellow sojourners, his principal armament being a thermometer, his microscope, some bandages, and a few simple drugs. Never before had his powers of observation and his common sense been so thoroughly exercised.

It is a curious anomaly that the British surgeon, taken as a whole, is probably in practical ways a better-trained doctor than is the American surgeon, and yet he rarely possesses a full medical degree, and is apt to pride himself on not being called "doctor." Here, on the contrary, the surgeon, though graduated a Doctor of Medicine, not infrequently lapses into the state of being little more than a crafts-

man who, except for the external parts of the body, makes little or no pretense at diagnosis but expects the "internist," often without any expression of an independent judgment, to show him the way.

Different countries — indeed, different parts of the same country — vary greatly in the attitude of physicians or surgeons toward their problems. An illuminating experience of this past summer, during an all-too-short service as *locum tenens* for Mr. George Gask at St. Bartholomew's Hospital, has left me with the impression that the British student gets a more practical clinical course based upon far better training in anatomy and gross pathology than do most of our students, and that he is far less inclined to lean upon laboratory accessories in making his diagnosis. He, for a longer time and more intimately, is brought in contact with the ninety per cent of human ailments upon which complicated laboratory tests have no special bearing, and through practical experience is apt to arrive at a reasonably sound conclusion in regard to his patient's disorder, and have a shrewd idea of the appropriate form of treatment. True, he may miss some of the more rare conditions, for which, after all, little can be done therapeutically — conditions which our students, with their vastly better laboratory facilities, would recognize in all likelihood. But should we put side by side at work in a small town the average product of these two methods of teaching, I am inclined to think that the former would be the more resourceful, and exercise greater wisdom though possessed perhaps of less learning. And, after all, the strength of a profession, as of a nation, is represented by its average product.

We must somewhere and somehow strike a middle ground between overtraining in the laboratory and undertraining at the bedside, or the reverse. Certainly at the present time our graduates — many of them at least — no longer feel that

the rôle of the country doctor, or even the general practitioner in the town or city, is at all an alluring one, even a possible one, so dependent have they become on complicated laboratory findings in arriving at a diagnosis. Unquestionably, there is an economic element which also enters into this, for a training in Medicine at the present day is unduly long and expensive, entirely disproportionate to any possible returns to be gained from a rural practice.

Unquestionably, the present stress laid in this country upon the pre-clinical laboratory courses, particularly those in chemistry and physiology, has greatly influenced the entire point of view of the physician, who must have a calorimeter and an electrocardiograph with a technician to operate them, if only to keep in fashion, little realizing that they are scarcely more than research instruments. There has been much talk about the modern physiological schools of physic and surgery, and I presume this means that it is less fashionable for the clinicians to grub in the pathological and anatomical laboratories than formerly. No doubt this is the case. Anatomy and pathology just now appear to the unimaginative to have been thoroughly explored; the pioneers have taken the surface washings, and rather than dig deep for gold we prefer to look elsewhere for novelties and chance findings.

The interest of the students in these two particularly essential subjects has unquestionably flagged, for they naturally reflect the attitude of their teachers. I know no better illustration of this than the fact observed in many hospitals, that the physician is less apt than formerly to follow his patients to the operating room, and appears to be less eager than in days gone by to have a view, during life, of the pathological lesion. His place there has been taken by the radiographer, who is more often on hand to see his diagnosis confirmed or otherwise. This may be for the reason

that the disclosures at the operating table relate to regional pathology, and the surgeon rarely exposes lesions which will enlighten those interested in blood urea, the Wassermann reaction, in calorimetric or electrocardiographic estimations.

Does this not mean that the surgeon has become the internist, or, put another way, that the internist (as the physician was once called) has come to do his own surgery? If this be so, it behooves the surgeon to accept the fact that he must be, primarily, a good physician — and the physician, loath as he may be to admit it, that he has undergone a metamorphosis. A year ago this College gave an honorary fellowship to the Professor of Medicine of the University of Stockholm, who had evolved an operative method, entailing great skill, whereby the adherent lung may be completely collapsed in the treatment of pulmonary tuberculosis. A distinguished member of this College, whose name we perpetuate by an annual oration, first conceived the idea of putting the diseased lung to rest, but it remained for Professor Jacobæus, a physician, to add a further and important step to the procedure by the intrathoracic division of pleural adhesions — a step which had not been undertaken even by so imaginative and radical a surgeon as was John B. Murphy.

This, indeed, was a very significant and unusual occurrence, but, properly interpreted, the giving of this fellowship was merely an admission of the successful invasion of the surgical field by one who occupies a chair of medicine, and the prompt recognition of his contribution by the surgeons. Similar therapeutic invasions of what was once "internal medicine" have been made by those who, because they handle a scalpel, and are willing to set broken bones, are called surgeons, with no corresponding recognition, so far as I am aware, by societies of physicians.

There are, however, certain exceptions in the case both of

individuals and of special societies. Men who without disrespect are called Surgeon-Generals of Army, Navy, or Marine Corps, are apt to hold membership in societies both of physicians and surgeons, even though, like the lamented Gorgas, they may be essentially sanitarians — societies, too, which recognize the inadvisability of confining their numbers to those averse to a participation in surgery. The neurologists, for example, have opened their membership to so-called neuro-surgeons, to the unquestioned benefit of those who do, and those who do not, care personally to employ operative methods of treatment. It has made the surgeons strive to be better neurologists, and given the neurologists a better conception of what therapeutic contributions their surgical colleagues are capable of making. It enables both groups better to keep their feet on solid ground, and there is no danger that the society will ever become so overrun by the surgeon as to let operative therapy fly away with itself and jump over the moon.

May I indicate the direction of our present drift, as physicians and as surgeons, by citing two recent examples from my own clinic — they are doubtless extreme examples, but they will serve my purpose. Patient Number One was referred for diagnosis from a sanitarium which she had entered because of headaches, and where she had had a long and expensive sojourn. She brought with her a sheaf of records detailing special studies, made by different people, on her blood (even to the coagulation time), cerebro-spinal fluid, stools, fields of vision, metabolism, alveolar air, and carbohydrate tolerance. It was an impressive array of findings, all within the normal limits of error. The X-ray, however, showed a "closed-in sella." Pituitary tablets were prescribed without benefit, and she was finally advised to undergo an operation, and sent to us for that purpose. So

far as could be determined, she was an overconscientious and overworked medical librarian greatly in need of a long-postponed vacation, who incidentally had become introspective from reading a popular book on the ductless glands.

In contrast to this, let us turn to the surgeon-specialist and his worst fault, in that he often fails to see the patient whole. At the moment of this writing, Patient Number Two enters the hospital — a poor fellow who for several years has been having frequent uncinate seizures, associated with a vivid olfactory sensation. Meanwhile, he has had nine intranasal operations in separate sessions — a septal resection, ethmoids, sphenoid and both antra opened and drained, turbinates removed, and finally all his teeth extracted. Of course we smell with our noses; the patient complained bitterly of a disagreeable odor, *ergo* nasal operations. What could be more simple? That he had during all this time an homonymous hemianopsia was not observed. It is a venturesome and expensive thing to consult a surgical specialist who does not see beyond his own — or his patient's — nose. And this represents for all of us the great danger of surgical specialization when carried to an extreme, whether it be in rhinology, gynæcology, neurology, or what you will. And when the specialty removes itself from contact with general Medicine and retires to an isolated hospital given over to a single class of cases, it is a danger still more difficult to avoid. Indeed, a ward in a general hospital, so given over, may become no less a place of isolation with its inevitable narrowing tendencies.

A wise physician and teacher, in discussing internal medicine as a vocation, once said that "the manifestations of almost any one of the important diseases in the course of a few years will box the compass of the specialties." It is no less — perhaps even more — true of surgery, and for this reason I believe it to be fundamentally essential in a general

hospital, however inconvenient for the attendants, that conditions represented by the specialties shall be scattered in the wards amongst the patients still grouped under general surgery, so that staff, house officers, nurses, and students alike shall at least continue to have some due sense of proportion regarding general surgery, and surgical specialization, and the relation of each of them to Medicine.

This College of Surgeons in its short life has assumed some very responsible functions. It is playing a not unimportant rôle in international affairs by bringing together through the common bonds of professional interest the surgeons of this western hemisphere — of Canada, Mexico, and South America, as well as of the United States. We have much to learn from each other. Another most important task it has undertaken is to improve, and in a measure to standardize, the work done in our larger hospitals. The modern "Survey" with public ventilation of its findings is one of our most advantageous methods of bringing about reforms. So our hospitals, some seven hundred in number that have over one hundred beds, have been classified, with the result that improved methods of organization have been adopted which have enormously safeguarded the patient — particularly the patient destined to undergo the hazards and aftermath of an operation. It has been an expensive and laborious task, this survey, but a task well worth while, and it is now to be extended so as to include the smaller community hospitals of over fifty-bed capacity, which are far and away more numerous.

The College, too, has from the outset taken a vigorous stand against that abomination which prevails, it is said, in some parts of the country to such an extent that public confidence in the profession has been seriously shaken. It is a matter which bears some relation to these very trends of physic and surgery which I have endeavored to make clear

earlier in this address — the surgeon becoming a pure operative technician, incapable of making a diagnosis — the physician, impoverished in therapeutic resources, and with so poor a conception of surgery that he will let out his patient to the lowest bidder willing to operate at his dictation, and divide the purse.[1] This takes us back to the abuses of the Middle Ages. It is an abuse which could not possibly exist in any community if the surgeon were trained to make his own diagnosis, and if the physician would refuse to employ a surgeon incapable of arriving at an independent opinion regarding the necessity or advisability of an operation. For such a man is apt to be equally neglectful of what is often the most important part of every surgical procedure — the after-treatment. The physician who lends himself to such a practice is in the position of one who prescribes a dangerous drug to his patient without knowledge of its dosage or action, for there is no drug in the pharmacopœia so dangerous as misapplied surgery.

It seems to me that it would not be a bad idea if in our tests of eligibility for fellowship in this College — tests which not only are those of moral and professional character but of operative experience and skill — we should demand something more than the mere report upon a fixed number of major operations successfully performed, but should require as well information as to whether the diagnoses in these cases were the result of the candidate's own personal observation, or whether they were made for him by another.

We have seen that the present trends affecting the physician and surgeon are, on the one hand, toward preventive medicine and good nursing, which lessens the importance of therapeutics; on the other, in surgery, an ever-increasing subdivision and specialization which tends to magnify the

[1] It is significant of the success of some of the activities the College has engaged in, that laws against fee splitting have been adopted by many State legislatures.

importance of mere handicraft. Prevention, it is true, can also be applied in surgery. Many industrial accidents can be prevented; the rule of safety first can be followed; there would be no more gunshot wounds if firearms and war were abolished; if we can finally stamp out tuberculosis and eliminate cancer, there will be far less for the surgeon to do. If women did not have children, if people did not drink, if we could only keep the policeman off his feet, the housemaid off her knees, the miner off his elbows, the aviator out of the air, the boys away from football; if all children in goitrous districts were given a little iodine, there would be less need for the surgeon. But we do not yet live in the Isle of Utopia, and however much the need of the physician may be lessened through the agency of preventive medicine, by eliminating disease, as typhoid has been largely eliminated, and yellow fever, and as malaria can and will be, and many nutritional disorders, and perhaps goitre, the surgeon will continue to be needed, and I cannot see but that he must become a better and better physician.

When physicians acquire a more intimate knowledge of surgery, fewer people in need of operative procedures will be turned over to the surgeon too late, after delays caused by an inordinate number of unnecessary laboratory procedures. When surgeons are required to have a thorough grounding in general Medicine before practising their handicraft, fewer unnecessary operations will be done, and many of the evils which exist in their professional relationship with physicians will be eliminated.

All of this was embraced thirteen centuries ago by Lanfranc's brief statement: —

> No one can be a good physician who has no idea of surgical operations, and a surgeon is nothing if ignorant of Medicine. In a word, one must be familiar with both departments of Medicine.

VIII

LOUISA PARSONS AND HER MEDALS[1]

FIVE service medals and a single rather illegible letter, written when she knew her end was near, do not go a long way toward revealing a woman's character. They nevertheless make it possible, even for one who never knew her, to string together some few incidents of a life which is of moment to us on this occasion for the reason that at one brief period it intimately touched and left an enduring imprint upon this venerable institution.

I do not even know precisely when or where in England Louisa Parsons was born, nor indeed would these details be essential to my brief story. It is said to have been somewhere in Devon, and that her father was a physician and that she had a sister. But what is essential is the fact that as a young woman she dedicated her life to the alleviation of suffering and in so doing chose, whenever opportunity offered, to take the rougher road which meant hardship, exposure, and responsibility.

There is nothing unusual in this. Countless other Marthas, whose self-sacrificing labors remain unsung, have done no less. But occasionally the fates so dispose that one of these seeking neither reward nor recognition, yet becomes singled out for special remembrance. So it was with Florence Nightingale, who cared so much for service to others and so little for recognition of self that her body lies — you and

[1] Address at the opening of the new Nurses' Home, the University of Maryland Hospital, Baltimore, *November* 16, 1922.

I have forgotten where — in some unfrequented spot, whereas a grateful nation wished to give it a place in their Abbey. It was a personal choice quite consistent with her character.

It is difficult to realize that this saintly woman, the first Lady of the Lamp who made it possible for Louisa Parsons and many others of like kind to give themselves to service in an open world instead of in a cloister — that this woman died a short twelve years ago. Sixty years before, she had paid her first visit to that Institute of Protestant Deaconesses at Kaiserswerth on the Rhine, and then and there became convinced that nursing might be made a "calling" for ladies.

The ability and instinct to care for the sick is native in all women, but Miss Nightingale set herself to raise the art of nursing from the menial occupation of a Sairey Gamp to an honorable vocation. Her opportunity came with the Crimea, and when, hailed as "Santa Filomena," she returned after those arduous years in the barrack hospital at Scutari, the nation would have thrown itself at her feet. She was offered, we may recall, a ship of war to bring her home, but chose instead to return privately and unannounced on a French passenger boat and to go unnoticed to her home.

The only public recognition of her services she would sanction was the raising of a fund to establish a training school for nurses. Thus it was that in 1860 the Nightingale Nursing School and Home at St. Thomas's Hospital came into being, and there, about twenty years later, was graduated the woman to whom we have tardily come to pay tribute to-day.

Though Miss Nightingale refused to become director of the School bearing her name, one may be assured that her interest in its welfare was no less than had she been in charge, and that her spirit and ideals were emulated by every gradu-

ate. Accordingly, even without the evidence of the oldest of these medals, we might know where Louisa Parsons would be found shortly after her graduation.

Great Britain, as may be recalled, had been left in the early '80's to deal single-handed with a complicated situation in Egypt. The massacre and pillage in Alexandria had called for intervention, and Wolseley's Expedition, dispatched in 1882, succeeded through the victory of Tell el Kebir in saving Cairo from the fate of Alexandria. So it came about that British troops were left to maintain law and order in the land of the Khedive, a well-nigh impossible task.

The histories give the details of this and the subsequent Egyptian campaigns which the British Government faced with the customary misunderstandings and vacillation born of politics. But in these accounts one fails to find reference to the fever-stricken and wounded who filled the hospitals of the expeditionary forces in which such as Louisa Parsons slaved — ill-equipped, undermanned, and underwomaned as they doubtless were. We only know that on April 23, 1883, at the end of Wolseley's campaign, under Her Majesty's warrant for service in Egypt, she with a few others, most of them in all likelihood graduates of the Nightingale School, were personally decorated, it is said by Victoria herself, with the Royal Red Cross.

But a far more arduous service was ahead. The stern measures introduced in the Sudan by Gordon in an effort to suppress the slave trade had provoked a revolt, and one ineffective Egyptian force after another, led by British officers and sent to quell the disorders, had been annihilated by the Mahdists.

To the campaigns which followed in the next two or three years, a spot named Suakin on the western shore of the Red Sea bore much the same relation as did Scutari in the cam-

paigns of the Crimea. Delays, caused largely by governmental and military indecision, led to a disaster which saw the death of Gordon, the fall of Khartum, and the separation of the Sudan from the rest of Egypt. It is a story of waterless desert, tropical heat, thirst, inefficiency, typhoid, dysentery, and disappointment — a water column by way of the Nile struggling against the cataracts of the upper river; a rival desert column from Suakin of heterogeneous units, camel corps, Egyptians, Indians, and blacks intermingled with "redcoats" who manœuvred in the old British square.

Through all this went some stout-hearted women, Louisa Parsons one of them, and she is supposed to have accompanied a hospital detachment far into the interior. Finally a victim of typhoid, she was invalided to England, where in time she recovered and received from a grateful queen the Egyptian Service Medal, with its coveted "Suakin 1885" bar. This particular award, a silver medal, bears the veiled head of Victoria pendent from its distinctive blue and white ribbon. Subsequently, after some sort of order under Cromer was established in Lower Egypt, these striking bronze five-rayed stars which bear the inscrutable effigy of the Sphinx were distributed by the Khedive among those who participated in the campaigns of 1884–1886 in his ancient land.

In 1887, Miss Parsons came to this country as the nurse and companion of an American woman in ill health, with whom, and until she was restored to health, the next two years were passed in California and the Carolinas. But suited as she was to fill the sometimes trying position of a private nurse, Louisa Parsons was a woman capable of larger tasks.

Early in 1889, the Johns Hopkins Hospital was about to open its wards, and as a training school for nurses was to become an essential part of the institution, a capable superin-

tendent must needs be secured, and accordingly an advertisement asking for candidates was issued by Francis T. King, the first President of the Board of Trustees. For this position more than eighty applications were received. The number was finally sifted down to four: Miss Annie McDowell, Miss Caroline Hampton, Miss Louisa Parsons, and Miss Isabel Hampton. These four women were interviewed by a committee consisting of Mr. King, Mr. Gilman, Dr. Carey Thomas, Dr. John S. Billings, Dr. Welch, and Dr. Osler; and though, as is known, Isabel Hampton was unanimously selected, the other three candidates were nevertheless retained as occupants of other important positions. Since Isabel Hampton was unable to enter immediately upon her duties, Miss Parsons, being the senior of the three, was temporarily put in charge of the embryo school, and during her brief three months' period as acting superintendent she demonstrated such a capacity for leadership and organization, showed such a thorough knowledge of nursing, and displayed such qualities of devotion and self-sacrifice that in December of 1889, on the return of Miss Hampton, her services were eagerly sought by the University of Maryland when its training school for nurses was inaugurated. Of her short two years of service as your first Superintendent of Nurses, I know less than do many of you, but the fact that we are here to-day to dedicate in her memory the first unit of your new nurses' home, indicates that the impress of her personality and ability was an abiding one.

Whether it may have been the result of her experiences as a campaigner or whether because of an inherent trait, Miss Parsons seems to have been a woman inclined or at least destined to change of scene, and she is next found for a period as superintendent of nurses in a hospital in St. Paul. Nor did she remain there for a long period.

It is not improbable that she had enrolled herself soon

after coming to this country as a volunteer Red Cross nurse in the society which Miss Clara Barton early in the eighties had succeeded in starting. It had already done good service at the time of a Mississippi flood, at another of the Ohio, a drouth in Texas, a cyclone in Illinois, a yellow-fever epidemic in Florida, the Johnstown catastrophe, and elsewhere; and it is not unlikely that even before her Baltimore days she had been used by Miss Barton who had come to learn of her unusual abilities and readiness for an active service.

Red Cross nurses in those days were few and far between, but Miss Parsons was a host in herself, and so at the time of the disastrous hurricane, with its subsequent tidal flood which devastated the islands off the Carolinas in August of 1893, she was sent by Miss Barton to Beaufort, South Carolina, as the chief Red Cross representative.

Called home shortly after, owing to the illness of her sister, she remained for a time in England, but ere long she returned again to this country and for the next few years (1895–1897) became almost the adopted member of a Boston family who loved her for her own sake no less than they depended upon her for her professional knowledge. Then came the Spanish War, and she was sent as a Red Cross representative to take nursing charge of the hospital at Fort MacPherson. That brief campaign might well have been called the typhoid war, for few of our volunteer army even saw a Spaniard or ever got to Cuba. They battled chiefly with camp pestilences, and few of the contract surgeons engaged by the army understood the principles of camp sanitation or could distinguish enteric from malarial fevers.

Those who remember the fever-stricken camps of the South and the trainloads of Maryland boys stricken low with typhoid who, through the activity of your lamented fellow townsman Ridgely Trimble, were brought back to Baltimore in August of 1898, can realize what Louisa Parsons

must have felt — that compared to Fort MacPherson, Suakin with its typhoid patients had been a haven of rest. So we find also among these medals and decorations the service award of the Spanish War; but far better than the medal in recognition of her services, the name of this devoted Englishwoman was given to one of the organizations of Spanish War veterans in far-away Gloucester — and the "Louisa Parsons Auxiliary" it remains.

A year later came the Boer War, and she was recalled to England for duty in South Africa where, through the long-drawn-out years of that unhappy conflict, she remained in charge of one or another of the large hospitals established somewhere behind the shifting lines of battle in that spacious continent — hospitals at Johannesburg and Bloemfontein filled with Boers and British, victims alike of wounds and typhoid.

Unfortunately the thrilling letters she wrote to her American friends from the field hospitals where she was occasionally stationed have not been preserved, and the only record of her service is the familiar Queen's medal of the South African War with its orange, blue, and red ribbon, worn by so many British soldiers and nursing sisters in France a short twenty years later.

At the conclusion of this war, she again came to America for a time where, in her short ten years of residence, she had made countless loyal friends; but owing to her sister's continued illness she once more rejoined her, and finding a badly crippled household, gave up all other activities for what was plainly a home duty in England.

The Great War, and her last, found her no longer in good health, no longer young, living on a farm near Reading, caring for her brother-in-law who had been incapacitated by an old injury. There, doubtless filled with longing to be in Flanders, or Mesopotamia, or Africa, or Egypt — any-

where, indeed, at the bedsides of her beloved Tommies, she must needs content herself with providing such care and pleasure for the first of the blue-coated convalescents as might have been sent to her neighborhood in "Blighty." But this was not for long. She became aware that she was the victim of a hopeless malady.

And now there enters into the story which nears its end another person who also for a few short years intimately touched the life of this community. What remains to tell can best be given in the words of the messages which passed. On August 29, 1916, from Great Lea Farm, Great Lea, near Reading, Miss Parsons had written to her old and devoted American friend, the woman in whose companionship she had first come to our shores: —

Your lovely dress came yesterday. You won't mind if I give it to Miss Price, whom it will just fit. You will be sorry to hear that nothing more can be done for me. So I must be brave! Dr. Halpin had Dr. Morris in yesterday and his report was very unsatisfactory. I am not well enough to go to Oxford to see Dr. Osler, but oh, my dear, I would give anything to see him. I feel if anyone could help me he could, and I do wish I had gone over to America before this happened. I am always wishing I were over there — if only in a hospital.

My heart is full of love and gratitude to you for all your loving kindness. I am sorry to send you such a sad letter, but it 's best to say frankly to you, dear, just how I am. I have had a poor night with severe pain around my heart, and I do not get better but worse. . . .

On receipt of this letter, word was sent Sir William Osler acquainting him with the circumstances, and he replied by cable that he would see Miss Parsons promptly. So on September 4 came from Oxford this hand-written letter. There were no secretaries in those days, even for an overworked Regius Professor.

DEAR MISS L——,

Just as soon as I could get the Gt. Lea Farm located I went to see Miss Parsons, who has been failing for three or four months. . . . After receipt of your cable I made all arrangements for her transfer to Oxford, and we had hoped to send the ambulance to-day; but Dr. Halpin (a very good fellow, by the way) has just wired that she is much worse and not fit to move. Unfortunately I have to go to Newcastle or I should pay her another visit. She is being very well looked after and I asked Dr. Halpin to get a nurse. . . . I will let you know at once on my return from Newcastle. I cabled to-day as I felt you would wish to know.

Sincerely yours,

WM. OSLER.

And from Louisa Parsons a few days later: —

. . . What can I say! How can I thank you for sending Dr. Osler to me. It was like a fairy tale — I did want to see him so much and could not believe it when his letter came to say he was coming —

And then again on October 21, from 13, Norham Gardens: —

DEAR MISS L——,

I saw the dear patient this afternoon and sent you a cable on my return. She is in most comfortable quarters and could not be better cared for. The nurse is excellent and Miss Parsons likes her very much. She had also the little girl who is devoted to her by day. She is much weaker, but suffers no pain, only the inconvenience of the somewhat frequent vomiting. She has good nights with a moderate dose of morphia. Altogether I am glad she did not move to the Acland Home here, as she is among her friends, many of whom come in. I told the nurse to spare no trouble or expense. She sends me word every few days. The end cannot be far off, but she has wonderful vitality. . . . Our boy went over last week to join his battery and take his place with the fine fellows who are fighting the cause of freedom.

Yours sincerely,

WM. OSLER.

Then a cable the following day, October 22: —

Miss Parsons failing. Have seen her to-day. Not suffering. Sends love.

WILLIAM OSLER.

And two weeks later, another: —

Miss Parsons died November second.

WILLIAM OSLER.

On November 11, Lady Osler wrote for her husband as follows: —

. . . I am sorry this is not in time for to-day's post. I thought Sir William had written, but he was called away and did not have time. You know of course that it has been a great pleasure to us both to do anything in the world for Miss Parsons or to help you to have everything possible done. Fortunately the Farm has been within driving distance and he was able to go to the last. I am sure it was a comfort to Miss Parsons, and as long as she was able she wrote to say what his visits had meant to her. I could not go to the funeral, unfortunately, which was a disappointment, but Sir William went. He sent a wreath — with a card saying "From the Medical and Nursing Staff of the Johns Hopkins Hospital." It was a military funeral, for she belonged, as you probably know, to the Reserve Nursing Staff of the Army. The coffin was carried to the church on a gun carriage, — a company of soldiers, buglers, and a firing party, — rifles fired over the grave, and the "Last Post" sounded by the buglers. Sir William said it was immensely impressive — a gorgeous autumn afternoon, with wonderful lights and shades, — and the roadside lined with people from far and near. Is n't it nice it could be so done? I am sure you will be glad. I am writing to tell Miss Bonner, who has always been such a close friend. . . . All well with Revere thus far, but one never knows what to expect at any moment.

And finally from the Regius Professor himself on November 23: —

. . . Grace wrote about the funeral, which was really most impressive. I had never before seen a military funeral given to a nurse. I am sorry clippings are forbidden, but I am keeping a

paper. I am sending a notice to the Johns Hopkins Hospital Nurses' Journal. She was a fine character and I can never forget the devoted service she gave us in those early days in Baltimore. I am so glad you sent me word about her, as I fear she would not have let me know. . . . Good news from the boy from his dugout on the Ancre. . . .

So Louisa Parsons died, and her last request was that these, her service medals, be left for this school of which she was the founder. A short few days before, her nurse — the Miss Price whom the dress just fitted — had written: "She only lives to get her treasures packed for those she wishes to possess them. She is thinking of others to the very end." Thus it has come about that we are meeting here to-day to fulfill this request.

Those who remember her say that she was a woman who would immediately be singled out as a person of distinction, a woman of charming manner, with a pleasant voice and the brilliant complexion of a gypsy, a woman who loved animals, who was always found doing something for someone else; but a woman of determination, prompt of action, knowing no indecision; a woman, moreover, who appears to have been capable of instilling in others, because of her unselfishness, modesty, and charm, such a devotion toward herself as she in turn gave to those in need of her professional care.

Of such a disciple Florence Nightingale might well have been proud, and of her as well as of her famous prototype Longfellow's lines might have been written: —

As if a door in heaven should be
Opened and then closed suddenly,
  The vision came and went,
  The light shone and was spent.

A Lady with a Lamp shall stand
In the great history of the land,
  A noble type of good,
  Heroic womanhood.

IX

THE "BOSTON TINS" [1]

In an issue of one of the illustrated English journals which appeared not long after November eleventh of 1918, there was pictured the meeting of two battle-worn Tommies, one of whom said, "Well, Bill, it 's the end of a war to end all wars," and Bill replied, "An' the beginning of a peace to end all peace."

It was not a wag who composed the legend of this picture, but rather a philosopher, for concealed beneath its humor lay the element of homely truth such as Franklin might have put into the mouth of Poor Richard.

For four years a devastating war swept over Europe like a spreading pestilence against which our own country long tried in vain to quarantine itself. Finally, as was inevitable, we, too, became deliriously involved; and though for a shorter time and much less critically stricken than many other nations, even we are finding the prolonged period of convalescence a trying one.

One cannot emerge from an illness accompanied by fever and delirium and find oneself immediately normal and of well-balanced mind.

Confused in thought, suspicious of the motives of friends and neighbors, in a topsy-turvy world, we know not whether we ourselves or others are mad. Irritated by those who with us caught the disease and who dwell unduly upon their resid-

[1] The New England Surgical Dressings Committee, Peter Bent Brigham Hospital, Boston, May 25, 1923.

ual symptoms, no less than by those who sidestepped the infection entirely and can never know what we know — persons who talk vociferously of brotherhood and disarmament and the dove of peace to those who, like most Tommies and Doughboys, got their wound stripes and peg legs in the mistaken belief that they had rendezvoused with death to bring these very things about.

We need not ask which of these two types, the participant or the pacifist, — and they represent nations as well as individuals, — would really be the more anxious for some successful means of vaccination against those mental disorders which provoke wars. And as an epidemic stirs the medical profession into renewed efforts to learn something definite about its source of origin so that the likelihood of a recurrence may be lessened, just so the politician sets himself to find ways of forestalling an outbreak of further wars. Whether he is equally well fitted for his task, for which a scientific study of the psychology and mental reactions of different peoples is necessary, we need not here discuss.

Meanwhile there are two things we can all do which are helpful during convalescence. The first involves forgetfulness; the second remembrance. However distraught we may find ourselves, it is essential for our peace of mind that each one of us gets back as soon as possible to his former tasks, each in his own particular niche — a step which requires much forgiveness and much forgetfulness, particularly on the part of our newly fledged veterans, many of whom think they have not had their just dues. The other thing, which involves remembrance and is equally helpful, is to dwell upon such bright episodes as glow from the background of our otherwise sombre recollections — the times and occasions when people did sane, whole-hearted, and unselfish things in behalf of a stricken world. Many of these things were done by women.

I do not know whether women or men are more partisan in their reactions, but women certainly are more easily aroused to commiseration. From the outbreak of the war, men as individuals, even from this remote country which regarded itself as unconcerned with other people's troubles, were swept into the struggle as combatants whether from a sense of duty or a spirit of adventure — and many individual women from similar motives did likewise, contributing as they could to the care and provisioning and succor of the wounded and fallen, often in desperately improvised hospitals. Whether they were more lucky or less lucky than those who stayed at home and knitted socks and rolled bandages, and prayed between, might be debated.

One thing is certain — that those of our women who got overseas made no greater contribution and certainly suffered less in mind than those, unsung in the history of the war, who remained behind to take the stitches and save the food and listen perforce to all the criticisms and bickerings which in every war are always more in evidence the further one is removed from the actual seat of conflict.

We have come here to-day to unveil a simple tablet which will serve to perpetuate the memory of an episode likely to be forgotten, but which well deserves commemoration — an episode which concerns the women of New England, who anticipated by over two years our actual entry into the war. Similar episodes occurred elsewhere, I am aware, and have occurred in all wars; but here at least, moved by sympathy primarily for stricken France and impelled by a sense of service, a small group of people very promptly set themselves and others at work for what they conceived to be and what truly was a great cause. They felt that the very existence of certain friendly peoples was threatened by an unjustifiable invasion. They were powerless to participate. They could only find work to do at home. And from a small

beginning late in 1914 this work grew in extent and perfection till, in the course of two years, thousands of hands, many of them unaccustomed to the tedium of labor, came to be engaged, with a produce resembling that of a great industry.

Of all the efforts made to bring solace and encouragement to the Allies during those two years when, with Walter Page, we held our heads low, I know of none more successful, nor done on a larger scale. There were three such efforts which may deserve to be particularly singled out and which showed where our hearts lay even though our actions were officially inhibited — the feeding of the Belgian children in the invaded areas, the service of the volunteer ambulance corps, and the work of the Surgical Dressings Committee. For the first we supplied merely the personnel, and the British most of the money; for the other two we furnished both personnel and support, but one of them was an outlet for selected young men to serve abroad, the other, with which we are now concerned, an outlet for women to serve at home.[1]

How this work first started in a humble way in an adjacent hospital, how it came to establish its headquarters here, how from its small beginnings it grew until it reached out so as to cover with its branches all New England — all this you have heard from Mrs. Mead, who in the beginning was its chief sponsor. What these incomparable sterile dressings, packed in their tin containers and sent out in ever-increasing numbers by your workers, meant to those fortunate enough to fall heir to them in the hospitals abroad, where they came to be known as the "Boston tins," lies recorded in many a letter "Passed by Censor" and now buried in the bulky correspondence that poured through the central office of your Committee.

In March of 1915 a small band of nurses and surgeons,

[1] There were, of course, many other organizations, like the American Fund for French Wounded, which did notable work.

constituting the first Harvard Unit to go overseas, volunteered for a three months' period of service in Paris on the invitation of those who had organized the American Ambulance. They wished to carry not only the instruments they were accustomed to use, but also a goodly supply of the dressings with which they were familiar. So out of the fund supplied by the late Mr. William Lindsey to finance the Unit, 40,000 yards of gauze were purchased and, though it was not a task to which they were accustomed, Mrs. Mead and her first handful of workers, then at the Infants' Hospital, set themselves on short notice to transform the material into the required dressings.

Unaware of the facilities to be at their disposal in Paris, someone suggested that these supplies might be sterilized here. This was done, and as a protection against damp the separate bundles were wrapped in oiled paper and packed in tins — an assortment of cracker-boxes I believe was used. These in turn were crated, one instalment being sent a week before the Unit sailed; and four others followed. Two of them reached their destination; the others, let us hope, reached hands no less appreciative. This was the beginning, I think, of the Boston tins.

Much was learned through this episode, by those making and those using the supplies. One thing above all was demonstrated: that here at home where there were thousands of willing hands, dressings on a large scale might be prepared, sterilized, and transported without risk of contamination, and be ready for immediate use in a country where disengaged hands were few.

The work grew amazingly during the next few years. It spread over all New England until some thousands of women were engaged; and here in this hospital, I am happy to say, there were assembled and prepared for shipment abroad, first and last, by some seven hundred women workers, lit-

erally millions of dressings, till the sterilizers of many a hospital in Boston were working practically from daylight to daylight to keep pace with them. So, for three years, your skillful and willing hands served to fill those well-remembered tins which found their welcome way into many an English, Belgian, and French hospital, and there served to clean, dress, or bandage many an ugly wound.

But these are generalities. Some specific examples, other than those which may appear in your records or have otherwise come to your ears, may serve to show what these tins meant to those who received them overseas. Every hospital unit which came from Boston, or its vicinity, naturally looked to you for its supplies so long as you were permitted to send them. Among these, Base Hospital No. 5 was as fortunate as any, for we stored up enough to last us to the end; indeed, during that first cold and dreary winter passed in Boulogne a large marquee used as a storehouse was floored with cases of tins by a provident C. O. to keep those who had to penetrate its fastnesses out of the wet and mud. Lest this shock you, I may say that I have seen a dugout in Flanders similarly lined by bully-beef tins in lieu of flooring — the beef having been subsequently eaten, just as your dressings were subsequently used.

Useful at all times, there were occasions when these sterile dressings were simply indispensable. For four months during the Passchendaele battles, a group of us had been sent to work in a British Casualty Clearing Station and were given the end of a Nisson hut, a sheet-iron affair, in which to set up our table and take our daily shift of sixteen hours on and eight hours off. With the inadequate facilities for sterilization which such a place afforded, it would have been impossible at times to keep up with the needed supplies had not an ambulance returning from our base brought up to us from time to time a load of these familiar tins. So it was that

many a hard-hit Tommy went down on his way to Blighty with dressings on his head your fingers had folded, held in place by one of those wonderful muslin bandages which Mr. Arthur B. Denny had learned to cut on the bias and the like of which in these times of peace we never now see.

Of what could happen in times of pressure, under less auspicious surroundings, many a tale could be told. Soon after the Germans for the second time were turned back from the Marne, I was ordered to proceed to what was designated a "pretty hot place" called Crépy-en-Valois, where many of our wounded were congregated and where a new and utterly untried Evacuation Hospital was being set up. I find in my diary under the date of July 22, 9 A.M., the following note: —

> . . . We 've been operating all night behind the Second Division in this newly pitched Evacuation Hospital which has never seen a battle casualty till 48 hours ago and found itself equipped with the hospital vintage dating from before the Spanish War — not a prepared sterile dressing — no X-ray — no Dakin's fluid — no nurses nor desire for any — no sterilizer to be had for two days; and little compressed tabloids of gauze and cotton for the stinking wounds of these poor fellows.

I remember that particular place with horror. There were some three hundred badly wounded men of the non-transportable type who had been waiting untouched for forty-eight hours; and when we came to break open the supplies with which the Unit was provided we found bolo knives! and saddles!! and finally a box of uncut cotton and gauze with narrow three-inch bandages — so old and compressed that they would not unroll. Someone said there was subsequently found, lining the box, an old newspaper describing the uneasiness in New York over the possibility of an attack by Cervera's fleet — but I can't vouch for this detail.

And there was another place, where something pleasanter

happened. It was just before our attack in the Argonne, and an order had been received to organize and set up a hospital for head cases at a minute place called Deuxnouds — known to the army as "Doughnuts." There had long been a French Ambulance stationed there in the unpretentious and war-worn château of a Mlle. de Beye — the woman who was known as "The Angel of Verdun" — and the *Médecin Major* and his staff were requested to evacuate the place so that we could move in. This they did none too graciously — no one likes to be turned out of his berth — taking with them everything transportable and selling us at a large price what remained, including a pig, and a cabbage patch, designated as a *potager militaire*. But they overlooked one thing much more valuable, to which I will return.

There was not much time to be lost. A Mobile Unit — in other words a motor-drawn hospital equipment with full personnel — destined for Deuxnouds, was said to have left Paris on September 21. It should have taken two days, but the roads were blocked with troops. By the twenty-fifth there was no trace of them, and all this time the cold and ramshackle château was being held down by the long-suffering American medical officer who had "taken over" from the French. Where he got his rations I do not know — certainly the *potager militaire* and the pig were beyond his devices; and he must have anxiously awaited the lost Mobile Unit with its camions and sterilizing plant if for no other reason than that rations would ultimately come when wounded arrived. In my diary is this note, dated September 25: —

To Vaubecourt where is a medical and Red Cross dump alongside Evacuation Hospital No. X and where I find some boxes of so-called sterile dressings, and though they are plainly marked "unsterilized pads," I am assured it 's a mistake. . . . Capt. C—— promises to telephone Paris for 50 cases of N. E. Surg.

Dressings Com. sterile dressings. If these come and the Unit arrives we may still be able to take cases to-morrow.

At midnight of the twenty-fifth, the barrage which inaugurated the Argonne battle opened up. But not until the twenty-eighth did the Mobile Unit finally reach Deuxnouds; and wounded, needing immediate attention, began to be sent in before they could even get unlimbered.

And now comes the point of my story. In an old ramshackle *grange* not far from the château there was discovered a cache of about fifty Boston tins which the French had left behind — tins with their contents intact. Without this precious find, what the Unit would have done during its first few days of arduous labor and until it could get into its stride and prepare its own sterilized dressings, I leave to your imagination.

There was not a single shipment of tins which left your hands, could they but tell their own story, which would fail to relate experiences no less interesting than that of the soldiers themselves. They dodged U-boats; were sent to the wrong destination; were put to purposes for which they were unfitted; suffered cold and wet and heat and dust; bore indignities uncomplainingly. Some of them, an ardent woman in Paris saw fit to unpack in order to refold and resterilize their contents; some few of them as veterans came home, but I can trace only five which have survived.

I do not know how many hundreds of thousands of tins were trucked away from this place, each with its invoice on its back, flying on its label the clustered flags, *Pour les Alliés*. Each of them went out on an adventure. Little did you or they know to what use they would be put when emptied of their contents — they were our bureau drawers and bookshelves; they were made into blowers to coax fire from reluctant French coals in minute French hearths; they were flowerpots and paper-baskets; they stopped holes in leaky

operating rooms, and huts; they were used for every conceivable purpose.

Last summer I found my way with a bereaved mother to a British cemetery in Flanders. Her only son, who died near by of his wounds, I had seen buried there alongside many others in a ditch four years before. Though slowly being transformed into a resting place worthy of him and his comrades, the litter of war was not yet entirely cleared away. In the adjacent copse through which we approached the spot — a copse which once had partially concealed three large Casualty Clearing Stations of which hardly a trace beyond rotting sandbags now remains — there rusted many a once-familiar object. Among them I saw and picked up a crushed and battered tin, still bearing the tattered fragment of an invoice — *Pansements stérilisés* — which had been pasted on here, when and by which of you God only knows. I felt like giving it the solemn burial due an unknown soldier.

With our present meeting in mind I have looked far and wide for tins, hoping I might find one still equipped to preserve in the collection of war relics in the Warren Museum. I could find only these five empty specimens. One of them, still bright, never wore the uniform of service: it contains a few samples of your unequaled handiwork. Two others evidently led a comparatively easy life in their two years overseas. They probably were someone's bureau drawer, and perhaps at the end brought home souvenirs or records or instruments when our Unit returned. The fourth, as you will see, has received a coat of paint, and became the receptacle for rubber tubing in the operating pavilion of our Base Hospital. The fifth, punctured with holes, served, during those four months back of Passchendaele, as an emergency sterilizing drum, for on those occasions when we were pressed for extra supplies it took its turn in a rusty old Arnold sterilizer beneath which sputtered that peculiar and

ill-behaved product of the British commissary, a primus lamp.

And now that I have nearly done with this brief address I regret that I did not set out to recount the personal adventures of some imaginary individual "tin" the side of which now perhaps mends the roof of a leaky farmhouse in Belgium or stops a hole to keep the mice away. And I would particularly like to imagine that the crates of tins forwarded by a reluctant Red Cross in the fall of 1917, in which were concealed the Christmas gifts for our Unit, fell into the hands of some *Médecin Major* who made no cache of them in a barn but distributed them among his poilus.

During all those months of your active work there were many episodes which then seemed minor tragedies, over which we can now afford to be amused or at least philosophical. I recall a time early in 1917 when there was much discussion over the pulling of threads *vs.* the non-pulling of threads. And then after this long interval you can afford to forget the heart-burnings over the usurpation of your long-active organization by the Red Cross. With our entry into the war it was time for coöperation and a concentration of efforts, not for individual ones. Even though less well made, dressings had to be provided on a far larger scale than even your Committee could have shouldered.

So, in our present stage of convalescence from war it is good to recall some of the fine and unselfish things which were done to make the malady itself less bad. The tablet which you will see on the wall of the building near the door through which many of you for two years went in and out, briefly commemorates one of them. A tablet cannot tell all, and it is to be hoped that some day the full story will come to be told in print, and the more precious of the documents relating to your organization filed where they can be accessible to the future historian of the Great War; for with-

out reference to the part played by women — and by none more effectively and with finer esprit than by this group of some six thousand women of New England who, under the auspices of the National Civic Federation, worked to fill the Boston tins — a significant detail of such a history will be wanting.

X

THE CLINICAL TEACHER AND THE MEDICAL CURRICULUM [1]

In a moment of self-communing, Leonardo wrote in his notebook: "The supreme misfortune is when theory outstrips performance." This might well be taken as a motto to hang in our several faculty rooms, for it is one thing to sit and theorize about teaching, and quite another to find people capable of carrying out our altogether admirable ideas — or to practise them ourselves. This probably has been so from the beginning — ever since pupils were first assembled in schools; and through the centuries what should be done under the circumstances has puzzled many minds.

Some very wise things, however, have meanwhile been said: that "education is a lifelong process in which the undergraduate makes only a beginning"; that "it is the business of the teacher to *arouse* curiosity, not to *satisfy* it"; that "the measure of a teacher's success lies not in his own ideas but in those which radiate from his pupils." Indeed, it is quite possible that the best teachers, in their conferences with students, are unconscious of the fact that they are professionally engaged and have no theory about the matter whatsoever.

But there are fashions in teaching, like fashions in other things, and one must conform or be regarded as out of date, even though, after all, we may reach our destination whether

[1] Congress on Medical Education, Medical License, Public Health, and Hospitals, Chicago, March 3, 1924.

we ride sidesaddle or ride astride. Just now, for example, in our medical schools the "didactic lecture" is taboo — as much out of style as the crinoline or the bustle, admirably adapted as they were to conceal the defects of certain figures. The cut of our garments for the most part is determined for us by some unknown authorities in London or Paris for dire purposes of their own. We may cling to our old underwear, but outwardly we must adopt the particular design and frills others have thought becoming, or be smiled at. So it is with the fashions of teaching, and he who first put the taboo on lecturing was probably someone in authority incapable of holding the attention of a group of students by this method. I am glad of this, for I too am similarly defective, but feel, nevertheless, that if we wait long enough the didactic lecture, perhaps under another name, will return some day to popular favor as inevitably as the long skirt.

The trouble is that individuality is now submerged: our teaching, like our dress, must — to use a greatly abused word — be standardized, as though our schools were factories. There is much that a present-day medical student might envy in the opportunities offered to a young man of a century ago, apprenticed to such a person, let us say, as Nathan Smith, with the chance to get at the outset an intimate knowledge of people and of people's maladies; to discuss the problems of the sick room with the master while driving him in his gig as he went on his distant house-to-house rounds; to have his collateral reading directed; and subsequently to take a short course somewhere in the so-called fundamentals and get his degree. In our present-day schools, not only is this process reversed, but the Nathan Smiths, if there are any, scarcely know even the names of their many pupils, whom perforce they meet in a classroom so crowded that the elbow-to-elbow method of teaching and learning is no longer possible.

Thus it is that the personal influence of the teacher has largely become swamped, and we try vainly to atone for this by juggling with the curriculum, forgetful that no two instructors in any two schools can possibly reach students with precisely the same methods; and that no two students get their inspiration, such as it is, in the same way out of their particular school or its individual instructors.

Then, too, there is another difficulty. Those unknown people who set the fashions and who determine the proper number of pupils that are to be taught, and the distribution of their hours, and the way they should be instructed, and how they should be examined and graded, expect something else than instruction: some of them, indeed, wield a big stick labeled "Research," which strikes terror to the rabbit-heart of many a hard-driven and underpaid teacher, not all of whom can dare say, as Roland the physicist said when asked what he did with his undergraduate students: "I neglect them."

It is a good thing to strive for an ideal, but futile to seek the impossible. Recently a surgical teaching position in a well-known hospital was to be filled, and those appointed to choose a candidate were told that he must have at least the following seven qualifications: (1) he must be a "researcher" (God save the mark!); (2) he must be able to inoculate others with a spirit for research; (3) he must be a tried teacher; (4) he must be a capable administrator of his large staff and department; (5) he must, of course, be a good operating surgeon; (6) he must be coöperative; (7) he must have high ideals, social standing, and an agreeable wife. Of course there is no such person. Any one or two of these qualities, if sufficiently outstanding, might be enough to justify an appointment, provided a junior staff makes up for the others. This particular institution has had to be satisfied with such a one, and may well be.

Being in the confessional, I must admit after this preamble that I have no very definite convictions on the subject the chairman of this conference has pressed me to discuss — "the methods that should be pursued in educating a medical student" — and the more years I spend in the business, the greater diffidence I feel in expressing any views whatsoever. Such as they are, those which I now think I hold are almost certain to be regarded as old-fashioned if not reactionary, which is embarrassing.

I presume the Harvard Medical School is no different from most medical schools in that no faculty member is quite satisfied with the existing curriculum, and, as a result, about every three years someone protests with sufficient energy to force on his reluctant colleagues some radical changes. It may be likened to a game, with the curriculum the ball, the preclinical teachers reënforced by the department of public health on one side, the clinical teachers on the other, very little scoring of late years having been done by the latter. It is a game which will never be over, and just what the curricular score may be at the moment does not appear to make any great difference; for, provided a school secures the best available teachers for its various departments and at the same time selects its students with care, and not too many of them, the product seems to be pretty much the same, whatever the system — or lack of it.

Students can be well grounded through the medium of any course. I look back with a good deal of amusement on the discussions I used to have with one of my colleagues at the Johns Hopkins, against whom I was bidding for some additional hours for an extracurricular exercise that I had offered in operative surgery. He had offered a course in surgical pathology for the same hours, and the discussion usually ended up with his saying that he could teach the whole of Medicine with his subject as a starting point. I of course

replied that I thought I could do the same. He was an enthusiastic teacher of his subject, as I hope also I was of mine, but I was the one to be humiliated, for my much-cherished course is no longer given. Something else, probably better, now takes its place in Baltimore, which is probably just as well; but the point of the story is that we may both in a way have been right in thinking that Medicine may be successfully taught with any course as a central point of radiation.

In any old and established school, the curriculum inevitably becomes hidebound. To make a change anywhere requires a delicate surgical operation under general narcosis, and it 's usually found difficult to close the wound and secure primary healing. Experiments of this sort are only possible with a new school which has a young and elastic skin. Consequently, the long-suffering "Curriculum Committee" of older schools is apt to become a most conservative body, for otherwise many hours must be expended in persuading the collegiate family that an operation is necessary, and afterward in dressing with salves the painful wounds which have been made. With this we are all familiar, and it is usually due to the effort to insert something new rather than to remove something unnecessary from under the greatly stretched curricular skin.

Meanwhile, we have become fairly well accustomed to the view that subjects beginning with the study of morphology and ending with the clinical specialties must be taught in a given sequence. So far as the curriculum is concerned, our discussions in faculty meeting are given over largely to the struggle for elbowroom between established courses, of which there are too many. Never, as far as I recall, has such a topic arisen as the comparative abilities of the teachers to give inspiration, whatever their subject: whether John Doe who happens to be Professor of Anything-you-will is not

perhaps the best man because of his personality, ideals, broad views, and wide experience, to meet the entering students for a series of exercises, lectures, or clinics as he will, which would make clear what lies before them in the great profession they have entered, and how they can get the most out of it and contribute the most to it. Far better if Professor John Doe should happen to be the anatomist or biologist, but we are to-day confronted by the fact that these men no longer have had experience in the field of work — medical practice — which the majority of students enter our schools with the intention of pursuing.

There was a time, a generation ago, after our more progressive schools first adopted a four-year requirement, when from the beginning of their course students came under the influence of teachers whose point of view was colored by the fact that they at the same time were engaged, or had been once engaged, in the practice of their profession; and in one sense we have now, in this respect, unconsciously gone back to the two-year standard. It is excellent for those rare and superior students who look forward to a pure science career; but we may have a good many doubts about the advantage to the others who represent 95 per cent of the class. I do not for a moment mean to suggest a return to the former system, but merely to ask whether the pendulum may not have swung too far: whether we are not making unnecessary and futile efforts to create out of the 95 per cent a species bound by the nature of man to be rare.

After all, experience has shown that it perhaps does not make any very great difference, provided Nathan Smith is on one end of the log, with the right kind of students, and not too many of them, on the other; and I often feel that we are pressing for formulas to solve something for which there is no formula. The personal equation of the teacher does

not appear in the syllabus issued from the dean's office, though it is known in every students' boarding house.

We have just been going through one of our triennial turnovers at the Harvard Medical School in the endeavor to find out what is wrong with the student and with our method of teaching. This time, pressure has been brought to bear by certain members of the faculty of a philosophical turn of mind, who have discovered that the trouble with the undergraduate is that he has no time for intellectual cogitation. Consequently, at the risk of not meeting our obligations to state board requirements, we have materially cut down our hours of instruction so that the students have their freedom Tuesday afternoon and Thursday afternoon and all day Saturday and Sunday. We have as yet made no statistical study of the amount of rumination they do in these free hours; nor do I think such a study will ever be made, because by the time there are sufficient data to rely upon we shall probably have gone back to the old system, or new courses will have crept in to fill up these free afternoons. A medical faculty abhors spare hours as Nature does a vacuum.

Our school is not unlike other schools, in having raised a large brood of independent subdepartments, all of which demand — indeed, deserve — additional hours in which to teach their special subjects, of which there is no end. However, we will, almost all of us, freely admit that probably nine out of every ten students enter medicine with the expectation of engaging in practice, and it behooves us, therefore, to give them the best possible training for this responsible career. Whether we are doing so at present is open to grave doubts — and thinking about it on their spare afternoons is not a satisfactory replacement for hours of actual observation of patients during the all-too-brief period now given over to the students for their clinical work.

As a matter of fact, a large number of the students fret considerably during their first two years, and not a few of them only begin to show their real worth and have their interest stimulated when they have actually come to the bedside and have an opportunity to study and care for the maimed and afflicted close at hand. Our preclinical brethren tell us the trouble is we do not sufficiently emphasize, in the clinic, the bearing of what the students have previously been taught on the clinical problem before them. At this we scratch our heads for a ready reply, but the obvious answer is that what the students have been taught *has* no apparent bearing on at least 75 per cent of the countless minor ailments with which they must become familiar — the flat-footed head waiter, the old man with a chronic scab on his lip, the young woman with a backache or a lump in her breast, the baby with convulsions, the workman with an ulcer on his leg or a fistula in his bottom, or, worse, with an infected or injured hand which, improperly treated, may be the end of his wage-earning days. There is no end to it — all very trifling, you may say, when we consider the public-health movement, and the eradication of yellow fever from the world, yet each of these individual people is greatly concerned about his own personal ailment, and the sum total is enormous. With such things the vanishing race of family physicians was once chiefly concerned, while the chiropractor and science healer now takes his place.

In our pursuit of the medical sciences we have lost touch with the art of medical practice, and all the anatomy and physiology and pharmacology in the world is not going to guard a young doctor against making an unnecessary number of diagnostic mistakes and consequent errors of treatment, unless he has been brought face to face with clinical problems and learned sound methods of treatment for an ample time. And when he has been thinking in terms of

the patient for only two years instead of four, there are so many countless minor conditions of the sort I have indicated they cannot possibly be mentioned, far less shown and demonstrated to every student in the short time at one's disposal.

If these things are bad for the prospective physician, they are infinitely worse for the prospective surgeon, whom I may possibly have chiefly in mind, for, in proportion to the seriousness of his therapeutic agency, wrong diagnoses may lead to calamities unknown to the practice of physic. An acquaintance of mine, greatly interested in the furtherance of medical science, had a trifling injury to his ankle, which was put up in so tight a dressing that on its removal the top of his foot was found to have sloughed, and many months of slow and painful healing followed. The only doctor who makes no mistakes is the doctor who has nothing to do, and a calamity of this sort may happen, alas! to any of us; but a little more of the art and less of laboratory science would make its occurrence less likely.

I sometimes feel that if we were really eager to put the present curricular sequence to a test, it would be a telling experiment to reverse our program entirely: to put the students into the clinic for the first two years and show them disease and get them interested in the problems of disease, meanwhile teaching them as much of structure and function as is possible; and then to turn them loose in the laboratories for their last two years. Like as not, under these circumstances there would be a much larger proportion than the present 5 per cent of our students who would really be fired by the enthusiasm of research and perhaps choose it as a career, or at least tend throughout their lives to carry their problems to the laboratory.

Here, again, my thoughts are perhaps colored by my own experience, for in my own day, though we listened to some very admirable lectures in pharmacology for which my marks

show that I passed a creditable examination, I doubt that I have ever used more than a dozen of the countless drugs that went in and out of my head during that semester. We had, too, what I am sure must have been an excellent course in physiology of which I remember little, and this is just as well, for my classroom notes are full of statements since largely contradicted, and hypotheses largely disproved. I must admit that, seven years later, when thoroughly saturated with and weary of the clinic, I spent a year in a physiological laboratory, and over some modest problems enjoyed myself as I never have done before or since; but this would have been no possible replacement, in the needs of a surgeon at least, for the grueling drill we had in anatomy and pathology, which always have been and always will remain the two essentially fundamental subjects. There is much, in short, that was taught and is still taught to-day to students in their preclinical years, that is unnecessary and could well enough be omitted, or at least left for their graduate years of study.

I may give an example of how an overtrained laboratory instinct may affect our senior students, our house officers, and, I fear, many of the graduates now engaged in what is called group medicine — a form of practice which lends itself to the making of an unnecessary number of expensive and useless routine tests. A patient was admitted in the fall to one of our well-known hospitals noted for its spirit of investigation and the exactitude of its work. The only thing that appeared to be wrong with the man was that he had a fever of unknown origin. A variety of people whose special duty it was had made detailed examinations of blood, urine, sputum, stools, and cerebrospinal fluid — microscopical, chemical, bacteriological. His thoracic and abdominal viscera had been thoroughly and expensively studied by the Röntgenologist. His basal metabolism had been

estimated and recorded; electrocardiograms had been taken; and specialists were called in to exclude nose, throat, teeth, ears, and eyes. All of these things took time, and meanwhile the fever persisted. At this juncture, a country doctor who had enjoyed none of the present-day laboratory advantages happened to visit the hospital, and as he passed this man's bed in the course of the morning's rounds he casually remarked: "I am surprised to see that you still have an occasional case of typhoid fever in your neighborhood."

To point a moral, this tale admittedly has been somewhat adorned: typhoid fever is now rare; careful studies of our patients are not to be superseded by snap diagnoses; yet the incident illustrates what many clinicians recognize with lamentations as a modern tendency — namely, the overemphasis laid on the accumulation of often unessential laboratory data, and the underemphasis on what may be learned by a trained observer from a thorough bedside study of the patient.

It is perhaps unjust to ascribe this attitude of mind entirely to our present-day medical curriculum, but it was with the idea of possibly offsetting this tendency that I ventured two years ago, with the approval of the anatomical department, to introduce an optional exercise for the first-year students on one of their off days supposedly devoted to self-education, so that they might begin to think in terms of the living patient from the very outset of their course. This was not done, I may add, without criticism on the part of some members of the faculty, though every effort was made so to conduct the exercise that the average student might have his anatomy and embryology illustrated by clinical pictures in such a way that he would be more receptive of the anatomical terms and relations he was having to crowd into his memory during his all-too-scant hours allotted to these subjects.

They were dissecting the arm, for example. I believe that thirty years ago we used to spend a month at least on an extremity and indeed dissected it twice. But now the student is supposed to learn the anatomy of the arm and that very important portion of it, the hand, in a week's time! It was easy to find some examples of injuries affecting and modifying the structure and function of the hand in the hospital wards, and the students were merely asked to tell what they saw, and to interpret its relation to the blood vessels, the nerves, and the muscles and bones they were exposing in the dissecting room. I remember bringing in a patient afflicted with acromegaly and merely asking one of the students what was the outstanding feature of the man's hand, and it was impossible for him to say that the hand was "big." That was too simple.

In short, I do not believe that students can begin to think in terms of the patient too early in their course, nor too early begin to interpret and record what they can see, hear, and touch — perhaps even smell and taste — at the bedside. And this brings me to the only practical suggestion I shall offer to this conference: namely, that some medical school with a sufficiently elastic curricular skin and some sufficiently enthusiastic clinical teachers capable of adjusting their instruction to the students' level, begin each day of the week during the first two years with an hour's amphitheatre clinic the purpose of which is twofold — first, to cultivate powers of clinical observation; second, to illustrate so far as possible on actual patients the things that are going to be taught from a different aspect later in the day in the laboratory courses.[1]

There is nothing new in this. Sporadic efforts in the

[1] It would be far better for the sake of continuity if these clinical exercises could be conducted by some member of the science department concerned, but they are no longer men with clinical training, and the suggestion that they should be, if put into effect, brings us back to the point we started from a generation ago.

same direction have been made from time to time in many places, without receiving general sanction as a principle, so far as I am aware, in the curriculum of any American school. It is a compromise, of course, between the system long in vogue in continental Europe, where the entering students are plunged immediately into the complicated problems of the bedside — a compromise between this system and our present one under which many preclinical teachers do not wish to have the students see clinical work of any sort, lest it blunt the edge of their interest while plodding through their preliminary courses.

For the five exceptional men, it makes no possible difference what particular methods of instruction are pursued, but for the ninety-five others who presumably are going to get their livelihood from practice this program will, I am sure, make better clinicians of them. The patient will have been the central idea in their minds for a longer time, and they will graduate not only with their five God-given senses more acute but, what is still more important, with a better training of their self-acquired common sense. And, aside from this, I fully believe that this method will be likely to arouse curiosity in a larger percentage of students and thereby incline them to carry to the laboratories problems which deserve study, making them at the same time far more patient with and receptive of the necessary instruction in the purely fundamental subjects.

This or any other modification of our accepted curriculum will, in the long run, only be worth while if there are the right people to carry it through, and if the principle is adhered to of having the more experienced clinical teachers the ones first to meet the students, for younger men are apt to shoot over their heads. And again I would like to emphasize that a proper teacher needs no particular formula, though he does need to have some limitation in the number of his pupils.

In one of John Henry Newman's historical sketches, there is a passage which expresses all this, in words far more picturesque than any I can summon: "An academical system," he said, "without the personal influence of teachers on pupils is an Arctic winter, it will create an icebound, petrified, cast-iron university, and nothing else." And even when personal influence *is* allowed full play, the best any of us can do, as a successful teacher of medical students once admitted, is to instill principles, arouse interest, put the student on the right track, give him methods, show him how to study and early to discern between the essentials and the unessentials.

XI

THE WESTERN RESERVE AND ITS MEDICAL TRADITIONS [1]

ACCORDING to the modern theory of relativity, there is only one fundamental fact of experience — a happening or an event. Those of us accustomed to think in three dimensions are informed that we have neglected a fourth — the time dimension; for on the old basis each observer, regarding himself as a fixed point and neglecting his own motion through space, must necessarily interpret an event from an angle different from that of all others. In short, all things move, and each one of the electrons which compose the ultimate units of matter must in some measure be deflected out of its course in shooting past another electron. This is all very confusing and betrays the fact that I have been listening to a discussion about the "science of to-morrow" which has made me feel that I might at any moment slide off into curved space and find myself on this October 9 somewhere else than here.

We are, however, permitted to grasp at one straw — that even the modern mathematical physicist recognizes a happening or event, though each one of us calculates its significance in slightly different terms — if we are capable of calculating at all. That there is constant motion we cannot fail to appreciate. Even a university appears to have an orbit, and on occasions like the present seems near to us and

[1] Dedication of the New Medical Building, Western Reserve University, October 9, 1924.

occupies our attention, at other times recedes. And there can be no doubt that the personalities of those in control of its destinies, more especially that of its chosen president, must serve for the time being as the magnetic influence which tends to deflect the needle of our actions as we together rush through space to some unknown destination.

But, whatever Albert Einstein might think about it, we at least appear to have paused in our various flights to celebrate a momentary happening in the history of this university. There is perhaps time to get our orientation before we must again separate; time also for a few reminiscences and for a prophecy.

I find it necessary to pinch myself to make sure that I am actually here, participating in the dedication of a building at or near the spot where, some forty years ago, was to be found, for those of my age, a favorite spot for picnicking in the valley of what was then a wild and beautiful stream that cut its way through banks of shale known as Blue Rock Spring. Though long away from this community I still instinctively regard it as home, and consider myself a member at least of your medical family — now perhaps more than ever in that I have sent you a favorite disciple to occupy a faculty chair. True, there are probably others of a third and fourth generation of Clevelanders who have medical traditions that extend over more years than mine, yet I doubt if anyone from a distance could have been chosen who would be more glad to take part in this ceremony — anyone who could have more of the traditions of this school at heart. And it is particularly of traditions that I wish to speak.

Tradition, indeed, is the most powerful binding influence the world knows. It lies deep in most of us, and pride in tradition supplies the glue which holds people and groups of people in cohesion. Pride in family and friends, in Alma Mater and profession, in race and birthplace, in state and

nation. The controlling subconsciousness of one's stock and upbringing is something from which time and distance can never wholly wean us. I have as a neighbor an aged and philosophical cobbler whose father and grandfather were cobblers before him. He would like his children and grandchildren to be cobblers, and to him, though as a boy he ran away to sea, there is no more beautiful spot in the world than the place of his birth in rural England; no better people than the villagers he remembers; no trade more honorable than his own particular handicraft. And no less to individuals than to institutions, no less to institutions than to communities, do these influences apply. Certainly this forward-looking community may feel a proper pride in its past history and traditions though it may not often pause to contemplate them. Let us, therefore, stop for a moment to do so. It will help us to get our bearings.

The course of history is affected by what appear to be the most trifling of incidents or coincidents. It is punctuated by "ifs" and "had nots." A beginning may be made anywhere. If Halley's comet had not returned to view just when it did, William the Norman might not have overcome Harold at the Battle of Hastings. This, to be sure, is going a long way back to a time when the world was quiet, flat, stationary, and the centre of the universe. But Copernicus and his kind in due time changed all this, putting us in our proper place on an insignificant spinning object, the shape and forces of which permit one to travel indefinitely in any direction without at least falling off. This conception, coupled with the mariner's compass and a few other things, made possible the discovery of the continent we now inhabit.

Meanwhile other qualifying suppositions must be considered. If the people of Europe had not, ere long, engaged in a struggle for liberty of thought and action, there would have been no Reformation. If Henry VIII had not taken

radical steps to eradicate from England the influence of Rome; if subsequently there had been no "plowman's Bible"; and if the established English church had not appeared to many people, calling themselves Puritans, to be merely an anemic form of Catholicism, there would have been no exodus on the part of those who desired a greater simplicity of worship and were willing to make sacrifices to this end.

Had not unfavorable winds driven the Mayflower in the early winter of 1620 on to the forbidding shores of Cape Cod, the particular group of Calvinists we know as the Pilgrim Fathers might have reached the land farther south to which their charter from the Virginia Company entitled them. Had they not in their religious enthusiasm set up on the shores of Massachusetts Bay a theocratic form of government intolerable to those holding less rigid views of theology, there might have been no subsequent separatist movements.

Had not a progressive group of liberty-loving people soon broken away from their intolerant "Church and State" compatriots, to establish (1639) in the valley of the Connecticut under Thomas Hooker a more liberal form of "town-system" government; had not the younger Winthrop, when Governor of this new Colony, secured (1662) from Charles II, on the restoration of the monarchy, an independent charter for a grant of land south of the Massachusetts Plantation between the forty-first and forty-second parallels of latitude, reaching from the shores of Narragansett through the illimitable wilderness to the Western Ocean; had not Charles a few years later, scorning such trifles as latitude and longitude, cut this grant in two by giving over to his brother, the Duke of York, the territory of the New Netherlands wrested by force from its Dutch claimants; and had he not, to make matters worse, also granted in 1681 to William Penn certain lands lying west of the Delaware which over-

lapped the grant to Connecticut, there might have been no territorial quarrels and certainly a different map of the United States.

Had not Connecticut withstood the efforts of the first royal governor, sent out to New England by this same Duke of York on his accession to the throne as James II, to abrogate the charters of the New England colonies; had not the Connecticut Puritans shown such a passion for colonization as to purchase the Indian rights to the region west of the Susquehanna between the parallels of their original grant, and to plant settlements (1757 and 1762) within the accredited boundaries of Pennsylvania; had not these pioneer settlers hung on with amazing tenacity to this picturesque Westmoreland County through years of border (Pennamite) warfare which culminated during the Revolutionary War when, on July 3 of 1778, "Indian" Butler and his bloodthirsty horde descended on the settlement at Wyoming and with torch and tomahawk exterminated the community; had not these things happened, Connecticut perhaps would have had no special claims for sympathy from the newly formed Federal Government.

Had not a compromise been effected under the articles of Confederation which empowered Congress to appoint courts of arbitration to settle such disputes as must inevitably arise between the new States because of their loosely delimited western colonial boundaries; had not the State of Connecticut by decision of the Trenton Court (1782) been dispossessed of her claim to the territory of the Susquehanna Company; had not the Connecticut settlers nevertheless attempted to form a separate State out of Northern Pennsylvania; had not statesmanship rather than logic prevailed in deciding these territorial claims which menaced the peace of the newly federated States; had not the Reverend Manasseh Cutler of Ipswich, Massachusetts, appeared on the

scene and secured the passage of the "Great Ordinance" of 1787 which made possible the Northwest freesoil territory;[1] had not a concession finally been made to Connecticut alone of all the States, whereby out of the newly formed Northwest Territory she was given title to a strip of land due west of Pennsylvania, one hundred and twenty miles in extent between the parallels of her colonial charter, supposedly equivalent in size not only to her New England area but also to the Susquehanna Company's claim which she perforce had relinquished; had not Connecticut accepted this compromise, agreeing in return to set apart certain townships in the territory in quitclaim for those of her citizens who were entitled to land bonuses from the Government — had not all these things taken place, this piece of land would not have been thus "*reserved* from conveyance," the term "Western Reserve" of Connecticut would not have come into being, there would have been no Western Reserve University, no Western Reserve University Medical School, no necessity of reviewing these episodes from past history to-day.

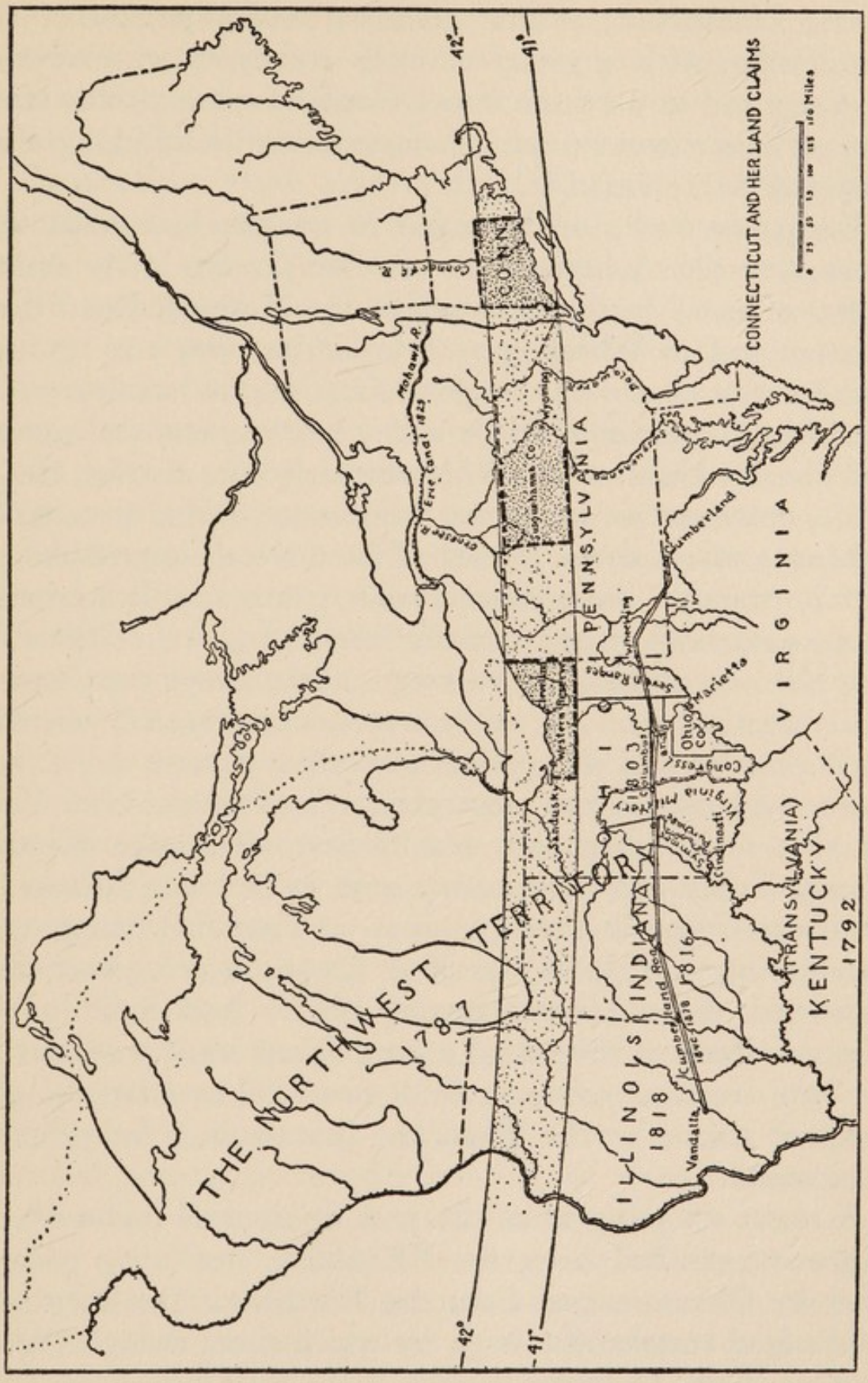
So Connecticut alone of all the thirteen colonies came to have bestowed upon her, in those days of reconstruction, a certain portion of the western lands from which she had

[1] This famous ordinance provided among other things for a plan of survey into townships of the territory which became known as the "Seven Ranges," to be sold in part for the benefit of the Continental Army or as otherwise designated. Manasseh Cutler acted as Agent of the Ohio Company, a group of Massachusetts people, which purchased lands in the valley of the Muskingum, regarded as the most favorable location in the new Northwest, where they established the first local government in the future city of Marietta. Another important land purchase was the Symmes tract lying between the two Miami rivers and colonized largely by New Jersey settlers. A third group, chiefly of Virginians, planted settlements in the large territory between the Miami and Scioto rivers, known as the Virginia Military Bounty District, a conditional reservation in favor of Virginia in some respects similar to the Connecticut reservation. So there were separate centres of population in the future State of Ohio, settled by people representing the northern, central, and southern parts of the seaboard; and Ohio consequently became the first melting pot for Puritan, Quaker, and Cavalier, which accounts in a measure for the important place it so long held as the key State in national politics.

been virtually dispossessed. She, however, had not made so good a bargain as appeared, for when the new Reserve came to be surveyed it was found that a large part of it south of the forty-second parallel lay under the waters of Lake Erie. Even now there is a good deal of confusion "down East" in regard to the amazing size and extent of these Great Lakes. Only a yesterday or so ago a New England lady on her first visit west of the Hudson stepped from a residence in Bratenahl on to the grassy terrace bordering the lake with the exclamation, "And pray what body of water can this be?"

But the unexpected bellying of the lake into the central portion of the Reserve, though it proved disastrous to certain land speculators whose history need not detain us, did not affect the partitioning of the lands to the east and west. The "Firelands" were first set aside (1792) for those who had suffered property losses during the war, and soon after (1795) the Connecticut Assembly authorized the disposal of three million acres in the eastern and more accessible part of the new territory. This great tract of land was sold under separate contracts with a number of individuals (thirty-five in the original compact), for the sum total of $1,200,000; and the purchasers, with a few others, soon formed a syndicate known as the Connecticut Land Company.

This company had a highly distinguished personnel whose names, many of them, are preserved in the geography of the Reserve, while others are deeply engraved in her traditions. To mention but a few of them: there was Daniel L. Coit, Elijah Boardman, Henry Champion, Oliver Phelps, and Pierrepont Edwards, son of that staunch theologian Jonathan; and another bore the name of Samuel Mather, whose grandson, perhaps more than any other person, by his unbounded public spirit and generosity has made possible this day of celebration. These men, the directors of this company, soon sent out (1796) as their agent General


CONNECTICUT AND HER LAND CLAIMS
42°
41°
PENNSYLVANIA
VIRGINIA
THE NORTHWEST TERRITORY
1787
OHIO
1803
INDIANA
1816
ILLINOIS
1818
KENTUCKY
1792
(TRANSYLVANIA)
Erie Canal 1823
Cumberland
Marietta
Cincinnati
Vandalia

Moses Cleaveland, a Yale graduate and a patriot of the Revolution, with a group of forty surveyors who were to map out and to partition into five-mile townships this territory of new Connecticut. A formidable undertaking they unquestionably found it.

Emigrants had already begun to straggle into other and more accessible parts of the new Northwest. The easiest portal of entry in the days before the National Road from Cumberland to Wheeling and Columbus was cut through was by way of the Cumberland Gap to the headwaters of the Ohio, along whose fertile valley a few sparse settlements had already been made. This northerly lake district, meanwhile, remained an unopened wilderness, a land practically unknown where dense forests of hard wood, intersected by nigh-impassable swamps and watercourses, still harbored many suspicious if not actually hostile Indians. But soon into this new country, like a surging tide, swept the Connecticut immigrants. In ox-drawn canvas-covered wagons, the forerunners of the prairie schooners of later days, they came overland, for the most part, across central New York by way of the Mohawk and Genesee Turnpike through Cherry Valley and the country soon to be made famous by Fenimore Cooper's novels — or so at least they came until the opening (1825) of the Erie Canal, which practically paralleled the old cross-country trail. And here in the Western Reserve they finally established what was said to be "the largest, strongest, and most characteristic single, compact colony in the West, the last distinct footprint of Puritanism."

A scant six years after the first driblets of this wave of migration reached here, the "Enabling Act" was passed, whereby Ohio emerged from the Northwest Territory into full-fledged statehood (1803), by which time, though Cleveland was but a scattered hamlet, there must have been some

10,000 settlers in other parts of the Reserve and some 40,000 elsewhere in the State. Those who bought their individual holdings from the original Connecticut Land Company at something like fifty cents an acre were almost wholly people of Connecticut stock and of English lineage. They had come from a colony which had been the first to draft a free public-school system, whereby every child should at least be taught enough to permit him to read the Scriptures and thereby to work out his own personal salvation; from a colony where the problems of self-government on a democratic, federative, "town-meeting" basis had long been faced; from a colony, in short, in whose tenets we may see the germ of that sort of civic pride and coöperation which has made you envied and admired by other less public-spirited and cohesive groups of people.

Tradition is largely a matter of sentiment, and the possession of sentiment, in accordance with the code of unwritten laws which largely guide our actions, is something we are not expected to betray, unless perhaps in the family circle. But this I feel to be a family circle made up in large measure of those whose ancestors with mine were early among those vigorous souls who left New England a century and more ago to open up and to leave their stamp upon this new country — on its form of government, on its form of worship, on its schools.

The full history of this astonishing migration of people cannot be well written from the settlers' side until the personal journals and records of the participants come to be assembled and compared. All the early Reserve families doubtless possess documents relating to those times and the Western Reserve Historical Society should some day be their repository. Only the vanguard of these settlers encountered actual hardships such as we are accustomed to associate with pioneering life in a wilderness — certainly nothing comparable to the perils which beset the Connecti-

cut settlers in Pennsylvania during the half century before. Indian hostility, at least in the Reserve, was scarcely to be feared, for the warlike Eries had long been subdued; and though wolves abounded and the forest was oppressive, the log-cabin life was one of loneliness rather than danger.

My own forbears on the distaff side were of Connecticut origin, and seven of my grandparents in three generations, though not among the actual vanguard, were fairly early settlers and took up lands in Painesville, Boardman, Canfield, and Warren. The two earliest, so far as I know, Haynes Fitch from Norwalk and Comfort Mygatt from Danbury, came with their families in 1804, and the last, Ebenezer Williams, came from Windsor as late as 1811. The son of this Ebenezer has left an account of their journey which describes the Cherry Valley Turnpike even at that comparatively late day as a 200-mile piece of corduroy of such a nature as fairly to jolt one's bones asunder. It was near the first of December when they finally made Buffalo, where representations of the impassable state of the Cattaraugus swamps and woods led them to sell their ox-drawn wagons and to take passage on a new and staunch schooner, the Little Belt, which lay at anchor in the Niagara River. Three weeks elapsed ere a favorable wind permitted them to set sail; and before reaching their destination (the mouth of the Cuyahoga, I presume) a severe winter storm overtook them and drove them back to Presque Isle (Erie) where they were finally landed in safety. From there, after much labor and toil, they made their way overland in midwinter, the seventy-two miles to Painesville "through an unbroken and primeval wilderness awaiting the woodman's axe."

The other, the spear side of my family, were from Massachusetts, and it was not until some years later, when there were already enough people in Ohio to make it the third State in population in the Union, that the first of them, Erastus

Cushing, moved here to this community. He was a young doctor,[1] with a family to support, who found the winters of Berkshire County, where his father had been a doctor before him, too rigorous for his delicate constitution. In search of a place of abode he came West, visiting Buffalo, Detroit, Wooster, and Columbus; but the place above all which took his fancy was the village of Cleveland, through which he passed when on the way to see his brother, who had already come West and was living in Ashtabula County. Accordingly, in the following year, — in October of 1835, to be exact, — he brought his wife and three children here over the waterways via the Erie Canal to Buffalo and thence by sail to the mouth of the Cuyahoga. One recollection of their arrival I may mention — on landing at the Gittings warehouse at the foot of Superior Street, the commercial centre of the town in those days, and ascending the steep bluff to the level of the flat plateau on which lay the scattering village, the first object that attracted their attention was a white cat which they saw in the distance crossing the road from "Squire" Case's house, where the post office now stands; and somehow this was regarded as an auspicious omen. For it might have been a black cat.

Though the completion at this time of the Ohio Canal with its northern terminus at the mouth of the Cuyahoga was a promising omen of the future, Cleveland, with her sparse population hardly extending east of the public square, was by no means the metropolis of the Reserve, though boasting two churches, a lighthouse, a courthouse, and one stone residence.[2] It was in the inland towns rather than

[1] He graduated in 1824 in the class with Mark Hopkins at the Berkshire Medical College under John Delamater, of whom we shall hear later on.

[2] Those were days when land contracts on both sides of the river passed from hand to hand by endorsement as a medium of circulation — days, too, of bitter competition between the rival villages, east and west, which even saw a pitched battle on the bridge connecting them.

here that the early movement had taken place which stamped the Reserve with her Puritan and Presbyterian characteristics. One thing to be remembered is the relation of the first settlers to the public-school system of the colony whence they had come. Indeed the very purchase price of these new public lands was permanently invested so as to insure in perpetuity a free education in the public schools for all Connecticut children. And just as in the original colony where a common-school system had been established in the first decade and a college projected, so in the Reserve, while still sparsely settled, it was not long before corresponding projects were on foot; and though places of worship probably came first, places of learning came soon on their heels. So far as the primary schools are concerned — schools to which many of us owe so much — what was known as "the Akron plan" was ultimately adopted throughout the entire State owing largely to the zeal of a distinguished Clevelander of grateful remembrance.

In 1801, when the Reserve was little more than an unbroken forest holding scarcely 1500 people, a petition was presented to the Territorial Legislature asking for a college charter. Though this was refused, it was only two years later that what represents the beginnings of higher education here, an academy known as "The Erie Literary Society," received a charter so soon as the first state legislature had convened. One of the incorporators was the celebrated Reverend Joseph Badger; another a Mr. David Hudson; and the school building which was erected in the small hamlet of Burton represents the germ of the Western Reserve University. This college in embryo had hard sledding from the first. It was once burned to the ground; it barely survived the War of 1812; and finally, in 1822, "the Presbyteries of Grand River, Portage, and Huron" united

and decided to remove the academy to some more central place where literary and theological instruction could be better supervised. Their choice fell upon the village of Hudson, some thirty miles south of Cleveland, and near the geographical centre of the Reserve, because of the generous offer from the selfsame David Hudson of one hundred and sixty acres of land for a campus and a monetary subscription of $7500 in addition.[1] For much less than this, institutions have been permanently named after their primary benefactors. In the case of John Harvard and Elihu Yale it was a matter chiefly of good will and a few books, and I fear this David Hudson has been largely forgotten, though in the repose of the country village which still bears his name the Western Reserve University was weaned, cut its teeth, and passed the troublesome years (1826–1876) of adolescence. Fifty years in the life of a university set up on a frontier is none too long for these adjustments.

From the outset it was the intent and aspiration of the "Reservists," so historians tell us, to create a second Connecticut, and no less so was it the intent of the trustees of the college at Hudson to create a second Yale — "The Yale of the West." But the youthful institution had no plain sailing ahead of it. Under its first president it almost foundered in the waves of the antislavery agitation which in the early '30's rocked the college from stem to stern — indeed rocked the entire Reserve. The Ordinance of 1787, with its clause excluding slavery from the Northwest Territory, made these things almost inevitable, and we are apt to forget that the abolition propagandists among our Puritan forbears in this Reserve were as redoubtable if not more so than were those they had left behind them in Puritan New England.[2]

[1] The state charter for the new institution was secured February 1, 1826.

[2] The names of Benjamin F. Wade and of Joshua R. Gillings — and perhaps, too, that of the fanatical John Brown — may recall what part the Reserve played in the irresistible movement resulting in abolition.

At the college in Hudson there was a split seemingly between a conservative board of trustees and a faculty which, under President Storrs, was ardently and perhaps intemperately on the side of the *Liberator*. This was one cause of trouble; coeducation was another. Taken together, these two factors were what led, in part at least, to the establishment of a rival college set up by the Congregationalists at Oberlin, which later on became a famous station in the "underground railroad."

But better days were in store, and the first decade of the presidency (1834–1855) of the Reverend George E. Pierce saw a period of great prosperity. There can be no more interesting quest for the historian than to trace the influences which have led to the blossoming and fading of universities. Some blossom but once, and subsequently continue as mere plants which, despite cultivation, no longer flower. Others have a periodical time of *floruit*, each of them attributable to the temporary energy and confidence of a small group, or perhaps even to the personality of a single individual. Such a period, brief though it was, came to the college, as I have said, under the leadership of President Pierce, who gathered some distinguished teachers and made an effort not only to raise an endowment but to see that the meagre salaries promised to the members of his faculty were assured.

Another period of prosperity came under President Hitchcock (1855–1871) during the decade before the Civil War. But even so, in the words of one of your historians: "It must be remembered that the college was cradled in poverty; that though the aims were high the rewards were slender and problems must needs be faced to tax the temper of the best of men. Those who sought to build here a second Yale had a task on their hands greater than they knew; too great for divided counsels." And that counsels were divided during the succeeding presidency of Carroll Cutler (1871–1886)

there is no gainsaying. Again the college nearly became disrupted over the subject of coeducation and no less when the transplantation to Cleveland came up for discussion.

Colleges are not infrequently migratory, and a new generation is prone to forget what and when its beginnings were. Yale's small beginning in the settlement at the mouth of the Connecticut named after Lords Say(e) and Brook is now commemorated by the naming of one of the courts in the Harkness Memorial group, Saybrook Court; and in passing it may be mentioned that Charles Harkness himself was a son of this Reserve. So some day there may be, let us hope, a David Hudson Quadrangle in your enlarged university to commemorate your nigh-forgotten place of origin. Nor was it so long ago. My eldest brother graduated at Hudson in 1876, and though he lived to be a trustee of his Alma Mater after its transplantation here, he appears never to have quite lost his Hudson reflexes. We had relatives in Kent, a station or two to the south of Hudson, where, sometime in the '90's, was to be a wedding which my mother and this, her Hudson-bred, rather absent-minded and quite near-sighted son, were to attend. As the train pulled out of the station at Hudson, my mother saw her escort standing on the platform absorbed in a magazine, oblivious of the fact that, having gone forward to enjoy a cigarette in the smoking car, he had automatically gotten off at a once familiar stopping place. To the conductor who finally appeared she announced in her perturbation that her child had gotten off at the wrong station. "Pray how old is the child?" asked the conductor. "He 'll be forty-six in September," said mother.

But this grows too personal and devious even for an intimate address before a faculty on which two of my other brothers once occupied chairs. And to get on with my story I must abandon the precarious affairs at Hudson for the

moment and return once more to earlier times and to some matters which largely relate to doctors.

Cleveland, we must recall, had a slow start and for long was rated as a small and "unhealthy village six miles from Newburgh." It consequently was an important event for the fifty-seven people who were said to be living here in 1810 when the first doctor, one David Long, arrived from the borders of Vermont and hung out his shingle — an indefatigable citizen he was, who ere long became president of the village corporation. He was much needed, for agues and dysenteries prevailed. It was malaria, indeed, that led to the first settlement in this very neighborhood where we now meet. One Nathaniel Doan, the blacksmith of Moses Cleaveland's surveying party, had returned in 1798 to become one of the handful of early permanent settlers. But after a year he fled from the miasma of the Cuyahoga valley and settled four miles away at the intersection of the Euclid road and the road to Newburgh, known for a hundred years as "Doan's Corners," whence Doan road was cut to the lake. But now, alas, 105th Street has obliterated at one swoop both name and memory of Nathaniel Doan as effectually and permanently as time has obliterated the traces of malaria in the Cuyahoga valley. Euclid road (or avenue) alone remains to tell the tale. Euclid, however, was a third-century pioneer in geometry to whom Moses Cleaveland's surveyors felt under some obligation: a famous person to be sure, but he has less reason to be remembered here than Nathaniel Doan of the crossroads.

For the practising doctor those were days of considerable hardship even as late as the '30's; and though not a man given to reminiscing in his old age, I can recall my grandfather's mentioning the fact that so far as he knew his was the first pair of Chamberlain forceps in the Reserve; and that one winter night he and his horse had been chased home by

wolves after ushering into the world by their aid the child of a woodchopper whose habitation was in the edge of the forest somewhere near Erie Street.

Moses Cleaveland and his fellows, as you are aware, gave to certain future thoroughfares the names of the Great Lakes, and by what number you may designate Erie Street to-day I do not know. But I may point out that it is the street from which this medical school has just migrated and near the foot of which stand the Marine and Lakeside Hospitals — on which, too, stands a much neglected cemetery where lie the bones of those who a century ago laid the foundations of this now metropolitan city.

The most outstanding name in the medical annals of the town in its early days, was Dr. Jared P. Kirtland of Trumbull County, who at a meeting in Cleveland of the Ohio State Medical Convention (1839) was elected president of that body. This convention was of moment in awakening both profession and laity, and it contributed not a little to the organization of the Cleveland Medical College, which represents the first beginning of this, your present school. To be sure, there were other medical colleges already in existence in the State. Groups of physicians were not long in any community before they began to instruct pupils and to aspire to the establishment of an incorporated school. There were, indeed, said to be four at this time in Cincinnati alone, three of them (the first in 1819) having been founded by that justly celebrated person Daniel Drake; there was another at Worthington; and still another, with which we are chiefly concerned, in the neighboring village of Willoughby.

Willoughby, in those days, was an ambitious village whose 1500 citizens "enjoyed the advantages of a circulating library, a lyceum, and a debating society at which historical, political, literary, and scientific questions were discussed [as

one may imagine] with zeal and ability." This small though progressive community, which cherished the hope of becoming the leading marine port of Ohio, proposed in 1834 to organize an institution to be known as the Willoughby University of Lake Erie — a project that advanced to the point at least of organizing a medical department. But it was a short-lived venture, for ere long there arose a disagreement in the faculty, which contained some very able men, of whom a few favored a move to Cleveland and others to Columbus.

One of the institutions of early Cleveland that happily survives its century of activity on an unchanged site is the First Presbyterian Church — the "Old Stone Church" as it has long been called. First and last it has played no small part in the history of this University. Indeed in its "Session Room" on March twentieth of 1844 during the pastorate of the Reverend Samuel C. Aiken, the trustees of the college at Hudson (he being one of them) met and took steps to organize the Cleveland Medical College "of Western Reserve University" — an alliance, be it said, which made it necessary by act of legislature to amend or to so "interpret" the original college charter as to allow it to conduct a medical school in Cleveland. This was the outcome of a proposition made a few months before by Dr. Ackley, a local surgeon, and by Drs. Delamater, Kirtland, and Cassels of the Willoughby school to give a course of medical lectures in Cleveland; and Drs. Kirtland, J. Delamater, George A. Baker, Samuel St. John, and my grandfather (though not a member of the faculty) were constituted into the first board of examiners to pass on the candidates for degrees.

It was a highly distinguished faculty which took over this new medical school, said to have been the best this side of the Alleghenies — a school which flourished for many years in spite of the absence of any clinical facilities. Its collegiate

alliance, to be sure, was a loose one — the usual old-time arrangement whereby the medical-school funds were kept separate, and the medical faculty merely reported once a year to the trustees of the college through a Board of Agency. The school, of course, had no endowment and the students' fees were divided among the faculty, who were expected to furnish all the apparatus; and indeed the first building was largely paid for out of their pockets.

On this faculty were the Delamaters, father and son; J. P. Kirtland; John Lang Cassels, a favorite disciple of the elder Delamater's Fairfield days; Horace A. Ackley, a brilliant surgeon; Noah Worcester, fresh from European clinics but marked, alas, for an early death; and Samuel St. John, one time professor of chemistry at the college in Hudson and who subsequently held the same chair in the College of Physicians and Surgeons in New York. It was a group well remembered by the early generation of Clevelanders. Two of them, Jared Potter Kirtland and the elder John Delamater, perhaps above all others may be singled out for special remark.

Kirtland's father, general agent of the Connecticut Land Company, came to the Reserve in 1803, leaving his son to complete his education under the guidance of the boy's grandfather, the renowned Jared Potter of Wallingford. After graduating in 1815 from the Yale Medical School, in which he was the first matriculant and where he came under the influence of Benjamin Silliman, Kirtland had a most varied career. He taught school for some time; became a probate judge; and soon after his arrival here in this Reserve, where he came in 1823 to join his father on a farm at Poland, he served for three years in the state legislature. Meanwhile his fame as a doctor so spread that in 1837 he was called to the Chair of Theory and Practice in the Ohio Medical College in Cincinnati, the first of those founded by Daniel

Drake. But, celebrated as Drake remains in the annals of Cincinnati, Kirtland was no less the outstanding medical figure in the North. He was a type of omnivorous naturalist common in those days, an authority on bees, shells, and fish, a geologist, a botanist, a horticulturist; and his experimental fruit farm at Rocky River, to which he subsequently retired, became so famous throughout the country that his reputation as a scientific agriculturist has perhaps given him his chief claim for grateful remembrance. He founded (1845) the Cleveland Academy of Natural Sciences, in which were housed the specimens he had collected as a member of the State Geological Survey — specimens illustrating all departments of natural history; and this society later on (1865) was fittingly called the Kirtland Society of Natural History in honor of his name. I grieve to learn that it no longer survives, and that its collections and records have become scattered.

No less remarkable a person was John Delamater (1787–1867), scion of a Huguenot family that had settled in New York. He was a type of the peripatetic professor of the day, and perhaps even more than Kirtland had a career not unlike that of Daniel Drake, serving first and last on many a faculty: in the Berkshire Medical Institution (1823); in the extinct though one time celebrated College of Physicians and Surgeons established at Fairfield in Western New York (1827); at Geneva College, New York; at the Medical School of Maine (Bowdoin); of New Hampshire (Dartmouth); at the University of Vermont; and finally, after coming to the Reserve, he taught first at Willoughby (1838), and then for a time also lectured, as did Kirtland, at the Medical College of Ohio in Cincinnati. He was the leading spirit in the transfer of the Willoughby school here to Cleveland in 1843, and held the chair in pathology and midwifery until at seventy-three he retired, perhaps the

most beloved and honored physician of all time in this community. During his declining years he lived in this very neighborhood, at the Doan's Corners I have mentioned, in a house purchased and presented to him by the profession. His devoted pastor, Dr. William Henry Goodrich, the second in succession at the Old Stone Church, said of him "that whatever might have been his income he would never probably have laid up treasure anywhere but in Heaven." John Delamater, in fact, appears to have been a nigh-perfect model of the Christian physician.

Under such men as these there could be no question but that the new school would flourish. It did not take long to raise funds for a building, and ground was soon broken (1844) for its erection. It was a square brick structure with Doric wooden columns and a cupola, regarded as the chief architectural ornament of the city, though the corner of Erie and St. Clair Streets then lay on its outskirts with nothing to the east, where recently had been a forest of primeval oak, but a stump farm covering an area known later in my boyhood days as the Perry-Payne pastures.

Not only was the school's faculty composed of stimulating teachers, but they were a most public-spirited group of men; and it may be recalled how Ackley organized a group of physicians to go to the relief of Sandusky, the sister city of the Reserve, when in 1849 its population was decimated by an outbreak of Asiatic cholera. But it was not all plain sailing for this Cleveland Medical College of Western Reserve, any more than it was for the college itself at Hudson. The advent of Hahnemannism in the '50's split the local profession into rival groups; and soon disagreements arose in the school itself, leaving a wound that took long to heal. The professor of surgery, Gustav Weber, who had succeeded Ackley, finally withdrew (1863); organized a new school, the Charity Hospital Medical College; and

in the wards of the newly erected St. Vincent's Hospital for the first time here the novelty of clinical teaching was introduced.

Though a duplication of schools was unfortunate, the break was possibly not without its benefits, for it emphasized the fact that without a hospital connection and bedside instruction a medical school cannot possibly thrive or long endure. Until this time Cleveland had no hospital worthy the name. To be sure, the old Marine Hospital had been in existence since 1847 — an institution for disabled seamen, which was hardly needed by the Government, and which came to be administered by physicians from civil life. But if we are to seek the origin of its long-time neighbor, the Lakeside Hospital, we must find our way again to the Session Room of the Old Stone Church, where, during the Civil War, plans were laid to establish a Home for the Friendless, designed especially for the care of refugees from the South. For this purpose a private dwelling was rented in which a sort of ambulatory clinic was established and assistance given the sick and needy. At the close of the war this Home was incorporated as the Cleveland City Hospital Association under the presidency of Mr. Joseph Perkins, and in 1875 this association secured a twenty-year lease of the Marine Hospital. I possess vivid recollections of many hours of watching a horse's tail switch flies off his flanks as I sat in a buggy holding the lines while my father passed what seemed to me interminable hours within its gray walls, thoroughly permeated in those far-off days with the faint odor of carbolic acid.

In the course of time, when the civic authorities decided to build a city hospital for the general use of the rapidly growing community, the corporate name of this private enterprise was changed to the Lakeside Hospital Association, and in 1895, when the lease of the Marine Hospital lapsed, the pres-

ent Lakeside, which opened its doors on January 14, 1898, was erected, and the clinical instruction placed entirely in the hands of the Medical Department of the Western Reserve University.

So the Old Stone Church played no small part in starting the college at Hudson, in organizing the medical school, and in planting the seed of a university hospital; nor are we quite through with it yet. Of this old church, too, and of a certain spot in it, I have vivid memories, though they are gustatory rather than religious or intellectual — tinged, indeed, with a distinct flavor of peppermints. In the pew behind us there sat a most estimable gentleman, who attended divine service with a regularity no less than mine, which always surprised me as his presence was not compulsory. He was wont to say that he would not feel at home in Heaven unless he could occupy a seat in a pew behind my mother. I am afraid that my own idea of Heaven, where every day would be Sunday, was that we would have to listen to a long Presbyterian sermon in a hard-backed seat not suited for my shoulder blades, seven times oftener than here in this, by contrast, very pleasant world, and that the Honorable Richard C. Parsons's supply of peppermints — the hard, lasting kind to be slipped over the back of our pew when the sermon was especially tedious — might possibly give out. I was convinced at the time that he was the leading citizen of Cleveland and still have unlimited faith in his ability to make even Heaven a tolerable place.

There is perhaps too much in this dedicatory address about episodes so remotely related to my subject as the return of Halley's comet in September of 1066 and the smuggling of peppermints over the back of a Presbyterian pew in the recent '70's. But who can tell? If the kindly gentleman who passed the confections had eaten all of them, he

might not have survived to write an editorial for the December 13, 1877, issue of the *Cleveland Herald* of which he was owner — an editorial which contained the first serious proposal that the college at Hudson be moved to Cleveland.

Certain distinct advantages, more apparent fifty years ago than now, attached themselves to a college located in a rural community. Though these were not minimized, there was a growing undercurrent of opinion that Cleveland, whose metropolitan future was apparently assured, must some day have her own established institutions for higher education. The pro-Hudson party urged that the college should remain where it was and that a polytechnic school be established in Cleveland, to have an affiliation similar to that held by the medical department. So there were proposals and counter-proposals and in the midst of a somewhat heated controversy two significant happenings came to the support of those favoring transplantation.

Properly to gauge these happenings we must return once more to the influential pastor (1872–1880; 1884–1902) of the Old Stone Church, the Reverend H. C. Haydn, who since 1869 had been a trustee of the college, and indeed had at one time refused (June 30, 1874) an offer of the presidency. Among his parishioners was a particularly public-spirited and wealthy gentleman, Mr. Amasa Stone, who was turning over in his mind the possibility of founding a college in Cleveland as a memorial to his only son Adelbert, a highly gifted young man who some years before had met an untimely death from drowning while an undergraduate at Yale. Mr. Stone was willing that the Western Reserve trustees should utilize the proposed fund provided they would move the college to Cleveland and would agree to a change of name; and he authorized Dr. Haydn to approach his co-trustees on the subject, though the identity of the prospective donor was for the time being withheld. The

impecunious college at Hudson could hardly have survived competition with a relatively well endowed rival institution in Cleveland; and, though there were heartburnings on the part of some at the abandonment of historic Hudson, it was inevitable that the college would perforce have to accept this proposal with a change of name or go out of business.

It was not until March 3, 1880, that the community was made aware of the identity of its benefactor, and by a coincidence, only three months before (on January 6, to be exact) there died in Cleveland a prominent and well-to-do citizen, Mr. Leonard Case, Jr., who left in his will a sum of money for the foundation of a school of applied science. This must have supplied the clinching argument, for it at least put out of further consideration on the part of the Western Reserve trustees any thought of establishing a polytechnic school of their own.

The Cases were of German and Holland stock, Leonard Case, Sr. having found his way to the Connecticut Reserve on horseback from Pennsylvania in 1799. He had purchased a tract of land in Warren township, and having subsequently come into the service of the Connecticut Land Company, on whose tangled affairs he became an authority, years of prosperity as a leading lawyer and banker in this community followed. Leonard Case, Jr., the younger of his two sons, a graduate of Yale of the Class of 1842, was a man of most endearing character, devoted to mathematics and literature, and something of a poet in his own name. He moreover was a great lover of nature, and his personality was such that there gathered about him in the midcentury a coterie of men who, like Jared P. Kirtland, were interested in natural history, and who became known as the "Arkites" from their original place of rendezvous in a small hut known as "the Ark" near the Case homestead. They subsequently met in rooms in the building he erected and in which there was long

housed another of his benefactions to the city, a most useful assortment of books known as the Case Library — a benefaction somewhat neglected, I fear, and one that might well find a proper and permanent home near this university centre.

Just what first inclined Leonard Case, during his later years, which were ones of suffering and ill health, to the decision regarding his final legacy to the city of Cleveland is not entirely clear. It is quite possible that he may have been influenced by Mr. Sheffield's generous gift to Yale twenty years before of funds to establish a science school which offered to students enviable opportunities undreamed of in the Yale of Leonard Case's undergraduate days. However this may be, the fact that Mr. Case had left money to the city for a school of applied science was another factor to emphasize the possibilities of Cleveland as a future educational centre. Hence, when on July 7 Amasa Stone came forward with his great gift for Adelbert College, it was naturally suggested that the two institutions should be located in proximity even if they should not officially be under the one shield of the Western Reserve University. So far as the college was concerned, in view of its new appellation, the covering designation of the Western Reserve University was essential if its alliance with a medical department was to be retained, and it would appear that the medical faculty was not entirely agreeable to the idea of a change of title.

One cannot escape the impression that, had Leonard Case survived until he could have known of Amasa Stone's project, he would have favored the fusion of these two separate schools under the banner of the Western Reserve, just as the Sheffield Scientific School, though retaining its identity, bears the shield of Yale. No single type of study can long dominate the academic mind. Mr. Case had the training

and imagination to foresee that science (above all, applied science) would some day need an alliance with the humanities; and no less Mr. Stone that the humanities to survive in a utilitarian age cannot afford to neglect the science subjects. This being so, both of these institutions, should they remain separate, would necessarily have to duplicate many departments to round out their destiny; and a single hill is no place for institutional twins from the standpoint of economy if for no other reason.

I have said that Mr. Case was long an invalid and his death came when only sixty years of age. To his physician and devoted friend he once presented an English chronometer-watch which was cherished and faithfully worn until the physician himself died thirty years later. This particular watch, bequeathed to me, has since accompanied my meanderings, and though it is a heavier timepiece than I would choose to carry, I shall hope to do so until these two neighboring institutions are brought into union. I am sure this would consummate the desires of Leonard Case, the founder of one of them, and of my father, long a trustee and in a small way, in the interest of science, a benefactor of the other.

Events no less important for the future of medicine in the Reserve than those just recorded for the future of the college, took place in the early '80's. What steps led to the reconciliation between the faculties of the rival schools are not apparent. The advances must have been made man to man *in camera*, and it must suffice to say that on July 5, 1881, the agreement for a fusion was made and a new combined faculty appointed.

The medical department, as may be recalled, formerly bore the same titular relation to the college it now holds to the university, and there were many who resented a change of name to the Medical School of Adelbert College. The

germ of your existent university organization appears to lie in this not unnatural reaction, for, on the date when the reconciliation took place, the reorganized faculty chose to be styled the Medical Department of Western Reserve University. Three years, however, were to elapse before this action could receive official recognition.

In the newly combined school Dr. Weber, one of the separatists in the '60's, resumed his former chair of surgery and was ere long chosen Dean. Surgeons, I may interpolate, are apt to be temperamental people who make notoriously difficult members of a medical department; and, if one is to judge from Dr. Haydn's account, the medical faculty under its new leadership had no intent of permitting the university president to have any oversight of its affairs. By this time the forty-year-old school building had become antiquated, and a committee to solicit funds for the erection of a modernized home was promptly appointed. They found it no easy task. Even Mr. H. B. Hurlbut, who had promised $20,000 toward a new building in the event of a reconciliation, stipulated that the word "Adelbert" should not appear in the title. So matters dragged along, and it was not until three years later (1884) that the first notable lay benefactor to medicine in this community came to the rescue of the school. This gentleman, a prosperous lumberman, bearing the appropriate name of Woods, had come to Cleveland to spend his later years although his home had long been in Michigan. It is worth recalling just what it was that Mr. John L. Woods had to say in regard to his generous donation which made possible the erection (1885–1886) of a remodeled school building on the old site: —

> For years the Cleveland Medical College has struggled along against adverse circumstances. Its professors, while receiving nothing for their services from the college, have been compelled to support their families from the avails of their private practice. A

building adequate to the growing needs of the college was demanded, and the efforts which were being made by the friends of the school to secure the necessary funds were not meeting with much success. Cleveland needs just such an institution among its educational facilities and I knew of no better way than to build it myself.

It was not long after this gift was made that new terms of incorporation were granted by the State (April 5, 1884) whereby for the first time was realized the true idea of a university of which Adelbert College, which then as now had its own Board of Trust, represented merely the undergraduate academic department. Prompt action, in accordance with this new act, was taken (April 26) by the medical faculty, which agreed to the transfer of its property in lands and buildings to the university and became thereby for the first time a university department in fact as well as in name.

There seem to be no official records of the events leading up to this transaction, and it is apparent that within the faculty there was a difference of opinion on the subject, for it was inevitable that the more conservative members should desire to retain full autonomy. It was the familiar conflict between the old and the new. My father, I rejoice to say, joined the younger men, of whom Dr. I. N. Himes was the leader, in favoring a close affiliation. He had been the faculty representative on the board of trustees since 1881 and had resigned from his chair in the school the year before (1883), as I have always supposed lest there be any suspicion of his having some motive in favoring the transaction other than the best interests of the school and the university. For he had a son who was preparing to take up practice in Cleveland and who had better make his own way toward a school position, clear of any suggestion of parental backing.

The newly incorporated university was in theory an admirable arrangement, but there was sore need as always of some

person of vision who could coördinate the departments and put the plan into operation. It was not until November 30, 1887, that the presidency was forced by the Adelbert Board of Trust upon the reluctant though able hands of Hiram C. Haydn, who after a few years' absence from Cleveland had resumed the pastorate (1884) of the Old Stone Church, which had been burned and rebuilt on its original site. It takes time for people in any community to outgrow the feeling that privately endowed institutions are nothing more than monuments of the men whose bequests have made them possible — in other words, to forget personalities in the public benefaction and to think only in terms of the institution and the general welfare. In an effort to overcome this feeling and to arouse some civic interest and pride in the university the new president addressed himself with what success in the space of three short years many will remember, for this is comparatively recent history.

New by-laws were promptly adopted (March, 1889) under which a university senate was established. This consisted of the president, an executive committee of five (S. E. Williamson, H. K. Cushing, E. R. Perkins, Samuel Mather, W. H. Doan), the heads of each department, and two members of each faculty. For, in addition to Adelbert College, six other schools were recognized: for medicine, law, dentistry, a college for women, a graduate school, and a library school, each of which was to have its separate dean as an administrative director.

Thus your present organization, as I understand it, came into being with a combination of schools under the seal of the Western Reserve (rather than of Adelbert) University, all of which was due largely to the tact and understanding of Dr. Haydn, in whose short administration so much was accomplished. Two long-standing sources of uncertainty and friction were then settled once and for all time. One of them

was the relation of the college to coeducation; the other the relation of the medical department to the college — a more difficult task, which led ere long to the withdrawal of a reactionary group headed by the dean, who could not abide the regulations formulated by a board of university trustees that empowered the president to sit at all faculty meetings.

The teaching of medicine is an increasingly difficult, expensive, and complicated thing. That the medical school should become an actual rather than titular department of a university was certainly a good beginning. But something more than a university alliance was necessary and a medical school without a teaching hospital was greatly handicapped. These things must have been clear to Dr. Haydn's successor, the Reverend Charles F. Thwing, during the long and devoted years of whose administration (1890–1923) there were brought to fruition many of the seeds planted by his predecessor. Early in his presidency (1893) the medical school had received by legacy from Mr. John L. Woods the first considerable sum toward an endowment, which made possible the giving of university salaries to full-time preclinical professors; and though he could have had no ambition in this direction it would not have been amiss had one of these chairs come to bear his name. Mr. Woods must have felt that the $250,000 he had given some years before for the school building, then supposed to represent the last word in construction for purposes of its kind, had been well expended.

It was a hopeful sign, this legacy, and must have greatly heartened the new president in his set purpose — namely, that the Lakeside Hospital Association, even while it was still operating in the old Marine Hospital, should enter into a definite alliance with the Western Reserve, becoming thereby, to all intents and purposes, a university hospital whose staff nominations should be made by the medical-

school faculty. It was a radical proposal, which nevertheless, according to their minutes of November 1895, the Lakeside board of trustees appears to have unanimously accepted. There happened to be a member of this board, the gentleman whose munificence has made possible this building to-day, who three years later (1896) on the erection of the present Lakeside Hospital wrote as follows: —

> Hospitals are said to be, in some sort, "the measure of the civilization of the people." The history of their origin and development seems to substantiate the statement. Wherever civilization has obtained its highest growth there hospitals are most numerous in number and excellent in character. The first hospitals were built to take care of the sick poor in the cities . . . at a later period they came to be valued not only because they expressed the newly developed humanitarian instinct of mankind but also because scientific medical men began to realize that these institutions afforded unrivaled facilities for developing and putting to proof their theories regarding the origin, development, and cure of sickness and opportunity for the practical instruction of students who came to their medical institutions of learning.

That an influential layman could have expressed these sentiments, at a time when hospitals for the most part were as loosely allied to medical schools as medical schools were to universities, is enough to explain how it was that this Western Reserve Medical School rapidly forged to the forefront, being one of the first to demand a four-year course, one of the first to require an A. B. (or equivalent) degree for admission, and the very first to establish a chair of experimental medicine with a full-time appointee as its occupant.

Time and experience have shown that few institutions erected by men are more enduring than universities. Governments may come and go, but an institution of learning endures so long as there is any vigor in the race. Moreover, to endure, it must show growth, and so a university becomes the natural magnet which may appear at times to repel but

in the long run must serve ultimately to attract and draw unto itself bodies which temporarily labor under the impression that their own orbits are independent ones. So here the university has drawn into its circle a medical school which has resulted from the fusion of other schools, which in turn represent the bulk of the profession of the community. It also has drawn in a hospital, nay, many hospitals, all of which originated as independent units, but are now under a common head, to be utilized for teaching purposes, and in connection with which a University School of Nursing, one of the first to be established in the country, has been recently organized under the wing of the College for Women.

In all such affairs the process of amalgamation is a slow one, but inevitable. It takes imagination, courage, time, and sacrifice. The process is the same whether it is a League of Nations, a confederation of colonies, a combination of charitable associations, — such as this community has already made, setting an example to the country at large, — or an affiliation of educational institutions into a great university under one head, of which Clevelanders are equally capable. It necessitates the surrender of autonomy, of certain personal or vested interests for the common good.

The day will come, I foresee, early in the administration of your new and energetic president, when, under the banner of the Western Reserve, a term which represents an historical episode not to be lightly laid aside and forgotten, there will be a fusion of many institutions which, though retaining their name, individuality, and purpose as separate schools, can only become great when thus affiliated with a greater university. And the sooner the well-to-do residents of the Western Reserve, and more particularly of this, its metropolis, come to appreciate how important a university may be to the community, the lighter will be the labors of President Vinson, who should have other things to occupy him than

probing people's pocketbooks. The time is not far off, I believe, when it will not be respectable for a Clevelander to die without leaving something to the University Chest for purposes of higher education, just as in life each individual contributes his quota to the Community Chest for purposes of charity.

Out of esteem for your traditions I have endeavored in this address (possibly too much from a personal standpoint) to recall how this Western Reserve, this city of Cleveland, this University, and this Medical School came to be what and where they are. In so doing, mention has been made of some few of those who have contributed to your local and institutional history, but more particularly of those who have been benefactors in the upbuilding of the medical department. But, after all, it is men and not buildings — brains and not bricks — that make a great school. Hence it is incumbent upon us to hold in grateful remembrance those who have unselfishly given of their knowledge and skill — of their heart, head, and hands — as teachers, thinkers, and investigators, no less than those who have given of their substance. For, in the last analysis, it is the teacher and worker on whom the reputation of a school must rest — on such faithful servants, to pick types, as were Kirtland and Delamater in their day in the Medical School; Seymour and Morley in their day in the College — men who loom large at a distance though they pass unnoticed on the streets at home — men whose influence and example carry on through generations of pupils though their names be all too soon forgotten by the people among whom they have lived.

XII

EXPERIMENTUM PERICULOSUM; JUDICIUM DIFFICILE [1]

It is probably forgotten that the two of us who are to conclude the exercises of this auspicious day have previously been called upon to give some public statement of Yale's relation to medicine — Dr. Welch fully, in 1901, as part of the Bicentennial Celebration of the founding of the college, and I briefly, fifteen years later, for the *Book of the Pageant* celebrating the move to New Haven.

If not forgotten, it may be that we are now asked to take part in the dedication of these magnificent laboratories for a particular reason. Anyone who might happen upon the printed statements will find that, up to the time of those celebrations, there had been more to say of the contributions to medicine made by Yale graduates in general than of any great influence on our profession exerted by Yale herself through the agency of this, in point of years, her oldest professional school. The appeal with which Dr. Welch closed his address — namely, that the next Jubilee might find medicine holding here the high position to which it is entitled — has been answered sooner than the most optimistic among us could have expected.

Though the act passed by the General Assembly in 1810 creating a "Medical Institution" for the college was the first step toward Yale's development into a university, for the

[1] The dedication of the Sterling Hall of Medicine, Yale University, February 23, 1925. Reprinted from *Science*, Vol. LXI, No. 1580.

next hundred years the department was allowed to shift largely for itself. The collegians, whose life centred round the "Fence" and the old "Brick Row," hardly knew of its existence; those who did apologized for it; a few warmly advocated the abandonment of a local department which by no possibility could ever compete with the schools of a metropolitan city near at hand where hospitals and clinical facilities existed in abundance. There was a time, indeed, when this recommendation, seriously proposed by certain influential alumni, came dangerously near being followed.

In the want of a hospital under university control wherein the professors of the school might do their clinical teaching, lay the crux of the situation. The essential importance of such an arrangement was first made clear by certain happenings in Baltimore, where a short fifty years ago a wealthy merchant had left what for the time was a princely sum, partly to found a university, partly to build a hospital. And Johns Hopkins was shrewd enough to appreciate what so often has been pointed out, that schools and hospitals are likely to be the two most enduring of human institutions. Political boundaries change; forms of government undergo revolution; but the people remain, and there will always be those in search of education, always the sick and maimed in need of care.

Before that time, hospitals almost without exception were independent foundations whose controlling boards, though permitting students to attend lectures in an amphitheatre, looked askance upon their admission to the wards. But the example set in Baltimore in the '90's soon made itself widely felt, and those who had been drawn there for periods of study became inoculated with the idea of a university teaching hospital, in which students could get their practical training actually at the bedside, and carried this principle to the ends of the country. Two of them, to whom I would like to

pay passing tribute, were by an earthquake dislodged from the university positions they were holding and brought here at a time when this school was in the doldrums; and to the patience and persistence of George Blumer and Joseph Marshall Flint during the trying decade which followed, we may well ascribe the rescue of the Yale Medical School through the establishment of a definite university alliance with the General Hospital Society of Connecticut.

And now, in the short span since the war, a truly amazing renaissance has taken place, culminating in the erection of this Sterling Hall of Medicine and justifying all the efforts of the previous century on the part of the faithful, much neglected, and nigh-forgotten teachers who, under financial difficulties unbelievable, maintained a high standard and held the school together from the time of its foundation till the dawn of this new era. It is to the men of the older faculties — to men like William Henry Carmalt, happily here with us, and Herbert Eugene Smith, for twenty-five years professor of chemistry and dean of the school — that we must give thanks for making this day possible. And I am glad to learn that a message to this effect has been sent to Dean Smith on his distant ranch at Los Gatos, California, so that he may rejoice with the rest of us, who, holding the welfare and reputation of Yale at heart, have long felt that medicine should be strongly represented among her faculties.

We are living in an amazing epoch, too near for us to get other than a blurred picture of its full significance. Probably all people, from the beginning, have regarded their particular time as the most remarkable in history. Yet, in principle, so far as the profession of medicine is concerned, what four centuries before Christ was so cogently expressed in a familiar aphorism, remains unbettered. We can not too often hear the lines repeated: —

Life is short and the Art long; the occasion fleeting; experience fallacious, and judgment difficult. The physician must not only be prepared to do what is right himself, but also to make the patients, the attendants, and externals coöperate.

Experience is no less fallacious to-day; judgment no less difficult. The mental processes of that peculiar animal, man, our sometime patient, are the same now as then. He has strange and unaccountable reactions. He learned in the late war that it is not the pen but propaganda and publicity that are mightier than the sword. Advertising, which is but propaganda undisguised, is anathema to the ethical code of the physician, whose standards, if he is to justify the trust humanity has long placed in him, should be on a plane above business. Yet one of our universities proposes to elevate business to the rank of a profession. Whether this example will improve the code of business or lower that of the learned professions should they, as would be consistent, come to regard advertising along with other business methods as justifiable, remains to be seen.

It may be said of course that the people at large do not evaluate for themselves. While our profession studiously employs the methods of science to catch the truth in medicine, new sects arise and the therapeutic doctrines of the Abramite spread over the land. While Saurian eggs are being discovered in Manchuria, our state legislatures introduce, even pass, bills prohibiting the teaching of evolution. While electrophysicists are perfecting the miracle of wireless communication, the lecture halls are filled with educated persons whose curiosity is more aroused by a discussion of ectoplasm. While the astronomer with near exactitude announces a solar eclipse, the Seventh Day Adventists with no less assurance predict the end of the world. While sanitarians are conquering pestilence, the antivivisection and antivaccination societies receive large gifts wherewith to

oppose the very measures which make such things possible. While nations are stewing in their post-bellum troubles, jazz, the "movie," and the *thé dansant* engage the thoughts of the people. The only common ground on which the interests of all appear to meet is the crossword puzzle. What we need perhaps as much as anything in our institutions of higher learning is the scientific study of human reactions and behavior.

One might suppose that faith could be pinned on the time-honored professions as a steadying influence. And well it may, though "Modernism" temporarily rocks the Church and the law seems more interested in technicalities than justice. Medicine, too, is undergoing severe criticism for its imperfections, though no one of us doubts that it still carries high the banner of service; that it strives to bring the day nearer when there will be less ill health in the world and consequently less for the doctor to do.

You energetic young men who happily comprise the faculty of this reborn institution will have to decide for yourselves, without help from outside sources, just what is the form of service that can best be rendered the profession, the community, and mankind through the medium of this new and perfect instrument placed in your hands. It opens wide the door of opportunity and there are many things you will wish to accomplish. For their fulfillment not alone imagination and industry are needed but in addition what is known as the spirit of team play, unselfish loyalty to one another and to your common purposes and objects.

There are certain things you will set out to do in the tradition of your predecessors in this school. You will in the first place not fail to keep in sympathetic contact with the profession of the State as represented by the venerable Connecticut Medical Association, whose ranks you should continue to recruit by men better equipped than ever before to

make the doctor perhaps the most valued member of his community. No easy times lie ahead of you. You will long be regarded as interlopers, as cuckoos in a hedge sparrow's nest. Man is by nature chauvinistic, and the medical man perhaps more than others is prone to look with jealous eyes upon a foreign transplant to his bailiwick. Only by dint of proving your superior worth will you be forgiven your trespass.

That you will know your subjects well, that you will strive to contribute to knowledge, that you will be faithful teachers, are taken for granted; but whether the patients in the hospital over the way will appreciate your worth will depend as much on how you approach them as human beings as on your scientific attainments. For though some have expressed doubt on the subject, the Art, which takes so long to acquire, can be practised and taught in a hospital no less than in a home, but hardly in one where the wrecks of humanity are known by bed numbers — as No. 23 in Ward F — rather than by their personal names.

As teachers you will beware of educational fads. Many cure-alls are advocated; some even put into practice. System, however, counts far less than the native ability to awaken interest and spur curiosity to action. Significant curricular improvements have, no doubt, progressively been introduced into our peculiarly American medical course, but the material in teacher and student continues to average much the same; and the conjunction of a stimulating instructor and a receptive student produces results whatever be the educational system or apparent lack of system. One or two men who possess this rare gift of inseminating other minds may spread the reputation of a school far and wide.

Those of us who must sit on administrative boards spend much needless time in the vain effort to discover a philoso-

pher's stone whereby to drive off the impurities from our own methods of teaching, of grading, of examining, and at the same time of stimulating students. Our predecessors did likewise and theirs before them. But then, we appear to have more ground to cover than did they, and so the modern scholastic machine becomes more complicated. Meanwhile we encrust our cylinders by pouring in too many pupils, who represent the oil; we feed in too much preparatory instruction, which is perhaps the gas; and when we find the car does not run smoothly we timorously juggle with the curriculum, a sort of institutional carbureter better left alone unless we are willing to face the prospect of a complete overhauling. Such an overhauling the machine has just had and the engine has acquired a new and unfamiliar "knock." It is returned to us as a far better car than ever before, but it is vastly more expensive to run, and its presumed primary function of providing the community with a sufficient number of capable practitioners seems to have been lost.[1]

But while this is a general complaint, each institution has its individual problems to face. In this school you have already taken steps to greatly restrict your possible numbers. Bigness has its disadvantages and the country is strewn with institutional dinosaurs too unwieldy for survival. A small unit is often more effective even if proportionately less economical than a large one. But even with small classes there is a danger you will certainly avoid — what some wag has called the convoy system of education, whereby progress is measured by the speed of the slowest ship. Let us hope, too, that you will hold in due proportion the proper

[1] The sanitarian tells us that what we need is not doctors but public-health officials who have put the country doctor quite out of business. There is some truth in this; but the garbage can and the water supply apply only to infection. The public-health official would be doubly welcomed in town or village if he at the same time were a good doctor. Meanwhile the chiropractor thrives.

values of the science courses to be taught in this hall and the practical courses in the clinics near by, which some of us feel have of late years been overmuch neglected. So much neglected, in fact, that certain schools are on record as desiring only those students who are prospective medical scientists; as though, after all, there could be any higher aim than to turn out the highest type of general practitioner. With this as our aim, there will always be a certain percentage of esoterics to be admitted to the inner circle and who by preference will devote their lives to investigation and teaching. By hothousing an entire student body, we are not likely either to increase in number or to make more vigorous those who naturally comprise this rare and highly prized group.

Fortunate is the school that keeps such an even balance between the art and the science of medicine that they go hand in hand through the four years; and, even though clinic and laboratory be equally represented in their allotment of time, fortunate, too, is the school in which from the outset teaching is in terms of the future patient rather than of the present frog and guinea pig. But we clinicians, particularly those on the surgical side, begin to be a little doubtful of the existing programme. We find that the two preliminary years of training in laboratory methods, conducted by teachers who themselves have had no clinical experience, fail to provide the student with the information, resourcefulness, and observational training that would be most useful to him in his later semesters. And since two years of anticipatory science are required before matriculation, the prospective doctor must have determined upon his career four years at least before he ever comes in contact with a patient at the bedside.

Science and practice are by no means contradictory. Observation, reflection, and the testing by experiment are qualities required for each; and the art, which is so long,

demands experiences the laboratories cannot give: the ability to properly elicit a telling clinical history, to satisfy the importunings of the family, to gain a patient's confidence, to make him comfortable in mind and body regardless of what is wrong. These things are not by any means incompatible with the most intense scientific interest as to the cause, nature, and extent of his malady, but they demand judgment of quite a different order. Refinements of laboratory procedure in the diagnosis of many disorders have outstripped any possible use we may make of them in treatment; and it is the art which alone tells the wise physician where scientific study must give way to, or at least be supplemented by, common sense.

Lest I be misunderstood, may I tell a story? In a hospital distinguished for its highly scientific methods, special studies were being made of renal function, for which a number of aged nephritics in the wards provided the necessary material. A fourth-year student, who happened to be a reformed osteopath, was at the time acting as a clinical clerk. Observing that there was no special treatment prescribed for these cases, he asked if he might see what he could do. He might, of course. So that evening, after the ward was smoothly tucked in for the night, he went to the bedside of a man in whom the disease was advanced and said, "John, what do you really complain of anyway?" "Backache, and I can't sleep," said John. "That 's easily fixed," said the student. "Your spine 's out of joint. Turn over on your face." So the immaculate coverlets were disarranged while John's back was given some deep massage. The next morning, after an unusually comfortable night, he told the somewhat annoyed head nurse that at last he had found a doctor who could do something for him. We are all in agreement that the German curricular system of the last fifty years has been far more disposed to the advancement of medical

science than has been, let us say, the British system; but there is a question one rarely hears asked on the Continent, though commonly put at the conclusion of a bedside examination in an English hospital — "And now, my dear, how do you feel in yourself?"

The pendulum has swung far — so far in fact that one is led to inquire, can there, by any possibility, be such a thing as too good a preparation for medicine? It depends of course on what we are going to use it for. Some months ago I was shown the massive concrete foundations, three stories deep and five years in building, which have been laid in the expectation that some day they would support the nave of a great place of worship. At present, they serve to carry a flimsy canvas-covered framework to keep off the weather. Are we not perhaps doing this sort of thing in the case of our medical students, many of whom will be incapable of erecting much of anything upon the expensive reënforced foundation we lay for them and in which they become set and unresourceful?

Better, you will say, than to build on foundations of rubble a top-heavy clinical superstructure which must be continually shored up in later years lest it collapse. But, since education is a lifelong process, we are all conscious of persistently shoring up to atone for educational deficiencies which could not possibly have been anticipated. Between these two extremes, a happy medium must be found. And there is no better goal, I think, than to aim from the beginning to make of every student a capable practitioner. In this process, as well as in any other, the exceptional men will come to the top; those gifted with a scientific imagination will feel the appeal of a life devoted to investigation; the majority, meanwhile, will find themselves prepared for a professional career no less rich in opportunities both for service and for research. Harvey and Hunter and Jenner, Koch and Lister,

all made their great contributions while so engaged. It was a young and unknown orthopedic surgeon who recently startled the world by a discovery, made, in the pursuit of an idea, under circumstances which might well have discouraged a more highly trained laboratory investigator. Is there not some reason to ask whether our present system of forcing students into too long a preparatory mould may not inhibit the more fertile minds rather than provoke them, with freshness of conception, to grapple some one of the many great problems that lie unsolved about us?

There can be no doubt but that each of us, science teacher or clinical teacher, feels some pride in the perpetuation of his particular species. It gratifies the physician or surgeon, no less than the physiologist or teacher of hygiene, if the students with exceptional abilities catch the appeal of his special type of work and become disciples. But a really good student, given a succession of stimulating instructors, invariably feels, or should feel, that he could be quite happy to continue for his life's work in the immediate subject at hand. In this, the clinicians have the advantage, for they get the students last; and if the teachers of the preclinical sciences feel themselves at a disadvantage, there could be no better way, as I have once before suggested, than to reverse our entire system: to regard the clinic as basic and subsequently to send to the experimental laboratories those capable of profiting by advanced and supplementary instruction. As many — perhaps more — students than at present might thus be inspired to devote their lives to science.

This is an utterly impracticable suggestion, I am quite aware, but after all, is it not the correct method of presenting the natural history of disease? In botany, for example, we begin with the identification of the flower or plant, with its variations and habitat, and subsequently dissect it in order to study the finer structure and function of its parts.

In medicine, we have come to reverse this process — to begin with the pieces and to build up a picture of disease long before an illustrative example has ever been seen. Thus may a student glibly and fully enumerate symptoms, but presented with a patient showing a few of these symptoms which he must himself learn to detect at the bedside, he can't for the life of him reverse his mental processes and construct the disease out of what plainly lies before him.

If I were setting out to make a doctor of a young man entering a medical school where he could do what he chose, I would say spend your four years in three places — the anatomical dissecting room, the deadhouse, and the clinic. In these three places (provided the anatomist is not prohibited from a consideration of function) you will hear spoken of or see illustrated at some time or other in your course all that is vital in our present-day medical knowledge. These places represent the workshops of the three fundamental subjects from which all others have branched off; and yet they have come to be perhaps the most neglected in some of our greater schools where the confused and somewhat restive student is passed through a mill which, in great part, has no apparent relation to his ultimate goal.

Even when the relation is obvious, it would seem to be a needlessly long and uninteresting process. The anatomist describes the form and situation of the pancreas; the embryologist shows how it buds off from the gut; the histologist in turn points out the acini and the islets; the physiologist presents the accepted theories of the manifold functions of the normal organ; the biochemist discloses the complicated ways of detecting and of quantitating the various sugars; the pharmacologist perhaps demonstrates the action of the newly discovered insulin and explains how it is prepared; the pathologist, getting down to more solid ground, shows in turn the diseased organ; and finally, after two years of this,

the student first sees a patient with symptomatic evidences of pancreatic disease, possibly brought to light by a carbuncle or a gangrenous toe.

How much simpler to have shown the patient first, to have briefly explained how diabetes came to be recognized and what its complications may be, how step by step the mysteries of carbohydrate metabolism have partly been unraveled and the principles of our present-day treatment established — in short, the solid facts of the matter in the order in which they were discovered. Is not this the logical method of presenting our increasingly complex subject? Are we not, in short, putting our educational structure upside down; and even if not quite so bad as this, should not our foundation stones at least be cemented by a clinical mortar? Could science be prevailed upon to concede to the clinic from the beginning of the course a single hour a day, if necessary from eight to nine in the morning, for a series of carefully graded exercises, with chief stress on the training of observation, but in terms of the patient, the average run of students would certainly face their subsequent laboratory hours not only with greater interest but with a clearer appreciation of why it is necessary to get the best possible scientific grounding for their future career.

I am inclined to think that the really great teachers, could we recall them, would regard this as the most natural approach to the teaching of the fundamentals. Our scientific instruments are better, of better material, more numerous, and more precise. We not only can see further, hear deeper, measure finer, travel faster, and all that; but the scientific imagination and powers of generalization of the men behind the instruments is no different or better than a century, indeed ten centuries, ago.

These were qualities possessed, I imagine, in their highest form by the founder of this medical school, Nathan Smith,

who was professor of theory and practice of physic, surgery, and obstetrics — a title of Hippocratic comprehensiveness. But the other members of that first faculty of four were perhaps no less eminent. The Nestor of American science, Benjamin Silliman, taught chemistry and pharmacy; Eli Ives, materia medica and botany; and Jonathan Knight, of blessed memory, who served this school for half a century, began as professor of anatomy. If a comparable quartette of teachers could be gathered anywhere to-day, what father would not regard his son about to enter medicine as fortunate could he be apprenticed to them for a two years' course. Imagine the opportunities given those first small classes to become imbued with a scientific spirit and to enjoy a preceptorial system at its best! . . .

As far back as I can remember, there hung above the desk in my father's office an engraving which showed a man in an out-of-doors clinic surrounded by a group of Orientals with bandaged eyes. One of them seated before him seems about to be couched for cataract. Through this picture I first learned of the Reverend Peter Parker, M.D., who went to the Far East as a medical missionary, founded at Canton the first hospital in China, made a great reputation chiefly as an ophthalmic surgeon, became secretary of the American Legation and finally minister to China, in which post he served with great distinction. Somewhere among your possessions is a series of remarkable canvases painted by Chinese artists showing many of the rare conditions of disease that Parker had observed in the Orient. When he entered Yale College, nearly a hundred years ago, he wrote in his diary: —

I am much pleased with President Day. I expect to serve as a waiter in the dining hall and this will pay my board. I have purchased me a bedstead and a mattress of moss for $4.25 and my bed-

ding is furnished by a benevolent society. I know nothing about my class but I presume I shall like it.

There are potential Peter Parkers among your present students — men no less capable of success in one or more of the many walks for which a medical education should prepare them, whether it be as practitioner or specialist, as scientist or public servant. Can the Nathan Smiths and Benjamin Sillimans of our present-day faculties make any better produce of the raw material in their hands?

So while we rejoice that the Yale Medical School, through the erection of this new Sterling Hall, is at last provided with laboratories admirably equipped not only for research but also for the instruction of students in the methods of science, let us hope that from the outset these preclinical subjects will so far as possible be presented in terms of the ill or maimed patient across the way. There, far more than here, where normal structure and function is largely dealt with, is experience found fallacious and judgment difficult.

XIII

THE DOCTOR AND HIS BOOKS[1]

We are come here to-day because nearly sixty years ago, as you have heard told, a Cleveland physician of blessed memory, Dr. Isaac N. Himes, took out a subscription for the London *Lancet* and prevailed upon the authorities of the Case Library to accept it as the nucleus for an assemblage of medical journals.

Subscribers to the library at large, on payment of a dollar a year, were entitled to browse at will among its admirable collection of books, but the medical treatises, which soon began to accumulate, were fenced off in a wire enclosure as dangerous to the general reader. So at least it is related; and in part I know it to be true, because once as a small boy I was left outside the enclosure while my father, who had a key to the paddock, got in and became promptly absorbed in the pages of a foreign-looking book.

Left to my own scant devices, I watched the world out of a deep-seated window near by, an occupation which enables me now to say that the paddock for medical books was in the southwest corner of the second floor of the old Case Block, for the view commanded what was then the post office and, beyond, the Public Square. That at all events is my recollection. Still, I have a congenital difficulty in telling, offhand, the points of the compass, and have no patience with people who instinctively can. To distinguish east from west, I always find it necessary to face an imaginary

[1] Allen Memorial Medical Library, Cleveland, November 13, 1926.

Lake Erie which is north, and I then know that the sun rises — no, sets — to my left down Prospect Street, which must therefore be west.

There is no body of water to serve for Bostonians any such useful purpose. There is no east or west in Boston that I 've ever found. The only thing to help you when lost, even if instinct warns you it 's the wrong direction, is to go uphill. You 'll surely arrive, however tortuously, at the Hub of the universe where hangs a sacred cod — a place you can't use for anything except as a new point of departure. It 's just like attaining the North Pole, from which every direction is south.

So, when a doctor feels himself lost or astray over some difficult problem, there 's just one thing for him to do — to betake himself to a library, a place whence knowledge radiates, there to get a fresh start. And, having got ourselves thus properly oriented, we may come back to Dr. Himes and the *Lancet* of 1878 as a point of departure in this address.

Great benefactions grow out of similar acorns, and many of them start with the gift of a handful of books. Some of our great universities have come from equally modest beginnings, books having proved a surer way of making a proper start than a gift of money. So Yale, for example, was founded: —

> Each member brought a number of books and presented them to the body; and laying them on the table said these words, or to this effect: "I give these books for the founding of a College in this Colony."

Books are tangible property, and their sponsors must not only provide for them but make it possible for others to use them. Money gets dissipated, and committees disagree as to how it had best be invested or expended. No such question arises when books are concerned; and the soul of an

institution that has any pretense to learning comes to reside in its library, no less than does the soul of a profession or of an individual.

There is a peculiar thing about books, insufficiently emphasized. They are bibliotrophic, one attracting another; for books don't quarrel, only their authors. House them properly and other books will, instinctively, come to the roost. What is more, those of a kind mysteriously flock together. So, around Dr. Himes's *Lancet*, other doctor books assembled themselves. The Cuyahoga County Medical Society, by vote, added to the mischief by apportioning two thirds of its membership dues to the purchase of more books and journals, and soon the Case Library became so embarrassed by the straying of medical tomes from their proper enclosure that the interlopers were "given notice." Appeals for space having been made to the city library without avail, the doctors were thrown upon their own resources.

This is a nigh-invariable happening, and a very good thing it is so. The profession cannot long play the cuckoo with its books. It must build its own nest, and care for its own brood. A book conscience, thereby developed, serves as the best possible measure of the status of the profession. As the calorimeter tells the activity of the patient's metabolism, so may you determine the plus or minus activity of the local profession in any district by the condition of its library. And no less well may one gauge the quality of a medical school, of a hospital, of a laboratory, of the individual doctor himself, by the same standard.

I need not recall to you, who have anxiously taken them, the many steps necessary to provide properly for the collection belonging to the Cleveland profession, which had so modest a beginning. Similar steps, and not always forward ones, have been taken by the doctors in all communities the world over. For the first evidence of solidarity among our

fellow kind, wherever they are found, is the establishment of a library for use in common and from which, as an appropriate and convenient centre, there comes to radiate in due time a host of subsidiary activities. For purposes of comparison with your own experiences, as well as to show what may be in store for you, I will tell briefly the story of the one of them with which I happen to be most familiar, and to which I stand deeply obligated.

At about the time Moses Cleaveland and his party were busily surveying this then-distant wilderness, some doctors in Boston, young men mostly in their twenties, organized what was known as the Medical Improvement Society. They met at each other's houses on Thursday evenings to read and discuss medical papers. Incidentally they formed what was known as a "social" library and began to collect books. These at first were deposited at the home of one of the members and subsequently in rooms over an apothecary shop as a convenient place of meeting. By 1807, according to the first printed catalogue, the library contained 184 volumes, and these soon multiplied beyond the capacity of Apothecaries' Hall to hold them.

Temporary accommodations for the cumbersome waif were then found in the Medical School which had just moved into new quarters; but books of the sort were not particularly welcome, and doubtless with a sigh of relief the collection, then of some 2000 volumes, was finally transferred to the shelves of a private corporation, resembling the Case Library here, which at the time of its foundation just a hundred years ago absorbed most of the lesser circulating libraries in Boston.

One thing at least was demonstrated by this move — that a general library makes a neglectful stepmother to a strictly professional foundling; and a period of nearly fifty years of inanition ensued. Various medical societies meanwhile

came to be established, each with its own indifferent, variously deposited, and privately owned lot of books.

This represented the status of the Boston Medical Library when in 1874 a young and energetic doctor of thirty summers, James R. Chadwick, came upon the scene. He was convinced that the several separate accumulations of medical books should become united for the benefit of the whole profession. On his initiative and at about the time Dr. Himes subscribed for that historic copy of the *Lancet*, a new society, the Boston Medical Library Association, was founded with O. W. Holmes as its first president. A librarian was appointed and some rooms engaged, in which the local medical societies could hold their meetings in an atmosphere of books which some of them might be tempted to consult. Up to that time, it is said, the local profession at large read the *Boston Medical and Surgical Journal*, Brathwaite's résumé of English medical literature, and little else.

All this activity on the part of an enthusiastic and seemingly irrepressible young man, who proposed to fuse many select organizations into one and to pool their books, was doubtless very disturbing to his conservative elders. But their opposition was overcome; temporary quarters were secured; and the result? Before three years were out, the quarters proved inadequate, and what promised to be a permanent abode was accordingly purchased.

This happened to be the former dwelling of Dr. Samuel Gridley Howe, a man who would be better known to the profession had it not been for "The Battle Hymn of the Republic" which served to obscure the visibility of Samuel Gridley in favor of Julia Ward. But the sacred spot proved to be no "permanent abode." Ere twenty years had elapsed in rooms which could with convenience hold some 5000 volumes, over 30,000 and as many indexed pamphlets had accumulated.

So the local profession dipped again into its pockets and even more effectively into those of its obliging friends. A handsome building, to serve for all time, was erected on the outskirts of the then-residential district; and what amounted to an Academy of Medicine with the library as its main feature was established.

How unimaginative and myopic we are, to be sure! The 30,000 volumes transferred to the empty stacks of this carefully planned new building in 1901 have become 145,000; nor does this include the vast number of uncounted pamphlets and theses, of portraits and engravings, of manuscripts and *epistolæ obscurorum medicorum*, not to mention an extraordinary numismatic collection, and historical curios and memorabilia of untold sorts — all most precious, all well catalogued, all of the utmost value and service to the profession.

And now, after a short twenty-five years, this new building, as was its humble predecessor, the one-time residence of the Howes, has become so gorged with books there is scarcely standing room for the official staff, and the Library Association finds itself again at the crossroads — "To move or not to move."

With a different setting how familiar this story would be to every community. The discussions concerning it were not intended for my youthful ears, but I can recall the founding, in the late 1800's, of a "Society of Medical Sciences," the avowed purpose of which was to develop a medical library worthy of Cleveland's undoubted future position as a centre of culture and education.

Though the seed be sown, growth is discontinuous. The right man or the right group of men to solidify and to energize the profession is not always at hand, nor are their efforts permanent. With their passing the doctors again become individualized, or separate into groups or cliques. The

community library gets neglected, soon becomes antiquated, and a period of indifference follows until some new spirit, by arousing their sense of responsibility in common, ties separated groups together again.

Such a turnover comes about once in every generation. Your Prospect Street home was a monument to the activities of those here only in spirit, — Allen and Rosenwasser and Milliken and Weber and Handerson, — just as this present building is a monument to their self-sacrificing successors, your energetic President and the hard-working members of a most efficient building committee, who share the gratitude of us all.

But as books crowded you out of your recent more humble quarters, so will they in time from this magnificent hall. Books will like the look of this place, will come in swarms, will drive you into additions or, like the Bodleian, under ground in fifteen years, or into another and still more palatial home in thirty or less. That at least may well be your expectation, indeed your cherished hope. Without growth a library becomes a *corpus inanime;* and growth is what that forward-looking man, Dudley P. Allen, whose honored name this beautiful building carries, would certainly expect of the library he so handsomely endowed, and which should worthily represent the Cleveland profession.

The doctors' books are of a different sort from the lawyers' and the preachers'. They in their professions depend as yet largely upon authority. The doctor, ever since Galen was toppled from his dominating seat, has been skeptical of authority and perhaps too much inclined to novelty. But if he makes any pretense of "keeping up" with the amazing, prodigious, and often revolutionizing advances which, through some new discovery, occur almost overnight, he must read, or attend meetings — or better, both. And in such a dual place as this, where he may not only have easy

access to the current journals, but may rub elbows with his fellows and ventilate his views in the forum of the Academy, he will have the best possible chance to keep abreast of the tide of new knowledge.

Mere numbers of books, to be sure, is no measure of the usefulness and value of a professional library. Its real value depends on the completeness of its journal files and important source-books, not on textbooks of ephemeral interest.

To separate the wheat from the chaff takes the knowledge and sane judgment which Charles Harding, with the moral support of that directing Chadwick of the Cleveland profession, Dr. C. A. Hamann, has shown during the past twenty-five years with all too lean an endowment. And, given a good working library rich in its books of reference, its usefulness depends on the encouragement and convenience it offers to the reader, no less than on the infectious enthusiasm and spirit of its working staff.

There was once a doctor named Richard Mead whose famous collection of some 100,000 volumes was apostrophized by Dibdin. Mead's library motto, "*Non sibi sed toti*," which outdoes even Grolier's famous device, "*Io. Grolierii et Amicorum*," might fittingly be adopted for the *Ex libris* of our great medical libraries. It would in any event serve to keep green the memory of Mead and of his generosity with his books. For a library must make unselfish use of its possessions even at the risk of an occasional loss. An open shelf, like an open shop, encourages the real worker who often chooses to browse for himself and should at least be put on probation. A library unexercised, and which takes no chances in life, is susceptible to the deterioration and scleroses certain to attend a poor circulation. To be sure, with some people there is no mine and thine in the matter of books; but one must take the chance and fill in the gaps

when they occur, however painful, temporarily, the loss. It 's far better than not to be used at all.

The testy librarian of tradition, miserly of his treasures, nearsightedly buried in his latest acquisitions, impatient of interruption, is an extinct species. And if such persons really ever existed beyond the pages of fiction it would be charitable of us to ascribe their traits to the absent-mindedness that a most exacting task is prone to engender. You have doubtless heard how late one afternoon the college librarian started home with a friend, and finding it raining went back to get his umbrella. As he did not reappear he was sought out and found confusedly looking for the object under "U" in the library catalogue.

Few more arduous and difficult tasks confront a curator of books than that of collating and getting bound the heterogeneous medical periodicals which comprise, it is estimated, about two thirds of the volumes in such a library as this. They vary to an incredible degree, and with no seeming rhyme or reason other than the fancy of the publisher, in their form, in their make-up, in their pagination, in their dates of issuance. There are "new series" and "old series," with changes in volume number, with changes in name, with changes in format. What was once a quarto becomes an octavo; volumes may cover irregular periods of time and have no relation to the calendar year; some use Roman numerals, some Arabic; there may be several sets of paging in the same volume; there may be separately paged supplements, serially paged advertisements and text. Journals may suddenly go out of existence with no obituary notice, or without publishing the banns they may intermarry and reappear hyphenated, scarcely recognizable in their new alliance.

How librarians with any bibliographical conscience keep their sanity under these circumstances should be more a

matter of surprise than that they should exhibit testiness when you or I, as privileged characters, walk off with an unbound issue and forget to return it. It will be a happy day for these long-suffering persons when Ostwald's *Welt-format* — the size of the *Index Medicus* — comes to be obligatory for all medical journals. "Big quartos and long heavy royal octavos were intended to be dropped (from a Pisa or Pisgah height) upon the heads of people we strongly dislike," writes a librarian who has spent much of his life assorting and shuffling and indexing unstandardized volumes which don't fit in standardized stacks.

There have been some misgivings, I am aware, as to the wisdom of placing this beautiful building so far from the beaten tracks of the practising doctor, who more than anyone else should be considered. But this is at most only a passing inconvenience, and a path to your door will soon be deeply worn by many a student and writer. Those who habitually use a library acquire that sense of attachment and obligation which impels them to bequeath to it their personal collection of books for which they wish to provide a permanent and happy home.

It was in this way that the nucleus of your historical collection came to be deposited here as the gift of that remarkable and cultured man, Dr. H. E. Handerson, your one medical historian of note — a man whose memory you will increasingly come to honor. His more-than-a-translation of Johann Hermann Baas's celebrated work held the field as the most used treatise on medical history till the appearance of Garrison's classic. Both Handerson and Baas exemplified the saying that men often do their best work in the face of, and perhaps because of, a bodily affliction. Baas stumbled upon medical history as an alluring subject wholly by accident, and humorously remarked, "In the effort to fill the immense gap in my medical education — I fell into it."

I find a letter from Dr. Handerson of April 25, 1910, in which he says: —

> Yes, poor Baas is dead. He was a man of unique character and of exceptional ability, handicapped for thirty years by a chronic and progressive disease of the spinal cord, which deprived him of all power of locomotion and confined him almost absolutely to his office chair.
>
> My correspondence with him began about 1881, when I asked his permission to translate his *Grundriss der Geschichte der Medicin*, and continued without break until his death. Indeed, his wife writes me that the last letter which he was able to read was the one in which I announced my departure for the South in the effort to recover my own breaking health. No two men could be more unlike in disposition than he and I, and yet common interests and long association developed between us a friendship almost fraternal in character. I certainly feel as though, in the death of Dr. Baas, I had lost a real brother.

Yet the two had never met except through the mediation of correspondence. Could there be a better illustration of how books may serve to tie together members of our profession and bring happiness into their lives?

To inoculate a doctor with the library habit he must be caught young, and here, as I see it, you have an exceptional opportunity in being near to a growing centre of medical education. If therefore you will work for the next generation, open your stacks to the undergraduate, make him a junior member at a small fee, and let him learn where and how to find books in your reference shelves. He will in turn become your ardent supporter, will learn the value of books, will begin to make his own collection, which will in time come to be deposited here.

If you are to infect the young with the reading habit, you must set a trap for them, so baited that they will walk into it unawares. Books must be made accessible. It is someone's business in every medical school to teach laboratory

methods to the students, but it is no one's particular business to teach them how to use medical literature, which to the majority in the long run will be infinitely more useful than an experience with smoked paper and Ludwig's drum.

Short talks on the use of the library might well be made an obligatory sectional exercise for students. Mr. Harding has given such exercises, I am aware, on methods of looking up subjects, on the use of the great indices, and so on — not always without discouragement, he relates, as when a student thus instructed requests a copy of "Ibid," saying he is sure it is just the article he needs.

But on the whole it is a wise form of self-protection for a librarian to let down the bars and permit free browsing in his pasture to those he has initiated. A few days ago on a ward visit while puzzling over a patient with ischæmic fingers and toes, I asked a student if he would get for the inspection of the class Raynaud's original thesis, and how would he go about finding it. He replied, "Ask the librarian for it." This sufficed to squelch me; but the librarian might have been otherwise engaged, and we cannot well succeed in life leaning wholly on other people.

I have always felt that a hospital or a medical school that wished to cultivate a scholarly spirit must have its library on the ground floor. A reading habit is much less easily cultivated if a flight of steps intervenes. Some few years ago at the Harvard Medical School we had no central library worthy of the name. There were excellent departmental collections of books, to be sure, but the key was usually in the pocket of the departmental chief, and the books, largely used for his selfish ends, were scarcely available to others.

We have changed all that — or have largely changed it. The most accessible room on the ground floor of our admin-

istration building had been given over in days gone by to a students' loafing and smoking room. Furnished with a piano and newspapers, it was much frequented. Up two flights was the students' library, comparatively speaking unused. The reversal of these quarters was somewhat painfully accomplished, and the students now drop in to read in their spare moments and must climb stairs to smoke and gossip. It has quite unconsciously transformed their whole attitude toward Medicine.

It is futile merely to counsel the undergraduate to make use of a library, still more futile to expect him to learn the ropes of a number of different libraries in out-of-the-way places. Books must be put in his path so that he will stumble over them. This is particularly true in these days when reading as a fine art is about gone, when best sellers are sent by mail once a week for two dollars a year, when there is jazz, the movie, the radio, and the flivver always at hand, with golf and bridge on Sundays — to the distraction even of his elders. No, there is only one thing to do with a young man: place both books and cigarettes in his way and caution him to beware of them as dangerous habits. He 'll certainly take to one, and perhaps both.

This may after all be the right tack — to warn young people against books. Or at least against book-collecting; for one may easily become enslaved and soon so enveloped by books that they are on the floor and out in the front hall and in the dining room till you never can find the volume you want and feel sure your wife or the children must have taken it from the place you last put it, when they borrowed your paste pot and scissors. You long for a paddock and key like that in the old Case building. This, I take it, is just what has happened on a larger scale to the Cleveland Medical Library Association, and explains this present meeting. You had become so swamped by books in your recent

quarters that individual volumes could no longer be found when called for.

In fact, beware of books. Some biologist has stated that if Nature could take her course unimpeded, the world would become populated with elephants wallowing about, knee-deep in a seething mass of mice. This man knew nothing of books. As a species they are imperishable, and against their multiplication Nature has no chance whatsoever. The time will come when every tree has been felled for paper, every calf for leather, and the few long-haired and ill-nourished people left in the world will be madly making card indices of the volumes which have filled every available cranny in which they can be stored. Laws will have been passed against their importation — only a quota of the French and German and Italian and Polish, especially Polish, books to be admitted each year. For should you happen to leave a pair of foreign books alone on a shelf in the state known as their original wrappers, they breed with astounding rapidity. Then, too, they have their diseases and are a trouble, like too many children. They have worms; they wear out their clothing, break their backs, dislocate their joints, and require the constant care of a bibliotherapeutist. I may hazard the guess that if Mr. Harding were asked what were his chief needs, he would say $10,000 a year merely to put the present unbound volumes in covers and to rebind or reback those which are falling to pieces. Cleveland is a place of great commercial prosperity, but the emblem of prosperity is smoke, which is no less devastating to books than to the trees which once beautified the Forest City we some of us remember.

Yes, beware of books as an expensive habit and wasters of time. The habitual "listener-in" at the radio expends no more. But for books, and second-hand catalogues of their sales, I might have done better with this address concerning them. I will give you an illustration.

There was an old patriarch named Symes, who formerly kept in the Rue des Beaux-Arts a musty shop solid with dusty books, leaving scarce room for his occasional customer. I once on a time bought from him a volume he evidently thought I needed. Monsieur Symes loved his books and rarely pressed them upon you. This one happened to be the *Anatomy* of Loys Vassaeus, published in 1553 *Cum privilegio Regis.*

Vassaeus's book I did not particularly desire, as it is in bad Latin which I have small patience and less ability to read. It stood on my shelves for years alongside Lipinska's *Histoire des Femmes Médecines* — a bobbed-haired production of modern times. The inevitable happened. Ere long a small and inoffensive volume was the consequence of the liaison, — a mewling octavo in pale calf, — the *Anatomy* of Loys Vassaeus in French. Aware of my responsibility, I segregated it with its mother on a back upper shelf till it could be weaned. And now comes the waste of time.

A friend has been staying with me, whose metabolism and pulse-rate in the presence of other people's books run high. He grows exophthalmic with hyperbiblioism. So, while you endeavor to concentrate upon your proper tasks, he exclaims, "Where did you get this Dolet imprint?" holding up a vaguely remembered calf of a book in his hand. "Oh, I don't remember; someone may have left it at the door, but I always thought it came into being on the bottom shelf of that case in the corner." "Are you aware," says he, ignoring my trivialities, "that Christie only knew of one other copy?" You begin to take interest. "Perhaps someone gave it to me for Christmas. But what about Dolet? Let me see the book; it 's only just grown up."

And there it was, sure enough — *A Lyon. Chés Estienne Dolet. 1542. Auec priuileige pour dix ans.* And, what is more, with two other Dolet imprints, *Des Tumeurs* and

Galen's *De la Raison de curer par Evacuation de Sang*, newly translated from the Latin into French — a veritable triplet.

This is enough; you are lost. The attack is on. Influenza in its abruptness is nothing to it, and days elapse before you are fit to resume your legitimate job. Your fever leads you first to Richard Copley Christie's life of the unfortunate Étienne Dolet, the young Renaissance scholar and printer, contemporary and one-time friend of such as Erasmus and Rabelais, who lived in Lyons when Lyons was a place to live in, and who in the Place Maubert in Paris for his religious opinions, when only thirty-seven, suffered the fate of Servetus and was burned with his books. He had printed possibly eighty pamphlets, which are among the *rares rarissimes* of the collector. In one of them, when translating Plato's Dialogues and quoting Socrates on the immortality of the soul, he had added three words which left the meaning dubious; for this he went to the stake.

And this leaves you anxious to know about Christie, whose chapters on Rabelais, on Padua, on the trial and the scene at the Place Maubert, give one a vivid picture of the time when printers issued books at the risk of their lives, — Christie who worked eight years on his Dolet and hints in his preface at a long and continuing illness, — but after all there is this address to write and much time has been lost. Beware the book.

Some doctors have the conception that a medical library is a place where someone can be found who will prepare a list of references with which to embellish their compositions. Some organizations even advertise that they will, for proper remuneration, look up the literature of a given subject so that writing may be made easy. Writing is not easy and cannot be made so by any known short cuts, and who ventures on such, even has he natural gifts of expression, is booked for a fall.

Writing comes after reading. One's ideas are, after all, merely those of others modified to suit one's own needs. And since reading and writing go hand in hand, our medical libraries and libraries in general perhaps miss a great opportunity in not having an editorial desk presided over by a well-chosen sublibrarian to enlarge the scope of the medium of publication, which some, in imitation of the *Bodleian Quarterly Record*, have already started.

Should your own *Bulletin*, for example, come to include the Transactions of the local Academy and the papers presented before it, thus truly representing all the activities which focus on the Library, many advantages would accrue. The younger contributors could be coached in methods of presentation, and probably the salary of such a teaching editor could be more than made up by the exchanges of foreign journals which must now be purchased and whose number increases by leaps and bounds. There are, I believe, some 1800 or more being issued. In our Boston Library only 570 of them are received, a few by gift and exchanges, but at least 400 of them are paid for at a cost of about $5000. The librarian tells me that he ought to have double this sum for periodical subscriptions alone.

In the days before there were community libraries, the individual doctor was a great buyer of books, to which the success of the early American publishing houses with their reprints of European treatises bear abundant testimony. I still have the annotated Boerhaave, the Motherby's Dictionary, the Commentaries of van Swieten, Cullen's *First Lines*, Smellie's *Treatise*, Beddoes's *Observations*, and so on, that belonged to my great-grandfather, a hard-pressed country doctor, who rode through the winter snows of the Berkshires and died young from what was then called typhus, contracted, so it is recorded, while caring for British prisoners after the Battle of Bennington. Such books may become

handed on if a medical line survives, but should it not, there is no place for them but the auction room unless there be somewhere a collection to which they may properly gravitate. It may be to a local doctors' club of sorts, to a department in a medical school, to a hospital or, in these modern times, preferably to a community library such as this.

Look if you will at the written histories of the great medical libraries of the country, like that of the College of Physicians of Philadelphia, with its 150,000 bound volumes and stack room for twice as many, or that of the New York Academy of Medicine which is just now transferring its 140,000 volumes into a new building, and you will find that the leaders of the local profession in these as in other places have not only been users but collectors of books of which in time the local library has become the beneficiary.

But you cannot well afford to wait for these donations. The more precious classics of Medicine, the number of which is limited, grow more and more rare, more and more expensive, as the demand for them increases. New schools are being founded that appreciate the value of books. It is rumored that Tulane is buying, also Rochester, Detroit, Pittsburgh; and that the new Duke University plans to have a great library for its medical department. So even a school for undergraduates may enter into competition with you for books. At the Johns Hopkins they have drawn plans for a building with stack room for half a million volumes, and have appointed Dr. Welch, whose name spells success in whatever he undertakes, to fill yet another chair, as Professor of the History of Medicine. Such a post, for such a man, at such a place, indicates that progress in medical science is regarded as merely building on a knowledge of the past.

What is needed in every community is to bring the best possible collection of the books of reference he will need as near to the worker as circumstances permit, so as to save his

time and energies. The recent tendency has been to lavish gifts on our laboratories and to neglect our libraries, but Medicine needs both if we are to uphold our vaunted reputation of being a scholarly profession.

Some day when you have the endowment you deserve, you will come to enlarge your collection of the early treatises which the medical historian particularly needs. You may not aspire ever to rival the Philadelphia library in the possession of cradle books, but those of the sixteenth century should be gathered in when they turn up at reasonable prices even though, to use an expression of Osler's, you may have to "bleed the Fellows" for the wherewithal.

Your library committee doubtless has seen other more immediately important gaps to fill, and has resisted the temptation to enlarge the historical collection of which the Handerson bequest makes but a small beginning. Nor did you rise to the fly of the *Fabrica* of Vesalius which was quietly cast on your pond by Howard A. Kelly, a very estimable sort of person in his way, though he has led many a librarian and many a helpless young student into a bibliophilic downfall. He and Osler, I believe, bought up every copy of Vesal's *magnum opus* that came on the market and baited libraries with them. This was bad enough, but what Dr. Kelly did to me, an individual, was worse.

My former colleague, W. G. MacCallum, many years ago brought back from abroad a copy of the 1543 *Fabrica* which he had been tempted to purchase, but conscious of the dangers of bibliomania he decided to present it to me, as a person presumably immune. I thought I was, having never collected anything more serious than postage stamps and butterflies; but Dr. Kelly, hearing of it, promptly gave me a copy of the 1555 edition, in pigskin, with metal clasps, as it had come fresh from the press and bindery.

I fell. It was of course interesting to see what changes

Vesal had made in the later text; and then there were other editions, posthumous ones, to be compared — and if possible possessed. Vesal had complained to the learned Oporinus, his printer, of various plagiarists of his earlier anatomical plates; these must therefore probably be of interest. And then the many other authors, his copyists and imitators, and the printing houses which issued their books, and what other medical books they printed, in turn lead you on, with a ring in your nose.

You begin to feel that you would like to know something about Vesalius the man, and about his contemporaries, and about his life other than as an anatomist. And so whenever you chance to be abroad you follow his footsteps, and look in the galleries for his portraits, spurious and otherwise, of which there are many. Then there were other books which he published, and innumerable copyists of them, in England, in Spain, in France, in Italy, and the Low Countries whence he himself came; and you soon get into the habit of second-hand book catalogues. Ere long the unconscionable people that issue them learn of your frailties and tempt you sadly, meanwhile putting up their prices to such an extent that when the post delivers at your door a brown-paper parcel with foreign stamps on it you have to prevaricate before your family and audibly wonder who could possibly have made you the present of another old anatomical work.

Like the proverbial pebble cast into the pool with its ever-widening circles, just so one may start with a single book written by a single person from which the history of the world may seem to radiate. There are of course limits to this as to any hobby if you 're not cautious, but as a form of relaxation for a tired and often harassed doctor it beats golf or bridge and all outdoors together.

It 's a far cry from the few personal books in the study of the individual doctor to the great national collection under

the direction of the Surgeon General of the Army, the very mention of which should bring to mind the name of John Shaw Billings. His vision and industry, more than that of any other person, and purely through the medium of books, has given the American profession the tool essential to its advancement — a classified catalogue of all medical literature. It was this monumental Index which brought into existence the great medical libraries, like your own, for without it they could hardly be utilized.

But no local library, however rich the community, can aspire to anything comparable to the vast collection in that treasure house at Washington. If you should wish to know how books breed books and would take due warning therefrom, place beside the existing forty-two volumes of the *Index Catalogue* with their two million or more listed titles — place beside these heavy, green-covered quartos the wee volume printed on October 23, 1865, with its 599 titles, which represents all that Dr. Billings had for a nest egg! They were mostly the Systems and textbooks of the early nineteenth century, the medical classics being represented merely by the reprints issued by the New and Old Sydenham Societies. The oldest actual publication was Verheyen's *Anatomy* of 1717. Compare this humble start with a library which now contains nearly 500 incunabula among its 350,000 volumes, and as many unbound pamphlets.

And as this is the "last word" in medical libraries, it may properly be the last thing to mention in an address about the doctor and his special books — an address which, simmered down, says nothing more than has always been said, that books are the most important tools of our craft when assembled in mass in our great medical libraries; that books no less may be to the individual doctor his greatest source of relaxation, his greatest solace in times of trouble, when near to his hand on his own shelves.

XIV

EMANCIPATORS [1]

It has been given to few so to identify themselves with great benefactions to humankind that the bare mention of their names will forever suggest equally the man and his legacy. We may celebrate the discovery of anæsthesia with disputed remembrance of those who made this great boon possible; or we may remember a name like that of Pinel and recall, some of us, but vaguely what it was he did for humanity's sake.

Rarely is it safe to prophesy any durability of recognition, whatsoever the accomplishment. Fame that is contemporary, fame that for a time endures, and fame that actually accumulates, differ in quality as differ the flash of a meteor, the glow of a comet, the permanence of a fixed star. Only when the contemplation of both the man and his achievement truly inspires and ennobles us will they remain indivisible to be praised by the people for time everlasting.

On a May morning a few weeks ago, I stood at the portal of the Lincoln Memorial in Washington and, with the depth of emotion the spot engenders, gazed upon that marvelous seated figure of the Emancipator there enshrined. And as I read again those familiar phrases spoken at Gettysburg there came to mind how comparable were he and Lister in their service to the proposition that all men are created equal. Lister freed man from the shackles of sepsis; Lincoln, a race from those of slavery. Yet how different the

[1] Lister Centenary Exercises, University of Edinburgh, July 20, 1927.

men, their medium of service, and the manner by which the seemingly inevitable was thrust upon them.

Who have made the greatest gifts to their fellow man? Those who have left an idea that has supplied, like the utterances of Christ, what minds have yearned for? Those who have added to his physical comforts and have found ways to lessen hunger and want? Those who have added to his conveniences and devised means to lighten his labor? Those who have, like Lincoln, freed him from bondage and like Lister released him from the horror of suppuration? One answer certainly can be made: that only when the gift requires self-denial and only if the giver be one that walketh uprightly, and worketh righteousness and speaketh the truth in his heart, will he, like Saint Francis, come to be canonized, and forever blest.

Often, when issues are critical, circumstances so combine as to bring the right man, at the right time, to the right place. But rarely is an individual so caught up in the vortex of a revolution in thought as unmistakably to be at its very centre. It is idle to speculate whether the opportunity more often makes the man, as was perhaps true of Lincoln, or the man the opportunity, as was more apparently the case with Lister. All that matters is that the conjunction should take place. The opportunity of doing something of lasting benefit to our kind doubtless lies before us all. Yet even have we the imagination to realize it, we want the courage to grapple with it, the tenacity to hold it, the persuasiveness and unselfishness which can alone make converts and disciples.

Whereas circumstances pitchforked Lincoln into his position of responsibility, Lister, horrified at the condition in which he found surgery, deliberately elected to crusade against the most serious obstacle in the way of its advance. Were these men accidental or inevitable? Suppose they

had been born into the world fifty years earlier or fifty years later: would they have been unknown and unnamed, or would their particular form of genius have found an outlet for its expression at any place and time?

Was it mere chance that the antislavery movement came to be focused on Lincoln? Did the other happen to make himself the focal point of the movement to banish sepsis merely because Pasteur's studies of fermentation gave the clue and because the science of bacteriology, already conceived by Lister, was about to be born to smooth his path? Or were they merely swept along as part of a greater all-embracing will, each in his different sphere singled out by the finger of destiny for a significant rôle which some other might well enough have filled?

What preparation had either of these two? An obscure, uncouth, backwoods lawyer, the very product of the soil, was suddenly by God's will lifted to an eminence where, surrounded by hostility and innuendo, he must shoulder burdens and make decisions affecting the permanency not only of a nation but of the institution of slavery as well.

In Lister's case, what preparation? An utterly different background, to be sure. Yet, also a sensitive man to whom strife was hateful, he too was drawn by God's will into a position where, faced by opposition and misrepresentation, he must make a fight for the truth. And why? Simply because he had set out innocently enough to answer questions. Why does the pupil contract? Why does the blood coagulate? And, later, why do wounds fester? To this well-hidden secret he found an answer in which others, to whom lives were entrusted, must be made to believe.

We may well doubt whether blind fortune could have lifted from the crowd any more practical, humane, and earnest men, equally far removed from motives of self-interest, who could have filled, as they did, their difficult and

lonely places. What was to be done must be done largely single-handed, for when numbers are concerned in mighty decisions, it is a matter of uncertainty whether they will add to the confidence or to the discouragement of him who must lead at any cost. Faith they had, soon conviction, and ere long experience. The only faith (it has been said) that wears well and holds its color in all weathers is that which is woven of conviction and set with the sharp mordant of experience.

Both faced situations without precedent, and by the aid of instruments found or devised by themselves arrived over untried ways through the process of reasoning and experiment: one that a nation's life might not be lost in conducting a war of principle for want of a moral hold on itself; the other that the lives of countless people irrespective of nationality might not be sacrificed because of skepticism and ridicule. Exceedingly little was the encouragement received from their professional brethren. Belief in Lincoln rested with the common people; it was the students who gave testimony to Lister when others doubted.

As one met a hostile neutrality abroad, so did the other at home. But the more they were tried, the stronger they became; for both in dealing with their opponents showed that sweet reasonableness of disposition which is not embittered by hostility. Each of them had the common sense and fixity of purpose not to let the real issue become submerged in the public mind through fruitless disputes about its consequences.

Yet each was his own most severe critic and each had the honesty to admit whatever of truth there might be in adverse opinion. Said Lister: "Next to the promulgation of truth the best thing I can conceive that a man can do is the recantation of a published error." And in the end, the cautious but steady advance of Lincoln's policy during the war and of Lister's experiments during his patient struggle to

get at the truth, left a well-paved road behind them along which anyone, not blind, could follow and be convinced.

Lincoln was spared much of what Lister endured. Had Lister possibly been the victim himself, as other surgeons have been, of an accidental wound-infection after he had made his great demonstration, he too might have been enrolled as a martyr and have escaped the trials and humiliations to which he was long subjected.

An awkward civilian during times of great military achievement, Lincoln has left behind him the memory of a grace higher than that of mere breeding, a fame beyond that of any conqueror. Lister was to the manner born and survived to see a grateful world at his feet; yet, so strong and persuasive is honest manliness, he also has left the memory of that nobility of soul which makes him kin to all mankind.

One for an ideal; the other for an idea. One by proclamation; the other by demonstration. To establish the ideal took countless lives. Because of the idea more lives are saved each year than were lost in that prolonged Civil War. But for us the living, — as a dedication to the great task remaining before us, — it was Lincoln who at a time of trial put into words for a people what Lister for a profession might have said with little change: —

> With malice toward none; with charity for all; with firmness in the right, as God gives us to see the right, let us strive on to finish the work we are in; to bind up the nation's wounds, to care for him who shall have borne the battle, and for his widow and his orphan — to do all which may achieve and cherish a just and lasting peace among ourselves and with all nations.

The act on which Lincoln's life centres itself is not that for which an adoring nation has put a halo round his memory. Rather have a people once divided come to look upon him as expressing what they would wish to have represent them before the world. He thereby has become a symbol from

which his countrymen reap a harvest of precious associations. So may our profession reap from Lister's life something far more precious than pride in his accomplishment and the satisfaction of claiming him as our own, namely that spiritual harvest which comes from the example of an unblemished character — for kindness, meekness, and comfort were in his tongue.

Though lives die, the life is not dead; and the memory of lives such as these will be reverently and forever shared not by a profession alone, not by a nation alone, but by the universal brotherhood of man.