Time and the physician : the autobiography of Lewellys F. Barker.

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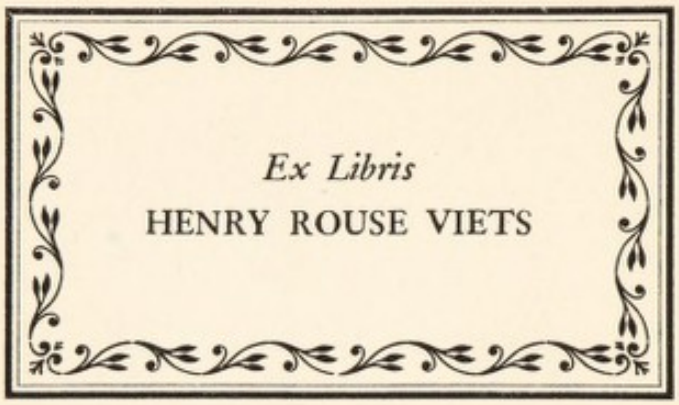


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TIME AND THE PHYSICIAN


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Lewellys F. Barker

TIME *and the* PHYSICIAN

THE AUTOBIOGRAPHY OF

Lewellys F. Barker

> Time is the great physician.
>
> DISRAELI

G. P. PUTNAM'S SONS, NEW YORK

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BZP (Barker)

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To the Memory of

SIR WILLIAM OSLER

WILLIAM H. WELCH

and

FRANKLIN P. MALL

to whose example and influence
the author has been profoundly indebted,
this volume is gratefully
and affectionately dedicated.

ACKNOWLEDGMENTS

To members of my immediate family and to a few of my more distant relatives I am indebted for data concerning the Barker family and the Taylor family and for some of the photographs used as illustrations.

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CONTENTS

ILLUSTRATIONS

TIME AND THE PHYSICIAN

Chapter I. A QUAKER CHILDHOOD IN CANADA

A HARVARD PROFESSOR once confessed to a "growing belief that the best thing anyone can do, when occasion serves, is to tell what he himself knows; it may be of small value, but at worst it is not second-hand." At the suggestion of several of my friends, I have decided to write this account of my life. Most autobiographies fail to give anything like a full story of their authors' lives; mine also will fail to do so, but I hope that it may not be too barren of reality.

In the witty comedy *Biography,* one of the characters says that nothing happens to people after they are forty and asks why one should wait until he is eighty before writing his life story; "most autobiographies are written by corpses." Another of the characters felt that everyone should write his own life, not necessarily for publication, but for himself, "as a kind of spiritual housecleaning." In writing this volume I have had the hope that, aside from any "spiritual" benefit to myself, it may be of interest to others, especially to younger people, by giving them some knowledge of the conditions under which I have worked, of the state of medicine at the time in this country and Canada, as well as of what I am, of my thoughts and struggles, my ambitions, failures, and realizations. Joseph Collins, in his admirable volume *The Doctor Looks at Biography,* has expressed the belief that "next to poetry, biography

is the most satisfactory reading for all ages: instructive to youth, inspiring to maturity, solacing to old age." And autobiography has always interested me even more, because of its greater subjectivity.

Born of Quaker parents at Milldale, a hamlet about midway between the villages of Norwich and Otterville in Oxford County, Ontario, on September 16th, 1867, I was the first child of James Frederick Barker and Sarah Jane (Taylor) Barker, to whom were born later my brother, William, and my sister, Grace, the latter being eighteen years my junior. My father was a self-educated man, industrious, upright, and sincere; my mother was tall and handsome, had a strong will for work, and was ambitious for the welfare of her children.

Many have wondered about the origin of my name, Lewellys Franklin. It seems that my father wished to have me called something more distinctive than James, William, or any other common family name. He had been a great admirer of Benjamin Franklin, having read his *Autobiography* and *Poor Richard's Almanack*, so he decided upon Franklin as my middle name. In a letter to John Alleyn, Franklin wrote: "Be studious and you will be learned. Be industrious and frugal and you will be rich. Be sober and temperate and you will be healthy. Be in general virtuous, and you will be happy. At least you will, by such conduct, stand the best chances for such consequences." Whether or not my father ever read this particular passage, the ideas expressed agreed closely with his own views of a well-ordered life.

The choice of a first name for me seems to have given my father greater difficulty, but in his search he finally, on looking through an Iowa insurance policy list, discovered the name

Lewellys. As far as I know (except for a few boys that have been named after me), I am the only person to bear the name Lewellys, and I have always suspected that the name in the list examined by my father must have been a misprint for Llewellyn.

My Barker grandparents (William Potter Barker, born in 1806, of English descent, and Sarah T. Stover, born 1809, of Dutch and German descent) also lived at Milldale, my great grandfather James Barker, of Granville, N. Y., having migrated, along with other Quaker pioneers from New York State to upper Canada in 1820.

My grandfather Barker was an active, energetic man who owned and operated a sawmill and gristmill on Otter Creek. He had taken up Government land in both North and South Norwich at the cost of $1.00 per acre and held it until it increased enough in value to make him very well off. Though he later suffered many losses by fire and water and was very generous to the Society of Friends, he was able to give his children a fair start in the world. He lived to be ninety years old, which was not unusual in the Barker family.

My Taylor grandparents (Elisha Cornell Taylor and his first wife, *née* Caroline Moore) lived at Pelham Corners in Welland County. After the death of his first wife of typhoid fever at the age of forty-two—she was already the mother of thirteen children—my grandfather Taylor was married a second time to Hannah Cox. I remember her, my grandmother Hannah, very well. The mother of my grandfather Taylor was Mary Cornell, a member of a rather distinguished family (see *Cornell Family*, published by Munsell). My grandfather Taylor became the father of some twenty-three children,

though several of these died in infancy or early childhood. My mother, born in 1845, was the eldest of all the children; she taught for a time before her marriage to my father in 1865, and was described as "level-headed, good-hearted and true." Grandfather Taylor lived to be seventy-four; he owned a farm and exhibited more than average executive ability, a quality which he transmitted to his son John Brewster Taylor (who became a successful businessman) as well as to my mother, from whom I inherited, I feel sure, any especial executive talent that I may possess.

Before I had learned to walk, I gave evidence, according to my mother, of determination to have my own way. She said that one day when I was crawling about her kitchen I found a crock of butter and rubbed some of it on my head. Though reprimanded for this, I repeated the inunction some three times, whereupon my mother, though admiring my persistence, decided that a spanking was indicated, and this she administered and found that it acted satisfactorily as a deterrent.

The Barkers of Norwich and the Taylors of Pelham belonged to the Society of Friends (often called Quakers, a nickname that Friends did not like) and both families took an active part in the affairs of this sect. My grandmother Barker's father, Frederic Stover, had been a stanch Quaker, and always wore a broad-brimmed beaver-fur hat. Since every person born of Quaker parents is regarded as a member of the Society of Friends, I and my brother were Quakers by birth. The Friends at Milldale had a new Preparative Meeting established there in 1877, ten years after I was born. The Pelham Monthly Meeting of Friends (which had to report

JAMES FREDERICK BARKER
AND SARAH JANE (TAYLOR) BARKER

directly, according to Dorland, to Philadelphia Yearly Meeting) was, I believe, the first to be established in upper Canada, and to this my Taylor grandparents belonged. Among the earliest Quakers at Pelham were John Taylor, Samuel Taylor, and Jeremiah Moore. Some of the descendants of the pioneer John Treffry were members of this meeting.

I remember very well attending the Friends' meetings. The meeting house (*not* called a church) was divided into two parts with movable shutters between, for the monthly business meetings of the men and of the women were held separately. The religious services were, however, held in common, the shutters between the two halves of the "meeting house" being pushed up. Anyone could speak if the "spirit moved him" to do so, but I have sat through many a completely silent meeting of an hour's duration. As there was no music at these Friends' meetings (though we did sing Moody and Sankey hymns in Sunday School), the hour of noiselessness, supposed to be devoted to religious meditation, without vocal prayer, reading of the Scriptures, or preaching, was conducive to sleep, and I fear that more than once I was guilty not only of somnolence but also of interrupting the "quiet waiting upon the Lord" of the more devout by an unseemly snore.

The term "Quaker," at first used derisively for some of the early Friends who exhibited physical manifestations (trembling or quaking) of their religious experiences, did not apply to the members of the Society that I knew, since, as I remember them, they were almost always striking examples of calmness and tranquillity.

The Society of Friends had no professional ministry, as they

said, no "hireling ministry," and they did not practice the outward ordinances of baptism and the Lord's Supper. Marriages were solemnized by the two participants "standing up in meeting" and avowing their acceptance of one another as man and wife. Men and women whose talks at their religious meetings were found to be especially helpful to those who heard them, were not *appointed* to preach, though they were *encouraged* to do so by being designated "recorded ministers" or "acknowledged ministers" by the Monthly Meeting. This lack of any exclusive ordained ministry was apparently due to the emphasis that was laid upon the personal aspect of religious experience, upon immediate communion between the individual and God, and upon following the "Light within." My father told me that he began to "speak in meeting" when he was only sixteen years of age.

At our Quaker meetings my grandfather and grandmother sat on a platform facing the other members, one on each side of the partition. When the time for closing a meeting arrived, my grandfather reached across the opening in the partition and shook the hand of my grandmother—the sign that the meeting was at an end. Since many families lived in the country miles away, it was customary for those who lived, as we did, near the meeting house to invite several after the meeting to dinner, and this made much extra work for my mother and other housewives who lived near. Among the guests who were always very welcome were the Treffrys and the Gregorys, who lived several miles to the south of us near Hawtrey.

Among the Friends, the days of the week were called according to their numbers; thus we spoke of "First Day,"

never of Sunday, of "Fourth Day," not of Wednesday. It was believed to be wrong to take an oath, even in a court of law, so after the earlier days of persecution had passed, Quakers were allowed solemnly "to affirm." They disbelieved in war and were excused from military service as "conscientious objectors," though in time of war they engaged in the philanthropic work of relief. Emphasis by the early Quakers upon peculiarities of dress (collarless coats, stock collars, and broad-brimmed hats for men, "plain Quaker bonnets" and gray dresses and shawls for women) as well as upon "plain language" and upon avoidance of the "frivolous pursuits of pleasure" like dancing persisted in my time. We all wore "plain clothes," eschewing ornaments; but my mother in her later life told me that the Quaker women spent a great deal of time and energy selecting the exact shade of gray for a dress, a bonnet, or a shawl—more perhaps than did a non-Quaker woman who could wear anything. The "plain clothing" had its rigid fashions; it had become a ritual, not merely a badge of simplicity. As to language, when we met anyone we would say: "How is thee today; I hope that thee is well," not using the more correct "How art thou?" of the English Quakers.

The Friends were proud that because of their loyalty to their beliefs and their patience in enduring persecution during the early history of their Society they had played an important part in securing legislation that ensured greater tolerance of nonconformist religious practices. They were also opposed to racial discrimination, for they had campaigned for the abolition of the slave trade and of slavery and had labored for the welfare of the Indians in North America. Colored people were

permitted to attend our meetings, and I recall very well listening to one colored Quaker preacher—a man called William Allan.

We youngsters heard much concerning the *Journals* of George Fox, the founder of the Society of Friends, the *Apology* of Robert Barclay, and the writings of William Penn. We learned, too, the ideas of these men about the fundamental doctrines of Christianity and of the Quaker philosophy of life. Though we were taught to believe in the Trinity and in the Bible as a guide to conduct, we were warned against too rigid definitions regarding the Trinity and the inspiration of the Scriptures. At home, my father read to us a chapter of the Bible every day; I have heard the whole of the Bible not once but several times. As orthodox Quakers we deplored what we regarded as the false doctrines of certain heterodox groups—the Hicksites (who were more Unitarian in belief) and the Wilburites. I remember reacting almost with horror, as a boy, when I was told that Elias Hicks had said that "the blood of Christ availed no more than the blood of bulls or of goats"!

Though the Friends were a peaceful people, some serious conflicts arose between Conservative Friends and Progressive Friends, particularly on matters of "discipline." To promote a progressive program of religious work, a committee was appointed in 1878 (to be known later as a "Pastoral Committee") "to visit meetings and families and to appoint meetings as they believe the Holy Spirit shall direct." Among the members of this committee were my father and mother, William Wetherald (father of the poetess Ethelwyn Wetherald), Herbert Nicholson, Martha Rogers, and others well known to our family. A new discipline was adopted in 1880, and this

led to the separation of the Conservatives and Progressives, which in turn led to a lawsuit (Dorland vs. Jones) over the West Lake meeting property. My father's evidence for the plaintiffs, who ultimately won, is recorded on page 386 of Vol. I of the Appeal Book (Belleville, 1884). Both parties to this dispute undoubtedly made serious mistakes, but the Progressives showed later a commendable spirit of reconciliation and did what they could "to proceed kindly and in the spirit of restoring love."

My father and mother were, of course, total abstainers, and they taught their children the dangers of the use of alcohol and tobacco. Perhaps they overdid it a little, for once when we were compelled to spend a night at a tavern, it is said that I cried myself to sleep because I was afraid someone would pour whisky down my throat!

How our family came to give up Quakerdom will be recorded later in this volume, but, as I look back upon the experiences of my boyhood, I cannot help feeling very grateful for Quaker tutelage and for the examples that were set me of simplicity, modesty, cheerfulness, veracity, frugality, and self-control, of unselfishness, industry, and punctuality, neighborliness and tolerance, temperance, the peaceful settlement of disputes, patience and perseverance, of a proper feeling of responsibility, and, in general, of plain living and high thinking. And if I were to seek a scapegoat for any of my sins, I should certainly have to look elsewhere than among the members of the Society of Friends. G. M. Trevelyan, writing of John Bright, said: "His boyhood had been passed in the atmosphere of the Society of Friends—that intangible but pervading spirit, which instils rather than teaches the doctrine of

the equality and brotherhood of men and women, of rich and poor; the nothingness of worldly distinctions; and the supreme duty of humane conduct."

As Henry Seidel Canby, writing about Quakers nearly thirty years ago, said, a society should go far with the motto, "In essentials unity, in non-essentials liberty, in all things charity." One reason the Society of Friends has not gone farther probably lies in the fact that its members withdrew too much from ordinary life "in order to keep their ideals unspotted from the world."

When I was born, my family lived near the mill at Milldale. Among my earliest recollections are the noises of the sawmill and the gristmill and the dusty clothing of the workers in the flour mill. My early memories are not of punishment or terror of any kind, but are objective rather than subjective, and this, according to Anna Robeson Burr, one of the best students of autobiographies, speaks for health in childhood. All my life I think that my memory has been better for facts than for feelings. Moreover, though I can *feel*, I have always had a strange reluctance to give utterance to feeling and this quality, if William Roscoe Thayer is right, is a hindrance to an autobiographer.

When I was seven years old, we moved to a near-by farm that my father had purchased after selling the sawmill and gristmill. He built on this farm a comfortable brick house in which we lived for about seven years. Dr. Norman Bridge, in his autobiography, *The Marching Years*, has an interesting chapter on the educational value to a boy of life on a farm; "the revelations of a single year were a procession of instinctive

wonders," he said, and I can testify to the truth of this statement.

My father grew grains, fruits, and vegetables and also sold growing plants and trees, calling his business the Otterville and Waterford Nurseries. There were many acres of berries and grapes and large fruit orchards, as well as fields devoted to the growth of seedlings and grafts. During the season many helpers had to be hired to pick the fruits and pack them for shipment to the markets. The farm also included some forest land in which were pine trees, maples, beeches, and oaks and, still more important to us boys, hickory, chestnut, and butternut trees. The maples were tapped yearly for sap from which we made our own maple syrup and sugar. We grew, of course, all the vegetables needed for family use. In the autumn, the farmers of the neighborhood held "corn-husking bees," which were much enjoyed by us children.

My mother took pride in her flower garden and early taught me not only a love for flowers but also an interest in the best methods of growing them. My Grandmother Barker, whom I greatly admired and loved, also encouraged my interest in gardening. When she gave me seeds and slips for my garden I would carry them home and announce proudly to my mother, "Here is something very special."

The assistant nurseryman, Jesse Gascoigne, did a great deal of grafting, which I watched with deep interest. Stocks and their roots grown from apple seeds were dug up in the autumn and placed in the cellar. During the winter each of these seedling stocks received a "graft"; a shoot from a desired variety of apples (Winesap, Greening, Baldwin, etc.) was implanted in a groove or a slit made in the seedling stock and held in

place by binding tape. In the spring, these grafted stocks were planted in rows to grow in a few years to a size large enough to be sold to farmers in our own and neighboring counties.

In those days each farmer owned a variety of animals, for farm work, transportation, and meat foods. When pigs were killed we had fresh pork in plentiful supply for ourselves and for our neighbors. Pork sausages also were made at this time. We had our own smokehouse for hams, and we salted down other portions for the winter.

For transportation, we had, I remember, a buggy, a sulky, a buckboard, a "democrat wagon" (a four-wheeled vehicle with three seats, one behind the other, drawn by two horses), and a "lumber wagon" for carrying heavier goods, as well as sleighs for the winter. As a boy I had to do daily chores—carrying wood, shoveling snow in winter; and I learned to drive and to ride horseback (bareback as well as on a saddle). The direct contact on the farm with so much animal and vegetable life was a good preliminary education in biology, so important for medicine that was to be my vocation. Though the time had not yet come when parents had learned to explain to their children the mysteries of sex, in early boyhood I had manifold opportunity to become acquainted with what are nowadays referred to as the "facts of life." A boy who has observed the way of a bull with a cow or a stallion with a mare will soon insist upon the appeasement of his curiosity regarding the meaning of such congress and learn the import of sex-relationships by perhaps the least objectionable method.

The nearest post office was two and a half miles distant from our farm. We had to drive to it, for there was no rural free delivery in those days; but it was not necessary to go often,

as the family wrote and received but few letters. We read a weekly paper, the *Norwich Gazette;* the Toronto daily papers were unavailable in our rural isolation.

Luckily, there was a good country school near us, and for my preliminary education in this I was greatly indebted to two able teachers. The first was William A. Walls, a worthy Scotch dominie. He knew how to hold the attention, excite the interest, and inspire the respect of his pupils. He insisted upon punctuality and good behavior in the classroom. Thoroughness, exactness, and neatness in work were inculcated. I could scarcely have been in better hands while learning the "three R's." The second teacher was Miss Amelia E. Poldon, and she, too, was a sympathetic and a very conscientious instructor. I was lucky in a good natural memory and learned school lessons with relative ease. As I look back upon my experience in the public school, I am grateful that my tree was to be inclined as those two teachers "bent the twig."

Our public school was, of course, coeducational. It was devoid of race prejudice, for two well-behaved colored boys who lived in the neighborhood attended it and as far as I know there was no objection. None of the children had wealthy parents, and there were no social distinctions of any kind among the pupils. During recess and after school we played the usual children's games—"One Old Cat," "Wrestling," "Tag," "I Spy," "Pom-Pom-Pull-Away," "Prisoner's Base," "Three-Legged Race," and "Tug-of-War." There was some quarreling, of course, and now and then a boy got a bloody nose, but a sense of fair play was prevalent, and on the whole we got on well together, learning how "to give and take." The children of Quakers were warned not to fight and urged to

turn the other cheek. But even Quaker children get angry occasionally. Everyone enjoyed swimming in the summer and skating in the winter. My brother Will, though younger than I, had greater physical endurance than I had. I shall never forget skating one winter afternoon with him. It was a cold and windy day, and on returning up creek we had to skate in the teeth of a bitter wind. I became exhausted and was compelled ignominiously to allow my brother to attach his muffler to my body and to drag me home over the ice. It was lucky he was with me, for otherwise that skating trip might have proved disastrous.

There were no theaters near us, and if there had been they would have been taboo to us Quaker children. Motion pictures had not yet been invented. We did, however, go to the county fair every autumn, and now and then a traveling circus came to a neighboring town and we were allowed to go to see it with its acrobats and circus riders.

My brother and I were permitted by the time we were ten years old to use a shotgun, though my father took care to instruct us carefully in its use and warned us of dangers. After considerable practice in shooting at a mark, we were allowed to go hunting in the woods and fields where black squirrels, gray squirrels, and woodchucks were plentiful. Now and then we would run across a *Mephitis mephitis* (skunk), which for obvious reasons we were careful not to disturb, especially if it were near the house or barn. I have always enjoyed fishing; even as a little boy I caught mudcats, perch, and bass in Otter Creek, and this interest has continued into later years.

While we lived at Milldale, I became much interested in collecting postage stamps, had a Scott's Stamp Album, and

studied stamp catalogues and prices. I corresponded with other collectors and exchanged stamps with them. Accumulating a good many duplicates, I made a list of these, printed it on a hand press, and my first business venture was to offer these stamps for sale. I thus became the sole proprietor of the "Otterville Stamp Company," an unincorporated commercial enterprise that had but a brief existence and never yielded profits that would have excited the enmity of New Dealers had they existed at that time!

My father had gradually become so well known among the Quakers of Norwich and Pelham as one of their best "acknowledged ministers" that in 1881 he was offered the position of Superintendent of Pickering College (a Quaker seminary or secondary school rather than a college), which had been established in 1878 at Pickering, Ontario. For many years, John R. Harris, head of the woolen mills at Rockwood, and William Wetherald, who had founded the Rockwood Academy (where James J. Hill, the railroad magnate, received part of his early education), had been among the strongest supporters of the Seminary at Pickering. My father accepted the post and had charge of the religious work of the school as well as the management of its business affairs from 1881 to 1884. My mother was made matron. The Principal of the school was S. Percy Davis who died in 1882 and was succeeded by William H. Huston (who married my mother's sister, Carrie Taylor); they were both able educators and were assisted by a group of excellent instructors. The scholastic and ethical standards at Pickering College were maintained at a high level. Strict order was maintained in the classroom and we learned self-discipline from supervised sports. We were taught that the good life dare

not be sought "in indifference to inner standards or without the aid of inner strengths."

The Society of Friends has been noted for the excellence of its educational foundations in England, the United States, and Canada. Though some Quakers, fearing that higher education might interfere with the "inner light," had opposed it, the majority of Friends were saved by their practical good sense from this pitfall. In the United States, several Friends' Schools have enjoyed a high reputation—I need mention only Haverford College and Swarthmore College in Pennsylvania, the Moses Brown School in Rhode Island, and Bryn Mawr College in Philadelphia. Though the school at Pickering gave only education of the secondary school type, the instruction was good as far as it went. Unfortunately we were taught very little of the natural sciences, but we were well trained in English grammar, literature, and history, and in geography and elementary mathematics (arithmetic, Euclid, algebra, and trigonometry); I read a little Latin (Cicero, Virgil), less Greek (Xenophon), and a little French. There was also some instruction in commercial subjects. But I was taught no German at Pickering and was compelled to learn it later when I found how very important it was to read German medical literature.

At Pickering, we received our education by the time-honored methods of the English schoolmasters. We were told what to study and how to apply ourselves. The school was not run on the pleasant principle that we should do only what we liked best, but rather on the principle that there is no "royal road to learning," that hard required work helps to inculcate tenacity of purpose and a sense of personal responsibility. We

THE BARKER FAMILY AT PICKERING COLLEGE

were drilled thoroughly in arithmetic and spelling, we had to memorize the important names, dates, and facts of history, as well as some poetry, and we were trained formally in the tenses, cases, and constructions of English and Latin grammar. We may have missed something that modern progressive education gives, but we learned that we could not succeed in school unless we worked hard and concentrated on our tasks.

My family remained at Pickering College until 1884 when we moved to Whitby, Ontario. Unfortunately, owing to the separation that had occurred between Conservative and Progressive Friends, Canada Yearly Meeting had been crippled financially to such an extent that it became necessary in 1885 to close Pickering College for a time. It was reopened in 1892 and did excellent work for the next fourteen years under the direction of William P. Firth (Principal) and Ella Rogers Firth (Lady Principal). Disaster came during the Christmas vacation of 1905 when the main building was destroyed by fire.

Chapter II. HIGH SCHOOL AND APPRENTICESHIP

MY FATHER had studied his Bible very conscientiously and held that everything in it should be interpreted literally. That is to say, he felt that the words of Scripture should be accepted in the sense of their natural or customary meaning rather than allegorically. It was this view that led him finally to the belief that the Society of Friends had been wrong about the ordinance of baptism. The Bible plainly stated that Jesus had said "He that believeth, and is baptized, shall be saved" and that Jesus himself had been baptized by John in the River Jordan. Moreover, it seemed clear that this baptism was not a mere sprinkling but a complete immersion. Once arrived at this conclusion, my father felt it to be his duty to be baptized himself and to throw in his lot with the sect that required baptism by immersion—namely the Baptist Church. He accordingly severed his connection with the Quakers, left Pickering College, and became a Baptist clergyman. He was soon made pastor of the Baptist Church in Whitby, Ontario, and in the neighboring village of Brooklin.

My family lived in Whitby from 1884 to 1888, and it was there that my sister Grace was born. At my father's instigation, my mother, my brother, and I also were baptized and became members of the Whitby Baptist Church. At that time I was seventeen years old.

I do not recall having experienced at any time in my life what might be called religious strain, religious or mystical excitement, or religious depression. I never had a profound sense of sin. Though I knew my behavior was far from perfect, I did not feel that I was a wicked person, or contemptible, or one greatly in need of "conversion." Nor have I at any time felt any strong urge to convert others to my way of thinking.

In Brooklin, the Honorable John Dryden and his family and Dr. Starr and his family were Baptists. One of Dr. Starr's sons, Clarence, many years later became Professor of Surgery in the Medical School of Toronto University and married one of my friends, Mr. Dryden's daughter Annie.

During 1884 and 1885, I continued secondary school studies at the Whitby High School and passed the college entrance examinations. In my spare time, I read a great deal—Dickens, Thackeray, the Brontës, George Eliot, George Meredith, and Shelley, Keats, Wordsworth, and Longfellow, and became interested in Emerson's *Essays,* which had a profound and beneficial effect upon me in my teens. I have always been sorry that my study of the classics was so limited, for the classics give a standard of values that is difficult to gain from studies of the sciences alone. I should have liked to enter upon a course in liberal arts at the University of Toronto, but my father's salary was insufficient, so it was decided that I should go to work.

I thought that I would like work in a drugstore as well as anything, and on inquiry found that I could begin in the pharmacy of Mr. George E. Gibbard in Whitby. Accordingly, I entered into a legal agreement with him to serve as his apprentice for three years. A good friend of mine, Donald McGil-

livray, was an apprentice in the rival drugstore of the town. Two doors from Mr. Gibbard's drugstore was a corner grocery, owned by Mr. Thomas Lawler, the father of Miss Elsie Lawler, who many years later became head of the Training School for Nurses at the Johns Hopkins Hospital.

No master could have been kinder to his apprentice than Mr. Gibbard was to me. I was eager to become acquainted with the details and duties of my job, and he was ever ready and willing to help me with wise instruction. Besides showing me how to consult the pharmacopoeia and make pills and potions, Seidlitz powders and tinctures, he taught me to decipher the prescriptions of physicians and how to fill them accurately. This gained me a preliminary knowledge of chemistry, which was to become of great interest to me in later years.

But besides the work in pharmacy proper, there were many simple, menial duties that fell to the apprentice. Thus, early in the morning I had to open the shop, sweep the floor and the sidewalk in front of the store, and polish the showcases. Between the front shop and the back shop, separating the one from the other, was a huge mirror; this and the plate glass windows of the shop had to be carefully polished regularly. The telephone exchange of the town was in the shop, and Mr. Gibbard and I were the central telephone operators, answering short- and long-distance calls and making the connections asked for.

In the back shop of this village drugstore there was much to be learned besides pharmacy, for it was the resort of men about town who were friends of the proprietor's. I heard discussions of business and politics as well as a vast deal of gossip about the townspeople. In this back shop, too, I was introduced

to many phases of life of which I had, through my strict Quaker training, been kept largely in ignorance. Many good stories were told and not a few of them were of a sort that my parents would not have approved of had they known about them.

While at work in the drugstore I was impressed by the large number of persons who bought patent medicines without any knowledge of what they contained and solely because of their virtues as vaunted in advertisements. That the sale of such proprietary medicines must be very profitable to their manufacturers became clear to me when I studied the analyses that had been made of some of them and found that mixtures that cost the makers only a few cents were sold even at wholesale for sixty cents or more. Some latent business instinct was aroused in me, and I suggested to Mr. Gibbard that our store might do well to make a "tonic" and to advertise it for sale. He agreed to this, and I was given a free hand to devise a formula and to give it a name. I remembered that most tonics prescribed by physicians were bitter and that they were made up of several ingredients. Accordingly, it was decided that the mixture should contain some gentian root and cinchona bark, as these are both bitter substances, harmless in small doses, and might well be provocative of appetite. It seemed desirable to add a little of some harmless drug that was not well known to the public at large in order that a distinctive name could be applied to the tonic. I chose blue flag (*Iris versicolor*) and named the mixture Franklin's Extract of Blue Flag. What good fairy influenced me to use my second name, Franklin, rather than my family name I am sure I don't know; it was, however, fortunate, for it would not have been helpful to my

future medical career to have it known that I had been responsible for the origin of this proprietary medicine. For some years it had a considerable sale, helped by advertising sign boards nailed on fences in the adjacent country. I still have some qualms of conscience when I think of this rather unethical venture, but my uneasiness is salved somewhat by the fact that none of the profit from the sale of "Franklin's Extract of Blue Flag" accrued to me; it went wholly to the drugstore in which I worked.

Chapter III. MEDICAL SCHOOL AND HOSPITAL INTERNSHIP IN TORONTO (1886-1891)

IN THE SUMMER OF 1886, a friend of mine, Jim Collins, dropped into the drugstore one day and after chatting awhile suddenly said, "Lew, why don't you go into medicine?" I told him that I should like nothing better but that I did not see how I could do it, for, in the first place, my family could not afford to send me and, in the second place, I was indentured as an apprentice to Mr. Gibbard for a full three-year period and had as yet served only two years. Collins was himself an excellent medical student (a scholarship man), and he told me that he saw no reason why I should not win scholarships as he had done. He felt sure, he said, that Mr. Gibbard would not insist upon the completion of my term of apprenticeship if I desired to study medicine at once. Though I was sceptical about my ability to win scholarships and finance my medical course, the idea made a strong appeal to me, and summoning up my courage I broached the subject to Mr. Gibbard and asked him what he thought of Collins' suggestion. To my surprise he told me that he approved of it strongly and that he had himself felt for some time that I should become a physician rather than a pharmacist. He also said that though my two years experience in the drugstore had made my services very valuable to him, he would give me my freedom at once if I wished to go to the Medical School in Toronto. He even

offered to help me with a loan if I found that I needed money to begin with. Appreciating immensely his very generous attitude, I next took the matter up with my parents, and though they feared I might have money difficulties they thought that I should take the risk and promised to give whatever help they could. My deepest gratitude is due to my father and mother for the encouragement they gave me at this time. They were ready to make great personal sacrifices in order to further my welfare. I decided to make the plunge and in the autumn of that year became a freshman in the Medical School in Toronto.

Very few students entering upon the study of medicine at that time had college degrees; the majority had only a high school education, such as I had myself. Accordingly, physics, chemistry, and biology were studied in the first year of the medical course along with anatomy and physiology. At the University of Toronto we received instruction in physics from Professor Loudon, in chemistry from Professor Pike, in biology from Professor R. Ramsay Wright, and in physiology from Professor A. B. Macallum, the anatomy being taught at the Medical School situated several miles away near the Toronto General Hospital.

From the beginning, in Toronto, good luck attended me; an opportunity arose for me to make enough money to meet current expenses. Professor Pike, an Oxford man and an excellent chemist, was a very enthusiastic teacher, but unfortunately his lectures on chemistry were too far above the heads of the first-year medical students to be understood by the majority of them. They did fairly well with the simpler chemical experiments in the laboratory, but theoretical chemistry was

too much for them. When Professor Pike discussed chemical equations, molecules, or Mendeleeff's periodic law, they had trouble enough in following him, but when he asked them to make deductions from Avogadro's hypothesis and to make calculations based upon the statement that "22.327 liters of any gas whatsoever, at 0° Centigrade and 760 millimeters barometric pressure in the latitude of Paris and at the level of the sea will weigh its molecular weight in grams," they were completely lost and felt sure that they would never be able to pass their examinations in chemistry. My two years in a drugstore had given me some knowledge of chemistry, both practical and theoretical, so that I was able to understand and appreciate Professor Pike's lectures. When the other students discovered this, they urged me to act as interpreter and to give them "chemistry grinds," the group offering to pay me liberally if I would do so. Jim Collins' prophecy that I would win scholarships also came true; one was awarded to me each year, and these, together with receipts from the "chemistry grinds," helped to solve the problem of financing my undergraduate medical education. In one summer vacation I was paid $2.00 per day for clerical work in one of the local government offices, and during another summer I was a life insurance agent for a time, making some $180.

A preliminary training in pharmacy, such as I had, is not infrequently followed by a career in medicine. Dr. John Fothergill, who became a distinguished London physician in the eighteenth century, was brought up a Quaker, became indentured as an apothecary's apprentice, served six years of a seven-year term, and then entered the University of Edinburgh expecting to continue in pharmacy, but under the influence of a

great anatomist, Monro *primus*, he altered his aim and studied medicine instead.

In later years, when I read Michael Foster's *Claude Bernard*, I was interested to find that he, too, had in his teens worked for two years in a drugstore, had assisted his master in the manufacture of a "cure-all," a syrup "compounded of all the spoilt drugs and remnants of the shop," and later on entered a medical school, paying the necessary fees chiefly with the scant money that he earned by giving lessons. He, as everyone knows, became one of the world's greatest experimental physiologists. My start was similar to his, but here, I am afraid, the similarity ends.

When we were students in Toronto I doubt if any of us fully realized how fortunate we were to have such excellent teachers in physics, chemistry, biology, anatomy, physiology, and pathology. But now when I look back upon my medical school days, I am especially grateful for the instruction we received in the fundamental sciences and in the preclinical subjects. Ramsay Wright knew how to select the topics in biology that were most important for students of medicine, laying especial stress upon the doctrine of evolution and upon the influences of heredity and environment upon living organisms. John Caven, the pathologist, had an enthusiasm for autopsy work that was contagious. In the clinical subjects, too, the Medical Faculty had able representatives. Dr. Henry H. Wright, already well on in years, was Professor of Medicine, and Dr. Aikens was at the head of surgery, but the older clinicians of Toronto were gradually giving way to younger men like J. E. Graham and Alexander McPhedran in medicine and Irving Cameron and Alexander Primrose in surgery.

Though these clinicians were not noted as original investigators, they were inspiring teachers and excellent practitioners, setting examples that made us desire to emulate them.

As I stressed in my address at a dinner given in Dr. McPhedran's honor after his retirement, his teaching was of outstanding excellence for these reasons: He brought his students into direct personal contact with the objects studied; his students were taught to use their own powers of observation; he insisted that each student should think for himself; in all his clinical work the welfare of the patient was the paramount interest; and in addition to stimulating the intellects of his students he did much, especially by his example, to educate their emotions and their wills.

My education in medical school aroused ideas that were sharply at variance with my early religious training. I read eagerly Darwin's *Origin of Species*, Herbert Spencer's *Synthetic Philosophy*, Huxley's *Essays*, and, later, Sir Leslie Stephen's *Science of Ethics*. It seemed to me probable that, in time (a very long time), this earth would cool off to such an extent that living things as we now know them could not exist on it. It once was too hot for them to exist here. They are here now in immense variety. The number of solar systems in the universe appalled me. The waste of potential paternities in a teaspoonful of human semen aroused my curiosity. Mind and matter and their interrelations puzzled me. Reality was rather too much for me to grasp; I was finite.

Acceptance of the validity of the theory of evolution seemed to me to be inescapable. The boundaries of factual knowledge and of mere belief became clearer to me. I had a feeling that the law of cause and effect held, that we did not live in a topsy-

turvy world. Recognition that some things are unknown and (so far as can be judged) unknowable now seemed preferable to blind belief in dogma. And I also began to understand better the true nature of ethical behavior, namely the kind of conduct that contributes not only to the perfection of individual life but also to the good of the community. I saw that ethics need not be based upon moral judgment as a starting point but was a doctrine of virtues and duties based upon human experience, a doctrine that need not, however, possess universal validity applicable at all times and in all places. Like my father, who was so conscientious that he gave up Quakerism to adopt the Baptist faith, I felt that philosophically I had to go where my intellect led me.

That this profound change in my ideas—a veritable *bouleversement* of the opinions taught to me in childhood—that accompanied my introduction to the natural sciences was not more disturbing to me emotionally than it was is rather astonishing. That it was not is probably to be accounted for partly by my general psychic constitution, partly by the tendency to calmness and imperturbability that a Quaker training had favored, and partly by the fact that I became only gradually permeated by the scientific views of man and of the universe. I do not recall any special sense of increased security or inner peace and radiance that some have described as an accompaniment of such a change of views. The general philosophy of life that I have entertained through later years has been built largely upon the foundation that was laid at the Medical School in Toronto. I have ever since been impressed with the importance of the method of science for the discovery of truth. Many assume that there are two orders of knowledge that are funda-

mentally different—the "scientific order" and the "metaphysical order." I have to confess that I have never been much given to metaphysics. We try to gain knowledge of a "world of reality," which consists partly of mental phenomena and partly of an order external to the knowing subject. Our knowledge widens daily and we must admit the possibility that it may in the future be extended by methods that hitherto have mainly caused prejudice and confusion. As Hobhouse has said, the goal of all effort is to obtain "a right understanding of the whole of things as they are in their inmost nature." But can we reach that goal?

As to a definition of religion, scarcely two people will agree, except, perhaps, in so far as it is the duty of conduct in accord with certain ideals. If we apply this definition to the "Christian religion" (without its supernatural elements), nothing stands higher; even the most rigid scientist may well be animated by the ideals of the sanctity of the human individual, of the brotherhood of man, and of the love of one's neighbor. Such ideals could be cherished and held sacred by the members of any nation or of any race, and should, if pursued, lead to more peace on earth and to more good will toward men.

Here in the United States we are fortunate in that we combine the ideals of the Christian religion with those of a democratic form of government. Through the former we strive to make our wills conform to the immutable laws of the universe and to love of our neighbor, and through the latter we strive to remain free from the tyranny of men. Professor A. W. Vernon does us a service when he shows us the necessity of a marriage of Christianity and democracy, which are as

different from one another as a man and his wife, in order that we may have happiness.

On the social side, my years in Toronto were made very pleasant, thanks to the kindness of many friends, some of whom (Stephen Leacock, the Mosses, the Blakes, Pelham Edgar, and others) were members of the Zeta Psi fraternity, to which I belonged. I was very fortunate in such companionship, for I was by nature rather shy, sensitive, and shut in, as is sometimes the case with boys who are tall and thin and have long arms and long slender fingers, as I had. I had grown to be a little over six feet in height and had an abundance of dark hair. My right arm was a little longer than my left, and my left upper eyelid had a slight tendency to droop.

Our family had left Whitby in 1888, when my father accepted a pastorate in Ingersoll, Ontario, where he built the Baptist Tabernacle in 1890. During my summer vacations, I had the privilege of working with Dr. Angus Mackay of that town, one of the best general practitioners it has ever been my privilege to know. He took me with him on long drives in the country, and I shall never forget his methods of dealing with his patients. He knew how to make them like and have confidence in him. He taught me the great importance of a favorable relationship between physician and patient. Dr. Mackay's kindness of heart and his hearty laugh were fully as effective, I feel sure, in helping many of his patients as were the bottles of bitter mixtures that he left with them.

Another medical student, Miss Margaret MacKellar, was working in Dr. Mackay's office at the time I was there. Later she became a medical missionary in Central India and did

important work over a long period of years at Neemuch, where I visited her in 1899.

I obtained the degree of Bachelor of Medicine at the University of Toronto in 1890. I wanted to do well in the final examinations, especially in medicine, and when the results were announced, I found that I had received first-class honors in every subject but one—internal medicine. This was hard for me to understand since it was my favorite subject and I thought I had answered all the questions correctly; in fact I had written rather copiously upon the matters inquired about. A member of the faculty asked the examiner, old Dr. Henry Wright, "How was it that Barker, who did so well in all other subjects, got only a passing mark in Internal Medicine?" Dr. Wright's reply was: "Damn it! I didn't want a book!"

Luckily, the low marks I received in medicine did not affect my general standing and on graduation I was awarded the University Gold Medal, as well as the Starr Gold Medal, for proficiency in scholarship.

Next came the important matter of securing a hospital internship. Appointment as an intern depends not only on scholarship in medical school but also on the candidate's ability to work harmoniously with others. The interns in the Toronto General Hospital were chosen partly from the University of Toronto Medical College, partly from a rival school, Trinity Medical College. For the year 1890-91 the Trinity men included Dr. Roland Hill (now a surgeon in St. Louis, Missouri), Dr. Robert Hillary, and Dr. Eugene McCarty; and the Toronto men were Dr. Thomas S. Cullen, Dr. Charles F. McGillivray, and myself. We were a congenial group. Most of the men were in their early twenties, though McGillivray was ten

years older than we were. Dr. Charles O'Reilly was Superintendent of the hospital, and Miss Snively was the head of the training school for nurses.

At that time, the internship in Toronto General was a "rotating service"; each intern spent a part of his year on the general medical wards, another part on the wards for contagious diseases, another on the surgical wards, and still another in the Burnside Lying-In Hospital. For the recent graduate this rotating service in medicine, surgery, and obstetrics has some real advantages over a service that is spent entirely in one branch, for the rotator gets a few months of actual practical experience in each of the departments—experience that cannot fail to be very helpful to him later on, no matter whether he ultimately becomes a general practitioner or a specialist. The rotating service for interns was especially valuable in our time because the teaching of the clinical subjects in medical school was largely didactic and included but little work in the hospital wards.

Life in the Toronto General Hospital was very enjoyable, and the house officers, besides working hard, knew how to relax and have a good time. When things were slow in the hospital, Cullen and I would go over to the obstetrical ward and see which of us could wash and dress a baby most quickly. He says that his record was eleven minutes.

One of the visiting surgeons and a former house officer, Dr. Nevitt, walking through our quarters one day, made the comment, "Ah! If these walls could only speak!" In the hospitals of today, interns can be called by telephone or by loud-speaker; in our time we were called by whistles.

Toward the end of our internship, I told my friend, Dr.

Cullen, that I thought I should like to do some postgraduate work at the Johns Hopkins Hospital. He said, "Lew, what is Hopkins?" I showed him an issue of the *Johns Hopkins Hospital Bulletin* that contained a photograph of the hospital, and Cullen said, "If you go, I'm going with you."

The house staff was much excited when it was learned that Dr. Howard A. Kelly, the gynecologist of the Johns Hopkins Hospital, had been invited to perform an operation in the hospital. Several surgeons of the Visiting Staff were on hand. I gave the anesthetic and Tom Cullen acted as surgical assistant, handing the instruments to Dr. Kelly as he called for them. Everyone was greatly impressed with the speed and skill of Dr. Kelly's surgical technique. After the operation, Cullen said to me: "That settles it; I want to go to Johns Hopkins and work with Dr. Kelly." Having heard much of the brilliance of the work of Dr. William Osler, who was Physician-in-Chief at Johns Hopkins, my reply to Cullen was: "Well, if you choose Kelly, I'll go to Osler if he'll have me."

Chapter IV. THE LURE OF JOHNS HOPKINS

THE JOHNS HOPKINS HOSPITAL, consisting of seventeen buildings, had been opened on May 7th, 1889, with some 220 beds. No one could have foreseen at that time that it was to grow to a capacity of nearly a thousand beds during the fifty years that followed. Its generous donor, a member of the Society of Friends, desired not only that it should care for the sick but also that it should contribute to the increase of knowledge, for in his will he had stipulated that the hospital should be a part of a medical school of the University and that it should have a training school for female nurses.

Cullen wrote to Dr. Kelly and received an appointment as House Officer on the Gynecological Staff of the Johns Hopkins Hospital, beginning work there in the summer of 1891, work that led to a long and distinguished career culminating in his appointment to the professorship in gynecology in the Johns Hopkins Medical School and, on the retirement of Dr. Kelly, to the headship of the gynecological department in the Hospital. In reply to my letter to Dr. Osler asking if there was any opportunity for me to work with him, he wrote me graciously that there was at the moment no vacancy in his department but that I might, if I wished, become the resident physician for the summer months at the Garrett Hospital for Sick Children at Mt. Airy, Maryland, and that in the autumn I would be

welcome to attend his ward rounds in the Johns Hopkins Hospital. I accepted the offer and took up residence at Mt. Airy, in Carroll County, in June. The children's hospital defrayed my living expenses and provided me with a small monthly salary. Mrs. Robert Garrett of Baltimore had given the funds for this small hospital for children from the city of Baltimore. Miss Mary C. Packard and Miss Sarah Martin, both of whom had been well trained in New England, were the senior nurses in charge of the children; and weekly visits to the hospital were made by Dr. Walter B. Platt of Baltimore. This brief experience in general pediatrics was valuable to me, for in the Toronto General Hospital our acquaintance with the diseases of children had been limited mostly to the study of cases of diphtheria, scarlet fever, and measles that we saw in the wards for contagious diseases.

The village practitioner in Mt. Airy, Dr. Gaver, looked me up and was most kind to me in many different ways. He took me with him on many drives and gave me the opportunity to compare country practice in Maryland with what I had earlier observed in the practice of Dr. Mackay in rural Ontario.

At the end of the summer, having saved most of my summer's salary, I went to Baltimore, found lodging in a boarding house near the Johns Hopkins Hospital, and began making ward rounds with Dr. Osler each morning. It was a revelation to me to see how this master of medicine worked. He laid great stress upon adequate history taking, upon a most careful general physical examination, and upon routine laboratory tests upon each patient. Instead of telling others what to do, he did many things himself; but he also made his students learn by doing, thus setting those of us who followed him about an example

that was far more profitable than any barren didacticism could have been. Without knowing it, he made his medical teaching conform largely to the methods of "progressive" education, for the materials studied had a meaningful purpose in terms of the student's daily experience.

The postgraduate student at Johns Hopkins learned his internal medicine and his surgery by acting as clinical clerk and surgical dresser; study of textbooks and didactic lectures, though important, were of value secondary to the acquisition of skill by the actual practice of clinical techniques. We learned about disease by studying it in real patients, not merely by reading about it, and I think we were better able to profit by this method because we had been trained by the formal traditional methods in primary and secondary schools.

From the first I was impressed not only with the wide medical and pathological knowledge of Dr. Osler and his faultless clinical technique but also with his *humanity*. His courtesy, his politeness, his kindness, and his ability to make patients realize that he understood them, sympathized with them, and would leave nothing undone to help them were inspiring. And with all this he combined a delightful sense of humor. His sudden quips (without sarcasm or sharpness) and his unexpected and at times audacious sallies went far toward lightening the burden of the morning's serious medical work.

Having been a pathologist himself, Dr. Osler strove to secure autopsies on all those who died in the hospital. He made it a point, too, to be present at the postmortem examinations and to discuss with Dr. Welch, the pathologist, the nature and significance of the findings and their relation to what had been observed during the clinical study of the cases. Out of such

colloquies ultimately grew the clinical-pathological conferences that ever since have been regularly held.

Dr. Osler explained to me that the number of persons on his resident staff was strictly limited and expressed regret that there was no prospect of any vacancy in the near future. Though disappointed to learn this, I determined to stay as long as my money held out. After a few weeks, I found that I had only about enough left to pay the railroad fare back to Canada. It occurred to me that I might perhaps sell or pawn my oreide gold watch for enough to permit me to stay a week longer in Baltimore. I had just decided to try to raise a few dollars in this way when Dr. Osler summoned me and told me that a man who was to have joined his staff had been compelled to change his plans and that I might, if I desired, have the place in the Hospital that had been reserved for him. Knowing of my lack of money, he thought it only fair, he said, to tell me that the assistant residency in medicine would give me board and lodging but no salary; he thought, however, that he could discover some way in which I could, perhaps, earn enough for spending money. My dream had come true! I was overjoyed at the good news and accepted the offer on the spot, for I was more than willing to "save cheese parings and candle ends" if necessary in order to continue work at Johns Hopkins, and I had enough youthful optimism to take chances regarding the pocket money.

But Dr. Osler did not forget my need. He paid me for "help" in the way of gathering material for the revision of his article on the anemias. Soon after this he asked me to try my hand at writing comments upon medical progress as reported in original articles in some of the larger medical journals. As

I had trained myself in the making of abstracts as a student, I thought that I could do this. When I submitted some samples to Dr. Osler, he sent them to his friend Dr. George M. Gould, an editor in Philadelphia, who published them as editorial articles in his medical journal, paid me liberally for the work, and suggested that I send him, at intervals, similar "editorials" upon any important articles that seemed to me to be of general medical interest. Here again some good fairy seemed to be looking after me, for I continued to make money in this way for several years, until, later on, I was appointed to positions that gave me a salary sufficient to supply my modest needs.

These "editorials" not only gave me an income but they also compelled me to write something more or less regularly for publication, and this was excellent preparation for the medical literary work (books, addresses, and articles) of my later life.

I took up residence in the Johns Hopkins Hospital in 1891 to live there practically continuously for the next nine years. The hospital superintendent assigned me to a room on the third floor of the Administration Building, which I found to be next to the bedroom occupied by Dr. Osler himself, who at that time was unmarried. In his spare time he was busily engaged in writing, with the aid of his secretary, Miss Blanche O. Humpton, his *Principles and Practice of Medicine*, the textbook that was to become the most popular medical volume of its time, undergoing a long series of revisions by the author during his lifetime, and revised and translated by others and used widely after his death. Through this proximity to Dr. Osler's room, I learned how systematically he ordered his life, rising nearly always at the same hour, arriving at the medical wards

punctually at nine each morning, eating and exercising at regular times, and working at the writing of his textbook for a definite number of hours each day. Except on evenings when he was unavoidably kept out by social functions, it was jokingly said that one could safely set one's watch at ten o'clock precisely each night when one heard him drop his boots on the floor just outside his bedroom!

Dr. Osler, then forty-two years old, was the only one of the "Big Four" who lived temporarily in the Hospital. Dr. William H. Welch, the Pathologist-in-Chief (then forty-one years old) lived in bachelor quarters on St. Paul Street; Dr. Howard A. Kelly, the Gynecologist-in-Chief (then thirty-three years old), and Dr. William S. Halsted, the Surgeon-in-Chief (then thirty-nine years old), also lived in town. Dr. Henry M. Hurd, the Superintendent of the Hospital, with Mrs. Hurd and their two daughters, Eleanor and Anna, lived on the second floor of the Administration Building. Dr. Hurd was affectionately though somewhat irreverently called "Uncle Hank" by the members of the house staff, and the young daughters were known as "the Hurdlets." Miss Isabel A. Hampton, the head of the Training School for Nurses lived in the Nursing Home at the Hospital; Miss M. Adelaide Nutting was her assistant. Mr. James D. Leeke was the Chief Clerk of the Hospital. Mr. L. Winder Emory, the purveyor, and Miss Rachel A. Bonner, the Quakeress matron, looked after the creature comforts of those who lived in the Hospital. "Old Gus" was the obese colored headwaiter in the Hospital dining room, and "Old Ben" was attendant at the front door. The chambermaid on our floor was Emma Schroeder, who was destined to serve the Hospital for a great many years. Though she was "super-

annuated" in 1940, she told me even then that she wished she could work on still longer.

On Dr. Welch's pathological staff were William T. Councilman, who had worked earlier in Vienna, Strasbourg, Leipzig, and Prague, Alexander C. Abbott, hygienist and bateriologist, George H. F. Nuttall, bacteriologist, and Simon Flexner, Fellow in Pathology. Walter Reed (later of yellow fever fame), Dr. A. W. Clement (veterinarian), and J. Whitridge Williams (later obstetrician), William T. Howard, Jr., and J. Homer Wright were doing research work in the laboratory though they did not live in the Hospital. On Dr. Osler's medical staff were Henry A. Lafleur, Resident Physician, Harry Toulmin, Assistant, D. M. Reese and J. A. Scott, interns. William Sydney Thayer acted as Differentiating Physician for the Out-Patient Department, and John Hewetson, August Hoch, and later Harold Parsons and Frank R. Smith were Assistant Resident Physicians. Another member of the staff who became a close friend of mine was Rupert Norton (son of Charles Eliot Norton). Dr. Lafleur was in charge of the courses in the Clinical Laboratory. He resigned as Resident Physician late in 1891 and was succeeded by Dr. Thayer.

On the Surgical Staff, Dr. Halsted was performing his operation for the radical cure of hernia; John M. T. Finney acted as Head of the Surgical Dispensary and Assistant in Operative Surgery (he did not live in the Hospital); Fred J. Brockway was Resident Surgeon (succeeded by Harry Phippin) with George E. Clarke and William H. Baltzell, W. J. Roose, E. M. Parker, and E. Van Ness as assistants.

On Dr. Kelly's Gynecological Staff, Hunter Robb was Resident; W. W. Farr, A. L. Ghriskey, W. W. Russell, John G.

STAFF LIVING IN THE JOHNS HOPKINS HOSPITAL—1893. *Standing, left to right:* Carroll, Clark, Werkmeister, Cullen, Ramsay, Oppenheimer, Smith, Blumer, Cohn, Bloodgood, Mitchell. *Seated on chairs:* Russell, Barker, Robb, Hurd, Osler, Flexner, Thayer. *Seated, below:* Edwards, Stokes, Parsons, Billings, Norton

Clark, Albert L. Staveley, and Thomas S. Cullen were assistants.

The medical and surgical specialties (aside from gynecology) were at that time represented only in the Out-Patient Departments, Dr. Halsted acting as their general chief. Henry M. Thomas was neurologist with Charles E. Simon as assistant, H. J. Berkeley was psychiatrist (Dr. Hurd also gave lectures on psychiatry), S. Theobald and Robert L. Randolph were ophthalmologists, William D. Booker was pediatrician, James Brown was urologist, Morrison, Gilchrist, and Lord were dermatologists, and John N. McKenzie, Mactier Warfield, and Cary Gamble were laryngologists. None of these men lived in the Hospital. Joseph Hopkins (a relative of Johns Hopkins), called "St. Joseph" by Dr. Osler, had an executive position in the Dispensary.

Medical instruction had been offered to graduate students from 1889 on. The Hospital Medical Society met twice monthly, the Hospital Journal Club met weekly, and the Hospital Historical Club and the Laennec Society for the Study of Tuberculosis (which was organized later on) met occasionally. The Hospital published a bulletin and reports.

At this time, the Hospital Staff was so small that all the members became intimately acquainted with one another. Walking through the corridors one could call every medical man and every head nurse by name, in marked contrast to conditions fifty years later (1941) when I scarcely know more than one in five of those I see in the Hospital dining room at lunch time. We all attended the meetings of the Hospital Medical Society, where interesting cases were presented and newer laboratory findings discussed.

In the autumn the medical wards were crowded with typhoid fever patients, many of whom had hemorrhages or perforation of the intestines. There were also many malarial cases. In these last Dr. Osler was greatly interested, since at the time the different varieties of malarial parasites were being differentiated from one another, and he had published an article, "On the value of Laveran's organisms in the Diagnosis of Malaria," in the first volume of the *Johns Hopkins Hospital Bulletin* (December, 1889). Both Osler and Lafleur had made reports in the next year (1890) on *Amoeba coli* in dysentery and in liver abscess.

During 1891, Councilman was lecturing on the pathology of Brights disease, Welch exhibited specimens of coronary occlusion at the Hospital Medical Society, Welch and Abbott had confirmed the Klebs-Loeffler studies upon the diphtheria bacillus (despite the negative findings of Prudden in New York), and Welch and Flexner published their studies upon the histological lesions in experimental diphtheria. In that year, too, the first President of the Board of Trustees of the Hospital, Mr. Francis T. King, died and was succeeded by William T. Dixon. Dr. A. C. Abbott left the Staff to become head of the Laboratory of Hygiene in the University of Pennsylvania.

In 1892 Doctors Welch and Nuttall published their epoch-marking discovery of the gas bacillus (*Bacillus aerogenes capsulatus*), later shown to be the cause of gas gangrene, and Dr. Welch gave a series of lectures upon the *Micrococcus lanceolatus* and its relation to acute lobar pneumonia.

Dr. Councilman left Johns Hopkins in 1892 to become Professor at Harvard. He was sorely missed. Though he was of choleric temperament, he was optimistic and buoyant, stuttered

a little (Harvey Cushing called this "his engaging hesitancy of speech"), and had command of a choice line of expletives, being able to laugh, and swear, on occasion most heartily both at himself and the world. He was beloved by everyone and was much admired as a teacher. I shall never forget, on walking into the laboratory one hot day in summer, seeing him peering through a microscope with a sheet of sticky flypaper over his bald head as a protection from flies!

In the same year Miss Mary E. Garrett made a large gift to the Johns Hopkins University toward a fund for the opening in the autumn of 1893 of the Johns Hopkins Medical School which was to be an integral part of the University, and in which women should enjoy all its advantages on the same terms as men, both men and women to have had adequate preliminary chemical and biological training before entrance. Practically all the students who entered had college degrees, and they were expected to have a reading knowledge of French and German. (To the question, "Do you read ordinary French and German," one man replied, "Yes, very ordinary!"). Though the combined funds that thus became available amounted to only $500,000, the University trustees accepted the gift and agreed to the stipulations of Miss Garrett, thus starting a new era in medical education in the United States.

The importance of a liberal education in college before entering upon professional studies in a medical school can scarcely be overestimated. Training in physics, chemistry, and biology is certainly necessary, but in addition the prospective medical student should be educated in history, literature, psychology, economics, political science, and the social sciences. In college he should learn to think for himself and should develop intel-

lectual curiosity and a love of knowledge for its own sake. Through study of the social sciences, he should develop social understanding and with this a sense of social responsibility. The sense of perspective and values that will result from such a premedical schooling will help to round out the student's personality and will be of practical value to him when he becomes a physician or a surgeon. It is gratifying that educators are more and more recognizing these truths. They have been reemphasized recently (1941) in an admirable address made by O. C. Carmichael, Chancellor of Vanderbilt University.

When the Medical School was opened in the fall of 1893, F. P. Mall, then thirty-one years old, was made Professor of Anatomy; W. H. Howell became Professor of Physiology; J. J. Abel was appointed Professor of Pharmacology; and Walter Jones, Dr. Abel's assistant in 1895, later became Professor of Physiological Chemistry. Dr. W. H. Welch was made Dean (to be succeeded later in the deanship by Dr. Howell) as well as Professor of Pathology, and the heads of the several clinics of the Hospital were made professors of corresponding departments in the School.

Dr. Flexner had received a promotion in the Department of Pathology in 1892, and I succeeded him as Fellow in Pathology and continued as Fellow and later as Associate and Associate Professor in Pathology during the next eight years.

I shall never forget the occasion one hot summer day when Dr. Welch and the veterinarian, Dr. Clement, took me with them to a farm in southern Maryland to assist in autopsies on some hogs dead supposedly of hog cholera, a disease in which they had been interested for several years. On arrival at the farm it was found that the hogs had been buried two or three

days earlier, but Dr. Welch asked that they be dug up for examination. This was done, and Dr. Welch, with sleeves rolled up, made complete postmortem examinations, including inspection of the walls of the opened intestines. The stench was something frightful. The darkies could not understand the reason for this procedure, and one of them said to the farmer, "My Gawd, Massa, what some men will do for money!"

That darky could not, of course, have realized how ludicrous his intimation was that Dr. Welch was motivated in his smelly work on that hot summer day by the love of money. I doubt if there has ever been another person less actuated by self-interest than Dr. Welch. His only concern with financial affairs seemed to be, in the first place, to see to it that members of his staff were paid enough to live on and, in the second place, to induce men of great wealth to make gifts for the endowment of medical teaching and research. A bachelor, he did not have to consider the economic security of a family, and as to provision for his own old age, I doubt if he ever gave it a thought. He was almost as naïve about personal finances as the average debutante. When he found that his pocketbook contained a surplus, he turned it over to his nephew, Fred Walcott (later Senator from Connecticut), and asked him to keep it for him. One of the Johns Hopkins trustees, the banker, Mr. Benjamin H. Griswold, tells that Dr. Welch in his later life said to him one day: "Ben, something has happened to me that I never could have expected; I'm a rich man!" It seems that his nephew, a shrewd businessman, had purchased securities with the occasional surpluses Dr. Welch gave him and, by judicious timing of sales and repurchases, had made so many profitable turns in the market that the total fund made Dr. Welch a

well-to-do man. By giving no thought to tomorrow, Dr. Welch had done very well for himself!

Mall chose me to be his Associate in Anatomy, and I taught histology in his department from 1893 to 1900, being promoted to Associate Professor in Anatomy in 1897. Though most of the work consisted of individual practical instruction, I also lectured to the students. I took pride in developing an adequate course in histology and was much helped in this by an assistant, Dr. Charles R. Bardeen, who later on became Professor of Anatomy at the University of Wisconsin. I was eager to find capacity for research in my students, and when I did was prouder of a successful investigation by one of them than I was of my own studies. One of the best of the earlier students in histology was John Bruce MacCallum, who began his original investigations by studying the histology of heart muscle fibers in our laboratory. Later on he made other brilliant studies in California until his premature death cut short a most promising career.

Close association with Professors Welch and Mall at this time was of untold advantage to me and was largely responsible for the shaping of my subsequent life. Dr. Welch and Dr. Mall were wholly different in appearance and temperament, the former short, thick-set, inclined to obesity, and extrovert (typical pyknic habitus and syntone temperament), and the latter slender, retiring in nature, modest, almost shy (though not typically of asthenic habitus and schizoid temperament as Dr. Halsted was). As one of his most distinguished pupils, Dr. Florence R. Sabin, has said of Dr. Mall there "never was a type more objective, more completely dedicated to great causes, seeking results rather than rewards." Mall was a great

believer in the importance of original research, but he taught us that the investigator must be "strong in will, to strive, to seek, to find, and not to yield."

Dr. Welch entertained much at the Maryland Club. When distinguished visitors came to Baltimore he would often ask his colleagues (including younger members of his staff) to meet them at dinner. And dinner at the Maryland Club was always good! Dr. Mall married one of his students (Mabel Glover), and he and his wife were exceedingly kind in entertaining me and other young anatomists at their home.

Dr. Osler used jokingly to say that one-third of the women of the first class in the Medical School married a professor, one-third entered practice, and one-third entered Christian Science! There were only three women in the class.

Mall was fond of walking, and I learned much from him through talks that we had together as we rambled about the streets north of the anatomical laboratory. He told me of his great admiration for German science, especially the complete freedom of teacher and student there, as well as for the pursuit of science for its own sake that was manifest in Germany.

Both Dr. Welch and Dr. Mall had studied in Germany, the former in Strasbourg, Leipzig, Breslau, and Berlin, the latter in Heidelberg and more especially in Leipzig with W. His and C. Ludwig. They both could read and speak German easily and kept in touch with the books and articles in German bearing upon their respective sciences. Germany was at that time leading the world in the natural sciences as well as in medicine, and I soon saw that if I were to aspire to higher things in medicine it would be essential to learn German. Accordingly, with Jack Hewetson, I began to take German lessons regularly at

the Berlitz School of Languages of which the von Schwertner-Eynard brothers had charge in Baltimore. They taught by the "conversational method," and after two years we were able to understand and to make ourselves understood in German. With the aid of a good German medical dictionary it soon became possible to read the German medical journals, and I spent many evening hours abstracting papers in them that were of interest to me. All this was very helpful later when I went to Germany to study.

Early in 1892, Dr. Flexner had been officially delegated by the Maryland State Board of Health to investigate an epidemic of cerebrospinal meningitis in Lonaconing, Maryland, a town of some 5,000 inhabitants in a mining region in the Allegheny mountains. He invited me to go with him to make the study since I had had some clinical experience and also could be of help to him in making blood studies and bacteriological examinations, as well as autopsies in case we could get permission to make them. Thanks to the co-operation of the local profession in Lonaconing, we were able to see many cases, some of them of the fulminating type, and also many of the subacute, intermittent, and abortive types, and we made careful notes on the physical findings as well as upon the changes present in the blood and urine. Though Quincke had made use of lumbar puncture for obtaining cerebrospinal fluid for examination during life as early as 1891, this diagnostic method had not yet come into general use, and unfortunately we did not use it at Lonaconing. We had been there several days before a death occurred (the mortality had temporarily diminished), but on our last evening there a nine-year-old child died and we were able to make an autopsy two hours after death. At the autopsy,

the dura mater was raised and a needle inserted into the exudate gave us material for cultures which were made immediately, a second set of cultures being made later in a carriage house adjoining a stable. We left for Baltimore next day, carrying with us fresh tissues for the inoculation of animals, the culture tubes that had been made, and tissues in preserving fluids for histological examination. We had proceeded as far as Cumberland, Maryland, when we received a telegram asking us to return to Lonaconing as another death had occurred. The fresh tissues of the first case were forwarded by express to Baltimore where mice and rabbits were inoculated (some forty hours after the autopsy), but the animals did not sicken. The cultures we had made were carried by us to Baltimore and placed in a thermostat there some fifty hours after the autopsy had been made. These showed a very feeble growth of diplococci, but on transplantation no further growth could be obtained. The autopsy on the second case was made twelve hours after death, but cultures could not be made from this case until after we reached Baltimore (thirty-six hours after the death of the patient). These cultures remained sterile and animals inoculated from the meningeal exudate did not succumb. We wondered whether the organism grown from the first case was the *Micrococcus lanceolatus (Pneumococcus* of Fraenkel) or some other coccus. Though Weichselbaum in 1887 had found the *Diplococcus intracellularis meningitidis* (or *Meningococcus)* in the exudate in epidemic cerebrospinal meningitis, the pneumococcus had been found in many cases of meningitis. If we had studied the German literature more carefully, we would not, I believe, have made the error of thinking that the organism grown from the exudate might be the pneumococcus. We

know now that it must have been the meningococcus. A full report on our studies was published in the *American Journal of the Medical Sciences* (1894).

We learned after our return that there was great prejudice in Lonaconing at that time against the performance of post-mortem examinations especially upon children and were even told that we might consider ourselves lucky that we had not been lynched. For a time after this expedition our friends at the Hospital dubbed Flexner and me "the cerebrospinal twins."

Soon after our return from Lonaconing, I was feeling the financial pinch again. On February 28, 1892, I wrote my mother as follows:

> You ask about my clothes. I have not bought any since coming to Maryland except one pair of trousers and they got such shocking holes in the seat that I was compelled to take them downtown to have a new seat put in. The tailor could not get the same kind of cloth so he had to put in another kind. My short coat unfortunately does not cover the seat and I am getting used to comments such as "what a remarkable stain on your trousers!" My black trousers gave out two months ago, and I got a new seat in them too.
>
> I have no suit to go *out* in, but that doesn't bother me so much as I have no place to go as yet. The worst trouble is shirts, not to speak of sox; with most of those I have, the parts that need darning are greater than those that do not.
>
> They say "a fellow feeling makes us wondrous kind" and I believe it, for my heart went out to a man who came into the ward the other day with a patch in the seat of his trousers as conspicuous as my own.
>
> My coat has large holes in the elbows, but I hope by next month to have saved enough to have them patched too.
>
> You must not think from all this that I am getting blue. Far from it. I am very happy and learning much medicine. The fellows who go away from here go at once to *living* positions if they have been here long enough to do some original work.

Other letters to my mother at this time were filled with concern for my young sister Grace and her education, for I was desirous to pass on to her some of the things that I was learning in a larger world.

As a boy in Canada I had suffered from an attack of acute rheumatic fever that left me with a systolic murmur over the heart. I thought this meant a serious valvular disease and was unduly concerned about it. I wrote my mother:

My heart is behaving very well and I am trying to take good care of it. At the same time I am doing as much work here as possible so as to fit myself for a teaching position somewhere. It would be insane for me to attempt private practice, if I had any regard for longevity. This will explain why I am struggling on here.*

About a month later my brother Will, who was in business with my Uncle Bruce Taylor in Canada, was kind enough to make me another loan that temporarily eased my financial situation. I wrote my mother:

Your good letter with Will's most acceptable enclosure has come. Will is beginning to hold a big mortgage on me. It is awfully good of him and I hope that by the time he wants to use his capital I shall be able to repay him in full. Did you know that on the same day, Grandfather sent me five dollars and Uncle Isaac two dollars more? I actually felt quite rich!

Since Saturday last I have been in bed with acute tonsillitis. The men had great fun in my room the first night as some twelve or fifteen of the doctors came in, each with a different prescription. They were unanimous on one point—the necessity of stimulation. So a Bunsen burner was attached to the gas jet, a steaming glass of "hot Scotch" was carefully prepared, which I had to swallow. Then Dr. Councilman made me take ten grains of Dover's powder. After that cold wet gauze

* This fear of serious heart disease in early life was not well-founded. The heart never became enlarged and at the age of seventy-four, though the murmur was still there, the heart functioned well and the blood pressure remained normal.

was wound around my neck. Next morning, Dr. Thayer, the Resident Physician, came in and examined me. As the throat looked inflamed he called in Dr. Flexner, the Resident Pathologist, who made cover-glass preparations from the throat and examined the stained smears with an oil immersion lens for bacteria. Then he made cultures on agar-agar and finally inoculated a guinea pig from the exudate. Dr. Osler visited me three times a day and prescribed "*time* in divided doses, without other medicine." His treatment has been very successful, so that I am now up again and making the other fellows jealous by living on luxuries from the diet kitchen. Thayer advises going off for a week or ten day holiday but I can't afford that. However, as Flexner has worked himself into a state of neurasthenia, he and I plan to go away for four days, taking the Old Bay Line Steamer to Norfolk, Virginia, visiting also Old Point Comfort, Fortress Monroe and Virginia Beach. The return fare is five dollars and our expenses will be about as much more. Then we expect to return ready for another "go" at the work. Though this expense seems large, it seems to be wise to make the trip. I hope you will not think that I have been too extravagant.

In May 1892, Dr. Osler surprised us all. I wrote my mother:

Yes, Dr. Osler is married. Did it "on the sly." He was walking around the hospital in his ordinary clothes the other morning and said to one of the fellows that he guessed he would run off and get married. It was thought that he was joking but, sure enough, he took the noon train to Philadelphia and was quietly married to the widow of the late Dr. Gross. He and his wife are to spend the summer in Europe "to loaf along the Cornish Coast." Dr. Thayer is to be acting Physician-in-Chief while Dr. Osler is away.

In the summer of 1892, Dr. Welch told me that I could be Fellow in Pathology in the autumn when Dr. Flexner became Associate. I wrote home that this was "another stepping stone" and then, mixing metaphors, went on to say, "I suppose you think that the ladder I am climbing is a very long one. I think

so too and probably should never have placed my foot upon the first rung had I known the number of tedious steps that were to follow."

Mall was very enthusiastic about research and stimulated everyone associated with him to undertake some sort of original work. My first investigation in Mall's laboratory had a bearing upon the chemistry of the granules in one variety of white blood corpuscle (the eosinophilic leucocytes). Sherrington had shown by microchemical tests that these granules contain phosphorus. I wondered if they might not also contain iron, even though microchemical tests for iron as ordinarily applied did not reveal its presence in the granules. One of my former teachers in Toronto, Professor A. B. Macallum, had devised a method for demonstrating the presence of "masked iron" by means of the prolonged action of heated ammonium sulphide and glycerine. By a modification of this method, I was able to get a positive reaction for "masked iron" in the eosinophile granules in blood smears; neutrophile granules did not yield the reaction. (Cf. *Johns Hopkins Hospital Bulletin, 1894,* 5:93). Though this was but a small discovery, it gained Mall's approval, for he encouraged his assistants to feel that they should try to find out something that was not known before; even the smallest finding, provided it was really new, was regarded by him as worth while.

In 1895, I studied the pathological histology of tissues derived from fatal cases of malaria that had come to autopsy in Dr. Welch's laboratory and described: (1) focal necroses in the liver and spleen; (2) capillary thromboses in the liver and stomach; and (3) periportal infiltration with round cells and phagocytosis of malarial parasites by large mononuclear leu-

cocytes. (Cf. *Johns Hopkins Hospital Reports*, 1895, 5: 219-279, 4 pl.)

In 1895 the American Medical Association met in Baltimore in June and brought many of the leading physicians and surgeons of the country to the city. All were especially interested in seeing how work was conducted at the Johns Hopkins Hospital as well as in the meeting. The internists followed "the Chief," Dr. Osler, through the medical wards and were much impressed by his method of bedside teaching. The surgeons watched Halsted and Kelly operate. Dr. Kelly, assisted by J. G. Clark, performed a hysterectomy after preliminary catheterization of the ureters with stiff bougies, the whole procedure being accomplished in about eight minutes. Among the spectators were more than a dozen eminent surgeons, including Nicholas Senn and Franklin H. Martin of Chicago. They spoke of the operation as a "miracle" as regards skill and speed, and many regarded Kelly as "the greatest surgical technician of his time."

Chapter V. STUDY IN EUROPE (1895)

IN THE SPRING OF 1895, at Dr. Mall's suggestion, I went to Europe for six months' study in Leipzig. Accompanied by Dr. John Hewetson, I sailed from Baltimore on the small North German Lloyd liner S. S. *Weimar* for Bremen. Thayer and other friends arranged for many of the Hospital house officers, together with a large group of medical students, to give us a rousing send-off at the wharf.

Hewetson worked with Spalteholz in His's anatomical laboratory, where he made two sets of serial sections of the human brain stem—one transverse and one longitudinal. I entered Ludwig's physiological laboratory for some research work with Professor Max von Frey, but I also attended His's lectures on embryology, Wundt's lectures on psychology, and Flechsig's lectures on the anatomy of the brain. Flechsig had recently done important work on the sense areas and association centers of the human brain, work that threw a flood of light upon the localization of function in that organ. Professor Ludwig died on April 23rd, 1895. He had inspired all who came in contact with him, and Mall had been very devoted to him. Ludwig welcomed any student who was willing to work earnestly and learn something. Behind his friendly personality was the strict scientist with exact methods and "with aims always directed to the highest."

As von Frey had made brilliant contributions to the localization of the points in the human skin that mediate sensation for cold, warmth, pressure, and pain, and as I had a sharply circumscribed zone of anesthesia for temperature and pressure (less for pain) on the inner side of my left arm due to pressure from a cervical rib on a nerve, I was urged to make an exact study of this elective disturbance of sensibility by the methods he had devised.

It was a tedious process. The examination of each kind of sensation was divided into three stages. First the cold points were localized by applying copper wire (0.2 mm. in diameter) mounted on little sticks of wood, and each cold point found was marked on the skin by a dot. Then a piece of gelatin paper was laid on the skin and the sense points at the edges of the anesthetic zone were accurately copied and transferred to a plaster of Paris cast of the whole arm. Warm points were next localized by the hot tube of Blix and were similarly transferred to a second plaster of Paris cast. Pressure points (touch points) were next localized by means of the delicate test hairs of von Frey, and these were transferred to a third cast. Pain points were also localized, but pain sense was found to be only slightly abnormal. My work was carefully controlled for accuracy by Dr. F. Kiesow, for the thermal points, and by Professor von Frey for pressure and pain points. The details of the whole study were published both in English and in German (Cf. *Journal of Experimental Medicine*, 1896, 1: 348-360; *Deutsche Zeitschrift für Nervenheilkunde*, 1896, 8: 348-358). What impressed me most in this experience was the desirability of possessing "an infinite capacity for taking pains" if one is to succeed in original investigation, for I had been introduced to

the *Gründlichkeit* of German research. Each country has its excellences, and I have always admired the exactness of investigative work in Germany, the beauty of presentation of the publications in France, as well as the characteristic solidity of the best medical work in England and Scotland.

An elderly professor looked closely at the casts of my arm with their designated sense points. Knowing that I was one of Mall's students, he evidently wanted to encourage me, for he remarked *"Sie haben ihre Arme verewigt,"* (You have made your arm eternal). Some eighteen years after this publication on the neural effects of pressure from a cervical rib, a long series of papers was read upon cervical ribs at the Royal Society of Medicine in London. Dr. Osler was present and sent me the published papers on which he had scribbled: "We had a great evening with your old malady. W.O."

Hewetson and I enjoyed the life in Leipzig immensely, for besides the joys of our work we gradually became acquainted with the city, the Rosenthal park, and the surrounding country of Saxony. We hunted up a series of interesting statues (Luther, Melanchthon, Goethe, Leibnitz, Bach) and famous buildings, including the old Rathhaus. The theater, the Art Museum, and the Gewandthaus concerts satisfied our artistic longings. At the theater we saw the whole series of Shakespeare's English Kings presented. Auerbach's Keller was still to be seen, but we sought our beer elsewhere. I read much of Goethe while in Leipzig and made an especial trip to Weimar because of my interest in the life and creed of that great writer. I enjoyed especially his autobiographical *Wilhelm Meister* and his *Wahrheit und Dichtung aus meinem Leben.* We were

lucky enough to see both the first and second parts of *Faust* played.

Unfortunately, Hewetson developed active pulmonary tuberculosis while we were in Leipzig. He was advised to go into the Bavarian mountains, and I went with him to Partenkirchen-Garmisch where he found comfortable quarters. He never recovered fully from the disease and ultimately died of it in California. But the memory of Hewetson is and will always be one of my most precious possessions.

On returning to Baltimore I brought with me the serial sections of the brain stem that Hewetson had cut and stained in Leipzig and used them in teaching the histology of the central nervous system to the medical students. (Among these students was Miss Gertrude Stein, and I have often wondered whether my attempts to teach her the intricacies of the medulla oblongata had anything to do with the development of the strange literary forms with which she was later to perplex the world.) Flechsig's lectures in Leipzig had aroused my interest in the structure of the nervous system and the work of Golgi, Ramòn y Cajal, and Nissl upon the cellular units of the nervous system including cell body, dendrites, axis cylinder and its collaterals, and the end arborizations led me to become a strong champion of the validity of the neurone doctrine as formulated by Waldeyer, despite the objections that had been raised to it by Held and by Apàthy (see my article in the *American Journal of Insanity*, 1898, 55: 31-49). Encouraged by Dr. Mall, I decided to write a systematic account of the histology of the cerebrospinal and sympathetic nervous systems and of their motor, sensory, and association paths. Thanks to the help of an efficient secretary, Miss Eleanor Watts, it was possible to complete the

writing of this in about one year. The book was published by D. Appleton & Co., New York, in 1899 under the title *The Nervous System and Its Constituent Neurones.* It was a book of 1122 pages and was profusely illustrated, including admirable drawings made by the artist, Mr. L. Schmidt, from Hewetson's serial sections of the brain stem, as well as many drawings by Mr. Max Broedel and Mr. H. Becker. I had thus the fine opportunity of entering the field of modern neurological histology in America, a field of description in which I am proud to count myself one of the pioneers. Though I have written a number of books since, I doubt if any one of them is of greater scientific worth than this volume on the neurone systems, for in it, for the first time, the conduction paths of the central and peripheral nervous system were comprehensively and systematically described from the standpoint of the neurone doctrine.

The thorough studies made of the finer architecture of the nervous system at this time proved to be of great value to me in my clinical work later on, for neuropsychiatric problems became fully as interesting to me as the other problems of internal medicine.

Chapter VI. MEDICAL COMMISSION TO THE PHILIPPINE ISLANDS (1899)

IN THE COURSE of the Spanish-American War, Commodore George Dewey vanquished the Spanish fleet of Admiral Patricia Montojo in the spring of 1898, in the battle of Manila Bay and occupied Cavite, thus destroying the prestige of Spain throughout the Philippine Islands. Dewey permitted the insurrectionist, Emilio Aguinaldo, who had been banished to Hong Kong in 1897, to return to Cavite, and allowed him to be supplied with arms. Aguinaldo fought the Spanish and gained control of most of the Island of Luzon except Manila and its immediate environs, and General Wesley Merritt took the latter on August 13. Spain, on making peace at the end of 1898, ceded the islands to the United States. Unfortunately, the Filipinos led by Aguinaldo, who with his troops had been refused permission to enter Manila when General Merritt captured the city, felt deep resentment against the Americans, and in February, 1899, revolt broke out. Though American troops under General Otis were successful in early encounters with the Filipinos, reinforcements from the United States had to be awaited to complete their conquest, the war continuing until Aguinaldo was captured.

Flexner and I were close companions at this time. He had then and has continued ever since to hold a high place among my most valued intimates. In several conversations we dis-

cussed the importance of the study of tropical diseases in America's new possession in the Orient. European governments had during the preceding fifteen years been sending especially trained medical investigators into tropical regions. Thus Koch and Gaffky had gone to Egypt and India to study Asiatic cholera with the result that the cause of the disease, the "comma bacillus," was discovered. And at Hong Kong, Yersin had in 1894 isolated the bacillus that is the cause of bubonic plague. One night Flexner and I dined together, and were extravagant enough to buy a bottle of red wine. Under its genial influence we became very enthusiastic about the study of tropical disease. Next day we went to President Daniel C. Gilman and asked him if he thought it would be at all possible to send us to the Philippine Islands to make studies there. Mr. Gilman was a man whose range was very wide; he could always see a good way beyond what anyone said to him. We were greatly pleased and somewhat surprised that he welcomed our suggestion and promptly acted upon it. He secured the necessary funds from some friends of the University, and in March, 1899, we were authorized to go to Manila to study the diseases that prevailed in the islands "with the hope not only of making contributions to the Science of Medicine, but also of being of service to the American forces in those islands, to the natives of the country, and to humanity at large." We were to be equipped with a complete outfit for the study of disease by modern clinical, pathological, and bacteriological methods. Flexner and I were designated "Commissioners" and we were accompanied by two advanced medical students, Joseph Marshall Flint and Frederick P. Gay, who went as volunteers at their own expense to assist us in our work. John W. Garrett, interested in the politi-

cal relations of the archipelago, made a fifth member of the party.

Our group went to Manila by way of Vancouver, Japan, and Hong Kong. We met some of the Japanese medical scientists who were interested in the problems of tropical medicine and had made important original investigations of some of the tropical diseases. Tanemichi Aoyama was Professor of Medicine in the Medical School of Tokyo University. He had studied plague earlier in Hong Kong and while there had himself suffered a severe attack of the disease, but fortunately he recovered and when we saw him was in good health and an active and enthusiastic teacher and investigator. He and his colleague, Miura, showed us several cases of *Kakke,* a disease more generally known as beriberi, which we observed later in the Philippine Islands. We also visited the laboratory of Shibasaburo Kitasato, the distinguished bacteriologist and immunologist who had been the first to grow the tetanus bacillus in pure anaerobic culture and who had studied tetanus toxin and antitoxin. One of his assistants, Dr. K. Shiga, had isolated a bacillus that he regarded as the cause of epidemic dysentery in Japan and by animal experiments had prepared a serum that he believed would be of value in the treatment of human cases. Though we spent only ten days in Japan, we learned much there that was to be of help to us in our studies of the diseases of the Philippines.

At Hong Kong, through the courtesy of Dr. J. A. Lawson, we saw, for the first time, bubonic plague, the famous "black death" that destroyed one-quarter of the population of Europe in the fourteenth century. Dr. Lawson had studied the great outbreak of the disease in Hong Kong in 1894, and epidemics

also occurred there in 1896, 1898, and 1899 (the year of our visit). Kitasato and Yersin had studied the causative agent, *Bacillus pestis*, in 1894. We were permitted to examine plague patients clinically in the wards of the isolation hospital and pathologically in the deadhouse. It was the Chinese inhabitants that were most often attacked; cases among whites had been rare. One member of our group commented upon the curious psychological reactions we manifested on encountering this much dreaded disease. On our first visit to the morgue containing bodies of patients that had died of plague, we were all very careful not to come into personal contact with the dead and even avoided drafts of air leading from the vicinity of the cadavers. On the second day we began cautiously to palpate the swellings (buboes) due to enlargement of the lymph glands (in the groins, armpits, or neck). And on the third day we found ourselves making postmortem examinations of the internal organs! It had not yet become generally known that infection is most often due to the bites of fleas that have bitten infected rats (a fact that was not to be definitely established until 1907), direct infection of one patient by another occurring only rarely, except in cases of "pneumonic plague" when the bacilli are sprayed into the air by coughing. For epidemics in rats, the rat flea (*Pulex cheopis*) is now believed to be responsible.

We arrived in Manila, some six hundred miles southeast of Hong Kong, early in May, 1899. We presented letters of introduction given us by Dr. George M. Sternberg (who was then Surgeon General of the United States Army) to Colonel Alfred Woodhull, Chief Surgeon of the American forces in the Philippines. Most of the American sick were being cared

for in two large base hospitals, known respectively as the First and Second Reserve Hospitals. Major Crosby and his staff had charge of the 1,200 patients in the former institution, and Captain Keefer and his associates had control of the Second Reserve Hospital containing about three hundred patients. Convalescent patients were sent for further upbuilding to a special hospital on Corregidor Island, pleasantly situated on the shore and snugly nestled beneath the fort that had fired on Dewey's ships when he entered Manila Bay. Besides the hospitals mentioned, there were several additional institutions ("district" and "regimental" hospitals) in Manila, Cavite, and other places in which American troops were stationed. We were all deeply impressed by the excellent organization of the medical and surgical work of the Army that had been so quickly developed by Colonel Woodhull and his co-workers.

We set up working headquarters at the First Reserve Hospital because of the especial facilities and material available there. It was our good fortune to find Lieutenant Richard P. Strong (who had graduated from the Johns Hopkins Medical School in 1897 and had served for a year as intern on the medical staff of the Johns Hopkins Hospital) in charge of the laboratory at the First Reserve Hospital. Dr. Strong established the Army Pathological Laboratory and was appointed by the Secretary of War in 1899 as the president of a board for the investigation of tropical diseases in the Philippine Islands. Dr. Strong generously shared his laboratory with us and aided us in every way possible with our studies.

The studies of the tropical diseases in the Philippines by our commission yielded fruitful results. We did not find any bubonic plague in the Philippines (from the records it was ap-

parent that it had never occurred there) but there were many febrile diseases, typhoid fever, malaria, tuberculosis, dengue, and dysentery, and some smallpox. We examined many cases of beriberi and also became interested in the skin diseases prevalent among the natives and the American soldiers. Many of the latter were attacked by what was called "dhobi itch," or "washerman's itch," which seemed to us to be a kind of eczematous ringworm due to invasion of the skin by a vegetable fungus, *Epidermophyton.* One of the most important results of our expedition was the isolation by Dr. Flexner from the dejecta of patients suffering from acute epidemic dysentery of a bacillus as its cause. This dysentery bacillus, though it resembles closely the bacillus isolated by Shiga from dysentery patients in Japan, is not identical with it. To these two "strains" of the dysentery bacillus there have since been added still others by Strong, His, and others. Infections due to the Shiga strain are as a rule more severe than those due to the Flexner strain. Such studies of dysentery were of very great importance, for they gave promise of the later working out of curative and preventive methods, and this promise was fulfilled in subsequent years (antiserum, vaccines). The significance of this can be realized when it is recalled that "in the tropics dysentery destroys more lives than cholera and has been more fatal to armies than powder and shot."

In the study of cases of malaria in Manila, it was easy to demonstrate the malarial parasites in the blood (*Plasmodium vivax* in the tertian cases, *Plasmodium immaculatum,* with its crescent and oval forms, in the aestivo-autumnal cases). We were well prepared to make careful studies of the blood in malaria since we had studied many cases in the Johns Hopkins

Hospital, where Thayer and Hewetson had published their important article on malaria in 1895. The frequency and malignancy of the cases of malaria in the islands vary with the locality and with the season of the year. Epidemics of a very fatal form known as *calentura perniciosa* were said to be much feared in the interior of Mindoro and in the regions adjacent to the Rio Agusan in Mindanao. We were interested to learn of a statement in the records of the Jesuits in Mindanao that the natives of that island had recognized more than two centuries ago a relation between the malarial intermittent fevers and the prevalence of mosquitoes. The standard treatment of malaria in the islands was with quinine; the drugs atabrine and plasmochin, which are more effective than quinine, especially in the pernicious forms of malaria, had not yet been discovered.

At Cavite, we had an excellent opportunity to study the clinical and pathological aspects of beriberi, as some two hundred cases had occurred among Filipino prisoners, who lived mainly on polished rice. All varieties of the disease (neuritic or "dry form," cardiovascular or "wet form," etc.) were observed. Historically, the Philippine Archipelago has the unenviable record of being the country in which beriberi has been relatively most frequent. Ten thousand deaths due to beriberi have occurred there in a single year among a population of about twelve million people; some 58 per cent of these deaths were among sucklings. This relative frequency exceeded that of Japan, where there were some 20,000 deaths yearly among a population of about eighty million people. At the time of our visit to the Philippines the real cause of beriberi had not yet been discovered. It was not until 1916 that the Dutch investigator, Eijkmann, working in Java, proved that pigeons fed on

polished rice developed paralysis due to neuritis (polyneuritis gallinarum), and this in turn was shown to be due to deficiency of vitamin B_1 in the diet. As early as 1913 at a meeting of the Far Eastern Association of Tropical Medicine, the conclusion had been reached that "beriberi is a nutritional disease due to the lack of some substance in the diet, a substance that is present in large amounts in unpolished rice," but the opinion did not meet with general acceptance. Studies from 1916 on proved conclusively however that beriberi is due to B_1 deficiency and can be cured by administering crystalline B_1 (thiamin chloride) directly or by supplying food that is rich in this vitamin (unpolished rice, pork, soy beans). Bran, yeast, and in the Philippines tiki-tiki extract have been used in the treatment of beriberi. They all contain B_1. It is interesting that in the neuritis that occurs in alcoholics, we have in reality to deal with beriberi, for heavy drinkers do not ingest enough of the antineuritic vitamin B_1. It is gratifying to know that with the application of this newer knowledge, the incidence of beriberi is rapidly growing less in the Philippines and in other countries in the Orient.

When we were in Cavite, a large epidemic of dengue fever, sometimes called "break-bone fever" or "dandy fever," occurred. Eight years after we were there this disease was carefully studied in the Philippines by Ashburn and Craig of the Army Board for the Study of Tropical Diseases. They showed that it is due to infection with a filtrable virus and that this virus can be transmitted by a mosquito (*Culex fatigans*), though other mosquitoes, including the *Aedes aegypti*, may apparently also be transmitters. Other Army officers, Siler, Hall, and Hitchens, later on made further researches on den-

gue fever in the Philippines and published a large monograph on the subject in 1926.

Another disease that we had not seen before was leprosy. Through the kindness of Major Frank Bourns of the Provost-Marshal's department, we were permitted to study the cases in the Spanish hospital of San Juan de Dios, those in the leprosy hospital (San Lazarus), and those in the city asylum. Some of the patients exhibited the nodular or tuberous form, some the neural or anesthetic form, and some were mixtures of the two.

Smallpox, which had previously been prevalent in Manila and had claimed many victims from among the American soldiers at the beginning of the occupation, had been almost stamped out, though there were still a few cases in the city. The rapid control of the disease was due to the energetic activity of Major Bourns, who made vaccination compulsory and re-established a carabao (water buffalo) vaccine farm.

Our sojourn in the Philippines was most enjoyable also for the insight it gave us into the conditions of life in a tropical country. We lived at Calle Malacanan, No. 1 (formerly the palace of the Governor).

Jacob Gould Schurman, who had been President of Cornell University, was in Manila in 1899 when we were there. He had been sent as the first president of the United States Philippine Commission (William Howard Taft succeeded him in 1900). President Schurman extended every courtesy to us during our visit. Though then only forty-five years old, he was to have a long and most distinguished career. When I saw him again in 1938 he was exceptionally well for his age.

The members of our party were all young and healthy and

found the climate supportable, notwithstanding the continuous heat and high degree of humidity. We were there in the hottest season of the year, and when the rains set in, in July, the increased humidity added to the climatic discomfort. We wore khaki uniforms or white uniforms, having been made lieutenants in the Army (by courtesy). White people who had lived in Manila for some time gave us good advice as to how to live —careful selection of foods, avoidance of iced drinks and of any excesses (physical or mental), tropical clothing, tepid baths rather than cold baths, staying indoors during the hottest part of the day, and sleeping under mosquito-netting. One genial Englishman who had lived for nineteen years in Manila and remained perfectly well told us, "It is not so much the climate as the glass bottle that injures people out here." The water in Manila was safe to drink without boiling, but much had been written about the importance of drinking only boiled water outside the city. Soldiers on the march were enjoined to drink only boiled water, but one experience we had made us suspect that this advice might prove futile. Our Johns Hopkins party made a trip one afternoon to the front line where American soldiers were face to face with the insurrectionists. From the railroad on the Bag Bag river we walked several miles to San Fernando, but before the end of the journey we found ourselves, contrary to all hygienic counsel, drinking any water that was available, some of it certainly far from pure!

When the time came to pack up our belongings, including a large amount of pathological material to be studied later in Baltimore, we were all sorry to leave the islands. We had come to like the brown Malay people (Tagalogs) and the mestizos. I learned from our No. 1 boy a culinary trick, namely, the art

of boiling rice so that each individual grain stands out separately, and this I practised with pride in later years at picnics during our summer holidays on the Georgian Bay in Canada.

On the return trip to the United States, our party divided. John W. Garrett went to Java to become acquainted with affairs of the Dutch East Indies, gaining knowledge that doubtless was helpful to him in his later distinguished career as a diplomat, for he became secretary to the American Legation at the Hague in 1901, was made Envoy Extraordinary and Minister Plenipotentiary to the Netherlands and Luxemburg during the World War, and in 1929 Ambassador to Italy. Flexner and Gay returned by way of Ceylon and the Suez Canal, while Flint and I came back by way of British India, spending three most interesting weeks there.

Chapter VII. VISIT TO INDIA (1899); INSPECTION OF PLAGUE DISTRICTS

After leaving Hong Kong, the steamer on which Flint and I traveled called at Singapore in the Straits Settlements. We then went northwest across the Bay of Bengal, up the Hugli River for a distance of eighty miles, and landed at Calcutta. This city on the eastern coast of India, strange to say, was not, in 1899, seriously devastated by plague as was its rival, Bombay, on the western coast. Though there had been some mortality from the plague earlier in the year, there were very few cases when we were there. School memories of English history were revived in us as we visited the site of the "Black Hole" of Calcutta. We remained only a short time in Calcutta, just long enough to visit the medical school, look at the monuments and principal buildings, and drive in the Maidan Park, along the Red Road, and up and down the Chowringhee, on which the principal hotels, clubs, and shops are situated.

Both Flint and I wanted to visit Darjeeling, the well-known hill station of the Himalayas in northeastern Bengal, so we went there by train. I shall never forget the grandeur of the scenery in Darjeeling. By good luck the weather was fine, and we were able to see in the distance the peaks of the two highest mountains in the world, Mount Everest in Nepal and Mount Kinchinjunga in Sikkin. Covered by perpetual snow, these mountains were awe-inspiring.

Returning to Calcutta, we went by train to Benares, Agra, Delhi, and Jaipur. Benares, the Holy City of the Hindus, is pleasantly situated on the River Ganges, and great numbers of pilgrims visit the place every year. We saw some of these attempting to wash away their sins in the sacred river. At Agra, we visited the Taj Mahal. We were interested to see Delhi and the Delhi Ridge because of their importance in the Mutiny of 1857. At Jaipur (or Jeypore) we saw a more modern city, laid out in rectangular blocks, with wide well-paved streets, very different from the other cities in India.

I next wanted to visit Neemuch in the State of Gwalior, on the border of Rajputana in Central India, where Dr. Margaret MacKellar (who was at work with me in Dr. Mackay's office in Ingersoll ten years earlier) had been active for some nine years as a foreign missionary and where she was to continue to work for more than thirty years longer. Dr. MacKellar gave us a cordial welcome and showed us what she was doing among the natives, healing their bodies and teaching them the Gospel of Love. Being a woman, a Christian, a missionary, and a doctor, Dr. MacKellar had found that "the combination, like a skeleton key, opened all doors" to her. We were greatly impressed to find how fully this Canadian woman physician had been able to win the confidence of both Mohammedans and Hindus. This was well illustrated by an incident that occurred during our visit. A Mohammedan named Yusif was the handy man of the hospital in which Dr. MacKellar worked and had become so devoted to the doctor that he had had serious quarrels with other Mohammedans because he "made no secret of the fact that he believed that Dr. MacKellar would go to heaven." Though Mohammedan men do not allow other

men to visit their harems, Dr. MacKellar had so completely won the confidence and trust of Yusif that he allowed her to take me, as her friend, to see his home. The story has been vividly told by Alice Roger Collins in her sketch of Margaret MacKellar included in her series of *Pen Pictures of Real People:*

> But to go back to Yusif's home! Let us imagine we see the two doctors as they approach the harem and begin to ascend the rickety stairs. Dr. MacKellar was afraid the stairs might not be able to stand Dr. Barker's weight; and he probably thought of this grave matter himself. Dr. Barker told afterwards that he quite plainly heard the swish of the women's garments as they scurried behind the purdahs as the two medical people approached the last steps. Dr. Barker did not see Yusif's women folk; but they were anxious to see him, so peeped from behind the curtains. The great doctor had to feel flattered that he had been allowed to enter the home—the like of which he had never seen. . . . The fact that the visit was allowed was a wonderful compliment to our missionary. . . .

In the same sketch Dr. MacKellar's farewell to Yusif is described:

> When Dr. MacKellar was leaving India, Yusif, in grief, stood on the running board of the car and offered his farewell gift to his well-beloved mentor and friend. It was a curious looking brooch. It was some time before Dr. MacKellar found out that this brooch was the famous "tiger-bone" which is supposed to be a powerful mascot and charm against all evil forces. . . . The lucky man who secures the bone is the hero of the tribe for some time. Yusif, being a competent goldsmith, had set it in gold. In sorrow at the departure of his friend he could think of nothing better than this mascot to give—a protection for life.

The importance of Dr. MacKellar's work in India has, since the time of my visit to her, received manifold recognition. At the Delhi Durbar (1911) she was the only missionary in Cen-

tral India to be invited to attend, and her name appeared on "the Honour List of His Majesty King George the Fifth of England, Emperor of India." She also received the Kaiser-i-Hind medal, a much coveted decoration in India, in recognition of her conspicuous service during epidemics of bubonic plague, smallpox, and cholera, as well as for her work during the great famine of 1900-1901; the medal was pinned upon her by the late Sir William O'Dwyer representing the Viceroy of the Central Indian States, at the opening ceremony of the new W. M. S. Hospital in Neemuch. Her own Alma Mater, Queen's University, Kingston, Canada, conferred upon her the honorary degree of LL.D., the second woman graduate of the University to be thus honored. As I write, Dr. MacKellar, now eighty years old, is back in Toronto; since her return from India, she has addressed more than one thousand meetings, traveling from one Canadian coast to the other, and has contributed many inspiring articles to Canadian magazines. In May, 1941, a brief dramatization of her life was broadcast from radio station WABC under the caption, "A Friend in Deed."

In Bombay and Poona, Flint and I studied as fully as we could in the time we had the measures adopted by English officers for combatting bubonic plague. In Bombay we were taken through the hospitals, bazaars, and native quarters by Colonel Weir, the chief health officer of the city, a man who had a profound knowledge of the character of the people of India and leavened his duty as plague official with such a degree of tolerance and respect for Indian prejudices and traditions that he gradually came to be regarded by the natives with respect, admiration, and devotion.

Three years before our visit there had been a serious outbreak of plague in the city and island of Bombay, so serious as to attract the attention of the whole world. The disease was still very prevalent there—more than 50,000 persons died of plague in the city of Bombay alone in 1899, the year of our visit—and the outlook for controlling it seemed to the plague authorities indefinite and unhopeful. The problem would have been difficult enough if medical officers had met with intelligent appreciation of their efforts on the part of the people, but in Bombay they encountered, at first, nothing but prejudice, bigotry, and resistance. Anywhere but in the Orient sanitary regulations would have offered more hope of preventing the disease, but with the Aryan population in India the application of measures of sufficient stringency was found to be impossible. Kipling knew the attitude of these people when he wrote the lines:—

> Now it is not good for the Christian's health to
> bustle the Aryan brown,
>
> For the Christian riles and the Aryan smiles, and
> he weareth the Christian down.

Colonel Weir in his 1897 report said: "So bitter was the opposition to the capture of rats that monstrous stories were invented of our officers throwing live rats on the fires, as if to give pleasure to men tired and weary, and knowing the danger of handling rats, doing what they need not do, even if a sense of humanity did not forbid them." The plague authorities had to deal with people who were more careful of the lives of animals than of their own. The measures necessary in fighting plague clashed with the interests, the customs, and the deepest feelings of the inhabitants. On one occasion the picking up of

a few sick pigeons had caused great excitement, nearly leading to a riot. Peaceful *bunniahs* (traders) threatened to raze the city for the sake of ten sick pigeons! Actual plague riots had occurred, causing the death of several soldiers and policemen. The natives believed that human sacrifice was necessary to palliate the gods who control the plague, so they killed some of the Sahibs. By a strange coincidence, after the death of these soldiers in the riots the death rate from plague suddenly diminished; the natives looked upon this as evidence that the human sacrifice had been acceptable to their gods, and Colonel Weir was fearful that recurrence of the pest might lead to more killings of Europeans. It was interesting that at the time of large outbreaks of plague in Bombay a striking increase in the mortality of rats in the city was observed.

The sanitary measures at first adopted interfered with the strict castes of the Hindus, and house-to-house inspection violated the seclusion in which the Mussulmans guard their women. It is dishonorable for a Hindu to be touched by one of low caste, and it is disgraceful—as I had found out at Neemuch—for a Mohammedan to permit his women to be seen. Relatives of patients would even be cruel to them in order to conceal the fact that they were plague-stricken. While on a tour of inspection, Colonel Weir found in a dwelling occupied by dhobi (washerwomen), a room filled with clothes, and on examining closely he discovered a pair of elbows protruding from underneath a bundle of clothes. He pulled out a dazed dhobi who had the plague and had to be sent to a hospital. In another place he discovered a Seedee, or negro boy, sick of plague; his mother fiercely resisted his removal until,

in order to pacify her, he sent for the King of the Seedees, who, on his arrival, had the boy sent to a hospital.

The prophylactic inoculation of Haffkine being made from meat broths, the high-caste Hindus would have none of it, so Haffkine was trying to prepare it by using a substratum of gluten or other substances free from meat extracts.

All efforts of the plague authorities were misinterpreted. It was even said openly that the doctors were killing the patients by subcutaneous injections in order to stop further ravages of the plague. Fantastic stories were invented, including a statement that patients were purposely killed and their hearts removed in order that the latter might be sent to Her Majesty, the Queen Empress, to appease her wrath on account of the disfigurement of her statue, which had occurred early in the epidemic. At one hospital, a thousand millworkers made an attack in which road metal was thrown at the medical men and even at the patients, the idea being to wreak vengeance on the hospital staff for the alleged killing of patients! Traditions, religious, economic, and social, cemented by the heredity of hundreds of generations, combined to combat the well-meant efforts of the plague authorities. It became obvious that many desirable measures could not be enforced as they resulted in more harm than good, and the sanitary workers had to modify the rules in order to secure the maximal oriental toleration of occidental innovation. Sectarian and class hospitals had to be established in various parts of the city to meet the prejudices of the people. The Hindus, for example, never eat meat, though the Mussulmans do; the Parsees will demand one thing, the Jains, who though wealthy are especially liable to contract plague, another.

On our tour of Bombay with Colonel Weir we observed that the life of the poorer classes is one of filth and squalor. We were told that before the outbreak of plague in the city, only about one-fifth of the population earned more than six annas (12 cents) a day. We were shocked by the overcrowding. Captain Howell told us that in one six-story tenement he counted 1,500 people; the larger tenements, known as "chawls," are veritable anthills. But the vast majority of the inhabitants of Bombay live in houses consisting of one room only; in this room their food is cooked and eaten on plantain leaves or brass platters placed on the floor, for no tables or chairs are used.

One morning we visited the Arthur Road Hospital, where plague patients were carefully treated by a native staff under Khan Bahadur Dr. Choksy, a very capable and devoted Parsee medical practitioner, as physician-in-charge. Each ward had an English trained nurse who was assisted by native ward boys to whom most of the work was delegated. In this hospital, besides ordinary plague cases, we saw cases of combined infection—malaria with plague and plague with relapsing fever. Dr. Choksy showed us also a rather rare form of the disease—plague associated with inflammation of the parotid gland; he assumed that the portal of entry for the plague bacillus had been the duct of the gland.

In a slum district of Bombay known as Kamathipura, there were very large numbers of plague cases. We were told that the courtesans of Bombay were relegated to this district, but that strangely enough not a single case of plague had occurred among them. The explanation given by the plague authorities was that these women lived in houses that were always open

to air and light and that their mode of life was far more sanitary than that of their plague-stricken neighbors.

The high point of our observations of plague in India was reached when we visited Poona, where the plague was then more prevalent than anywhere else. To reach that city of 140,000 inhabitants we had to go 119 miles by rail to the southeast through the Western Ghats. Poona had suffered from a severe drought in the preceding year and the general resistance of the population was low. When we alighted from the train in Poona, we were astonished at what we saw. The population was in flight, one-third of the people had already left the city or had died from the disease. Panic prevailed among the people, all desiring to get away. Hundreds of natives rushed into the third-class compartments until they were entirely filled; those who could not get in fell asleep on the station platform waiting for the next train.

We went at once to pay our respects to Major Reed, the chief plague authority, and he kindly delegated one of his inspectors, an intelligent native editor, to take us through the plague houses. The town was preternaturally quiet and dismal; it suggested the atmosphere of a gigantic sick room. We passed a Mohammedan funeral, headed by chanting Mullahs bearing clanking cymbals in their hands. The body of the deceased, borne on a litter, was partly covered with a white muslin cloth, but we could see the emaciated face with its open staring eyes directed blankly upward toward the sky. Our guide led us into the court of an old Hindu temple where on the floor of a little room at one side of the yard lay a girl of sixteen, unconscious, and with a plague bubo in her right armpit. A naked Yogi, leering at us, stood before the shrine of the court, his body

littered with ashes and his face hideously painted as he bowed.

On the road leading to the general plague hospital we passed bullock carts laden with plague patients. At this hospital, one hundred plague patients were being admitted daily, and eighty patients died daily. Major Windle, in charge of the hospital, had great difficulty in keeping servants, ward boys, or grave diggers, for despite the offer of larger wages than usual, the fear of the pest made them refuse to accept jobs. The mortuary of the hospital consisted of four corrugated iron shanties—one for Mohammedans, one for high-caste Hindus, a third for low-caste Hindus, and the fourth for Christians and Parsees. Mohammedans were being buried in long rows of shallow graves, whereas the dead Hindus were placed upon funeral pyres built of dried cakes of cow dung, each pyre being fired from the top so that the body was slowly cremated. Hindu relatives watched the burning; some left when the skull of the deceased exploded; others remained until the incineration was complete. Some who were of frugal inclination, we were told, sold the ashes to speculators, who scratch away the ruins of the pyre in a search for melted jewelry.

Leaving Poona, Flint and I felt that we had had a rare experience of the horrible. What we had witnessed of plague devastation was as dire as anything observable in modern times, though epidemics of typhus like that studied by the Red Cross Commission in Serbia in 1915 may have approached it in ravage. Though, as medical men, we were inured to scenes of suffering and accustomed to the presence of the dead, what we saw in Poona left us with an indelible impression of dreadful nightmare. The words stricken, pest-ridden, and pestilence can have their full meaning only to those who have looked upon

such scenes. For the first time we realized what the horrors of the Black Death of Europe in earlier centuries must have been. Though grateful for the experiences we had had in India, we left Poona and Bombay with a profound sense of gratitude that, after all, "the West is not the East." Moreover, we were glad that through medical research the world may confidently expect that ultimately great epidemics of infectious disease will be abolished.

Chapter VIII. THE JOHNS HOPKINS HOSPITAL AND MEDICAL SCHOOL IN THE NINETIES

On our return from India—by way of the Mediterranean and England—we took up our lives again in Baltimore. Flexner continued his work as Associate Professor of Pathology and I mine as Associate Professor of Anatomy and Resident Pathologist. Flint and Gay returned to their studies in the Medical School.

The late nineties were years of seething activity in the Johns Hopkins Hospital and Medical School, and the members of the several departments included many men who were to have noteworthy careers. In the Department of Medicine, Dr. Osler was becoming ever more famous as a clinical teacher. A second edition of his textbook had been published in 1895, his *Lectures on Angina Pectoris and Allied States* appeared in book form in 1897, and he wrote many articles on typhoid fever, malaria, amoebiasis, and other clinical subjects. As Dr. Welch said of him, he had acquired through his early studies "the naturalist's habit of mind, and approached the study of disease in the true spirit of scientific inquiry and by accurate observation, combining the broadest humanism with the best science of the day." Though the application of experimental methods in the clinic was not to come until later on, Osler's organization of the medical clinic at Johns Hopkins marked a new development in American medicine. For he revolutionized the

methods of teaching medicine, especially in his ward rounds and in his third-year clinics, and through stimulating his students to imitate him he influenced teaching throughout the country. To everyone about the Johns Hopkins Hospital he was affectionately known as "the Chief." He became a much sought after medical consultant by practitioners in Baltimore and elsewhere. He quickly won the admiration, respect, and affection of members of the profession everywhere. In Maryland he participated actively in the meetings of all the medical societies and interested himself especially in the welfare of the library of the Medical and Chirurgical Faculty. John Ruhräh, speaking of Osler's relation to American medical libraries, said, "There is none other who has had such a universal influence." And Miss Noyes, the librarian of the Medical and Chirurgical Faculty, has told of the growth of the library that was due to his efforts. He had the knack of harmonizing opposing interests and of clearing up many of the misunderstandings that existed among members of the profession; "his presence banished discord and suspicion." He was the enemy of malicious gossip, and when anyone spoke critically of another he would abruptly change the subject of conversation. His work in connection with the development of hospital social service, of district and public health nursing, of anti-tuberculosis work, of infant and child hygiene, and of preventive medicine in the city and state cannot fail to be permanently recorded in the annals of the medical history of Maryland. He taught his assistants how to use the *Catalogue of the Surgeon General's Library* and the *Index Medicus*. In one of his addresses he said: "To study the phenomena of disease without books is to sail an uncharted sea, while to study books without patients is not

to go to sea at all." But he encouraged us to read widely outside of medicine in addition to the reading of medical books and journals. It was through his enthusiastic recommendation that I became acquainted with Burton's *Anatomy of Melancholy*, Sir Thomas Browne's *Religio Medici*, Boswell's *Life of Samuel Johnson*, Montaigne's *Essays*, Plutarch's *Lives*, and Jowett's translation of Plato's *Dialogues*. Under Dr. Osler's influence I became an omnivorous reader and explored many different fields.

Life inside the Johns Hopkins Hospital during these years had a mellowing and stabilizing influence upon all who participated in it. Strong friendships were formed within our circle, and pleasures were freely shared. There was little if any tendency to jealousies among us, despite the "rich heterogeneity" of the group.

On Dr. Osler's staff, William S. Thayer was rising rapidly to prominence as teacher, investigator, and practitioner. He had acquired Ehrlich's technique of blood examination when he worked in Germany and was the authority in the Hospital on hematology. In 1895, he organized the course in clinical microscopy for the students of the Medical School. From being Resident Physician, he became Associate and a little later Associate Professor of Medicine and in 1900 Professor of Clinical Medicine. He published his *Lectures on Malarial Fevers* in 1897 and in the same year represented the Johns Hopkins Hospital at the Twelfth International Congress in Moscow. Of his further career much will be said later on in this volume. George Blumer was Assistant Resident in Medicine from 1893 to 1895 and then joined Dr. Welch in Pathology. Thomas B. Futcher joined the Medical Staff in 1894, becom-

ing Resident Physician in 1898; Thomas McCrae came in 1895 as Assistant Resident; and Charles N. B. Camac was Assistant Resident from 1895 to 1897. Among the abler students who worked with Dr. Osler in the nineties were Thomas R. Brown, who later on was placed in charge of Digestive Diseases in the Out-Patient Department and who found in the blood significant changes in trichiniasis, Charles P. Emerson, J. Hall Pleasants, J. H. Mason Knox, Walter R. Steiner, J. H. Pratt, L. P. Hamburger, and Thomas R. Boggs. Many of these men have had notable careers. Futcher was to become Associate Professor of Medicine at Johns Hopkins, McCrae was to become Professor of Medicine in Jefferson Medical College in Philadelphia, and Camac was to become Professor of Medicine at Cornell and at Columbia University in New York. Emerson became Professor of Medicine in Indianapolis, Walter Steiner attained to important positions in medicine and pathology in Hartford, Connecticut, and J. H. Pratt became Professor of Clinical Medicine at Tufts College Medical School and later Physician-in-Chief of the New England Medical Centre in Boston. T. R. Boggs became Associate Professor of Medicine at Johns Hopkins and was the Physician-in-Chief at Bay View Hospital. Hamburger became one of the most sought after internists in private practice in Baltimore. Warfield T. Longcope, H. A. Christian, and Louis V. Hamman were senior students at the end of this period, and were to have distinguished careers in internal medicine. All these men transmitted the clinical methods of Osler to their students, and most of them wrote of their debt to him in the Memorial Volumes to Sir William Osler edited by Maude E. Abbott in 1926. As I look back to the years between 1891 and 1900, I

remember especially how much I appreciated close association and friendship with the members of this group.

The Department of Pathology headed by Dr. Welch did not need a large staff, but the men who worked in it during the nineties were full of promise. W. T. Councilman, as I have already said, was to become Shattuck Professor of Pathology at Harvard University, to be known as "a leader in medical research, an inspiring teacher, and a man of scholarly attainments"; he lived to be seventy-nine years old (he died in 1933) and left behind him a legion of good friends. Simon Flexner was made Professor of Pathology at the University of Pennsylvania in 1899, and when the Rockefeller Institute of Medical Research was founded in New York City in 1903 he was to become its Director, a position that he occupied for thirty-two years, conducting researches in pathology, bacteriology, immunology, and experimental epidemiology. The ceremonies attending the opening of the laboratories of the Rockefeller Institute were held May 11, 1906, and my wife and I were present. Admirable addresses were made by President Eliot of Harvard, President Butler of Columbia, Dr. Welch (who was President of the Board of Directors), and Dr. Holt (the Board's secretary). To Dr. Flexner the important task of writing the biography of Dr. Welch (published in 1941) was assigned. A. C. Abbott, who married Dr. Osler's niece, was soon made Professor of Hygiene and Bacteriology in the University of Pennsylvania; he wrote a book on bacteriology and another on the hygiene of transmissible diseases. George Nuttall became Professor of Biology in the University of Cambridge in England. William G. MacCallum made the important discovery in 1897 of the part played by the free

"flagella" in the process of fecundation of malarial parasites. Manson had thought that the flagella were spores that escaped in the stomach cavity of the mosquito in order to infect it, and Ronald Ross supported the idea. When MacCallum reported his observation of a "flagellum" entering a "crescent-sphere," Ross saw what a mistake he had made and said that he had "always felt disgraced as a man of science ever since." (In connection with the history of malaria, however, one of the important names is that of Ronald Ross, for it was he who brought the definite proof that the *Anopheles* mosquito is the transmitter of the malarial parasite to man.) MacCallum was later to be made Professor of Pathology in Columbia University in New York and was to be appointed successor to Dr. Welch in 1917, when the latter took over the Directorship of the new School of Hygiene and Public Health. Reed, Carroll, and Lazear who early were students in Welch's laboratory made their great reputation in the study of yellow fever in Cuba. George Blumer (with W. S. Thayer) had studied ulcerative endocarditis due to the gonococcus in Welch's laboratory, and Eugene Opie had done good work in hemochromatosis and on the histology of the islands of Langerhans in the pancreas, from which insulin was later to be obtained. If, speaking figuratively, Dr. Osler could be called the "heart" of the Hospital, Dr. Welch could, without prejudice, be designated its "head." Medical men who have not read Dr. Welch's address on *The Evolution of Modern Scientific Laboratories*, delivered at the opening of the William Pepper Laboratory of Clinical Medicine in 1894, should do so, for it shows how well he foresaw the crying need for such laboratories if the medical sciences were to develop as they should in America.

How Dr. Welch could meet successfully the exigencies of an occasion reminds me of a story that should go on record. A dinner was given in honor of one of our internists, whom I shall call Dr. X, on the tenth anniversary of his appointment to the staff of the Hospital. Among the Hopkins men, there were few who set a more wholesome example of temperance and orderly living than did X. But before the dinner his comrades ganged up on him, plying him repeatedly with cocktails, which, in the circumstances, it was difficult for him to refuse, until he had imbibed an amount of alcohol that was wholly discordant with his customary intake. Indeed, as the dinner proceeded it became evident that X's tolerance of the ethyl compound had been considerably exceeded. After several eulogistic speeches had been made, X was called upon to respond to a special toast. Rising falteringly to his feet, all that X, now somewhat dysarthric, could say was, "Ten yurs at Johns Hopkins. Ten yurs at Johns Hopkins," and dropped back into his seat. Everyone was amused, albeit a little conscience-stricken at this amazing evidence of discomfiture on X's part, so foreign to his nature. But Dr. Welch quickly rose to his feet and eased the tension, though he heightened the hilarity, by remarking, after looking around: "A great thought, adequately expressed!"

In Dr. Halsted's department, between 1890 and 1900, the more important members of the staff were J. M. T. Finney, a truly great practitioner of surgery, who has recently written a delightful autobiography *A Surgeon's Life* (1940); Joseph C. Bloodgood, who joined the resident Surgical Staff in 1892 and was gradually promoted in rank until he became Associate Professor of Surgery at Johns Hopkins, Surgeon-in-Chief to

St. Agnes Hospital, and an authority on cancer; Harvey W. Cushing, who joined Halsted's staff in 1896, became famous after 1900 as a neurological surgeon (at Johns Hopkins and later at Harvard, where he was made Professor of Surgery and Surgeon-in-Chief to the Peter Bent Brigham Hospital in 1911), for his work on the pituitary gland and on brain tumors, and for his monumental biography of Osler (in two volumes) published in 1925; George Walker, who made an intensive study of the anatomy and physiology of the prostate gland (1900); Hugh H. Young, a gay young Texan, who became assistant resident in surgery in 1895, developed a special interest in urological surgery (especially prostatic surgery), was later made head of the James Buchanan Brady Institute of Urology at the Johns Hopkins Hospital, and, in 1940, published the raciest autobiography of that year; and James F. Mitchell, who after his work in Halsted's Clinic was to become Clinical Professor of Surgery in George Washington University in the District of Columbia. Dr. Halsted evidently exercised great care in selecting the members of his staff as has been proven by the eminence and distinction attained by the men who worked with him. "The Professor," as Dr. Halsted was called by all the younger men, was more interested in the scientific than the purely practical side of surgery, but nevertheless he made many very important practical contributions to the art of surgery, including the introduction of the use of rubber gloves, and his insistence upon absolute asepsis, hemostasis, and the gentle handling of tissues during operations. Dr. Alexis Carrel has referred to Dr. Halsted as "the greatest surgical thinker" America has produced, and Dr. William J.

Mayo had real admiration for this "shy unapproachable perfectionist."

Dr. Kelly's department included both Gynecology and Obstetrics until 1899, after which Obstetrics became independent of Gynecology. John Whitridge Williams taught the obstetrics in Dr. Kelly's department until the two subjects were separated, when Dr. Williams was made full Professor of Obstetrics and Dr. George W. Dobbin became his associate. Hunter Robb left Baltimore in 1894 to become Professor of Gynecology in Western Reserve University in Cleveland, operating at the Lakeside Hospital in that city. In 1894 he married the head of the Johns Hopkins Nurses Training School, Miss Isabel Hampton, who was succeeded in office by Miss M. Adelaide Nutting. There were several other important men in the gynecological department in the nineties. Albert L. Stavely followed Robb in the Gynecological Residency and later practised his specialty in Washington, D. C. John G. Clark had published his work on the radical operation for cancer of the uterus and rose from an assistantship to an associateship in Gynecology, and in 1899 he was made Professor of Gynecology in the University of Pennsylvania. Thomas S. Cullen, after his residency, became Associate and Associate Professor and was to succeed Dr. Kelly on his retirement in the full Professorship in 1919; he made valuable studies of cancerous and other tumors of the uterus, and was later on to become a trustee of the American Medical Association as well as a trustee of the Enoch Pratt Free Library in Baltimore. William W. Russell was active in the gynecological department and in practice in Baltimore but was fated to die early of pulmonary tuberculosis. Guy L. Hunner entered upon work in the department after his

graduation in 1897, developed an especial interest in ureteral studies, and later became Adjunct Professor of Gynecology in the Medical School. John A. Sampson, after his residency, entered practice and later on became Professor of Gynecology in Albany Medical College. Curtis F. Burnam, the next Resident, has since done much to develop work in surgery and radiology at Dr. Kelly's private hospital. One of Dr. Kelly's boons to the Hospital was the importation at Mall's suggestion of a man from Germany who became a great medical artist, Mr. Max Broedel. His magnificent illustrations have done much to embellish the publications emanating from the Johns Hopkins Medical School. In 1910, a gift to the University from Mr. Henry Walters made it possible for Broedel to continue his work, and in 1920 the department of art applied to medicine was provided with an endowment fund of more than $100,000. Pupils of Max Broedel have been much sought after by the leading medical schools and clinics of the country.

I have purposely discussed in considerable detail the composition of the hospital staff during the nineties in the departments of the "Big Four" of Sargent's celebrated painting,* for a knowledge of the personnel of the Hospital and Medical School at this period is necessary in order to understand the profound influence these four masters exerted upon their associates and, through them, upon pathology, medicine, and surgery in the country at large. Johns Hopkins men everywhere

* Professor Robert Wood, the physicist, has told me an interesting story in connection with this portrait. As he was walking along Piccadilly one day, he happened to meet Dr. Welch and on asking him what he was doing in London, he was told that he was there for the painting of Osler, Halsted, Kelly, and himself by Sargent. Dr. Welch said that the artist had asked him how best to arrange the four in the painting and that he had jocularly suggested that the positions might very well be something like those in Rembrandt's "School of Anatomy," as he (Welch) could be shown performing an autopsy to reveal the diagnostic errors of the clinicians.

vie with one another in paying tribute to these scientists, to President Daniel C. Gilman, who brought them together, and to John Shaw Billings, the great librarian of the Surgeon General's Library in Washington, who was responsible for the buildings of the Hospital. To Mall, Howell, and Abel of the preclinical departments, similar acknowledgment is due for the parts they played in the early days of the Johns Hopkins Medical School. Mall's article "The Anatomical Course and Laboratory" (1896) revealed his high aims and how he worked to realize them. Florence Sabin, now of the Rockefeller Institute of Medical Research, and one of Mall's ablest students closely associated with him for two decades, later wrote his biography under the title *Franklin Paine Mall: The Story of a Mind.* William H. Howell was at the head of Physiology and continued in that position until he became Emeritus in 1931, succeeded by Dr. Philip Bard; Dr. Howell has been an authority on blood coagulation. Dr. John J. Abel, at the head of Pharmacology, had able associates, while Walter Jones taught Physiological Chemistry. Abel's ideals concerning the teaching of pharmacology were outlined by him in an article published in the *Philadelphia Medical Journal* in 1900. Researches in Abel's laboratory led to the discovery of adrenalin (epinephrin) and saccharine; these were patented and exploited by persons other than Abel. Phenolsulphonephthalein as a test of renal excretion (Rowntree and Geraghty), and phenoltetrachlorphthalein as a test of liver function (Rowntree, Rosenthal) emanated from Abel's laboratory. Graham and Cole later utilized the sodium salt of tetrabromphenolphthalein as an opaque substance for X-ray studies of the gall bladder. In Abel's laboratory, too, Evans did important work with

various other dyes. Abel was succeeded in the chair of pharmacology by E. K. Marshall in 1932. It is interesting that Doctors Hurd, Howell, Abel, and Mall had diplomas from the University of Michigan, and two of them, Abel and Howell, were drawn directly from the faculty at Ann Arbor.

The Training School for Nurses also contributed its share to the growing distinction of the work at the Johns Hopkins Hospital. Johns Hopkins, in his letter to the Trustees, had directed that there should be established, "in connection with the hospital, a training school for female nurses, not only to care for the sick in the hospital, but to benefit the whole community by supplying it with a class of trained and experienced nurses." And Dr. Billings, in his address outlining the plans and purposes of the Hospital, emphasized the importance of the work that the training school for nurses had to do and said that the object of the school was to gather the right kind of women for the work ("not one woman in ten is fit for it, or should undertake it"), to have them thoroughly instructed, to furnish them with the attractive and comfortable home which they deserved, and to send them where they were most needed, with provision for their return when the work was done. A large and handsome building exclusively appropriated to the nurses was provided as a home.

Isabel Hampton, the first head of the nurses' training school, a dominant woman of strong character and pleasing personality, set to work to realize the high aims of the founder. Her ideals were high and she insisted, from the first, upon the selection of women who had had a good general education and who by their character and personality seemed to her to be likely to

further the accomplishments she had in mind. The course of training at first was of two years' duration, but after Miss Hampton married Dr. Robb in 1894 and was succeeded by Miss M. Adelaide Nutting, it was lengthened to three years. Among those associated with the Superintendent of Nurses as instructors in the school in the early days were Miss Lavinia L. Dock and two nurses who had been trained in England, Miss Annie McDowell and Miss Louisa Parsons, the latter having served with Florence Nightingale in the Crimean War.

Miss Isabel Hampton intended to be the sole arbiter in any question bearing upon nursing in the Hospital. On one occasion, she chose a certain nurse for the operating room without consulting Dr. Halsted. He was just leaving for the summer but ordered Dr. Finney not to allow this nurse to officiate in his operating room. On taking the matter up with the Superintendent of Nurses, Dr. Finney was told that the nurse that had been designated should serve or he could not have anyone at all. Dr. Finney replied that he was sorry but he had to obey the directions given him by Dr. Halsted. In his autobiography, Dr. Finney tells how he solved the difficulty. He asked Jim Mitchell, then a fourth-year student, to act as "head nurse in the operating room," and though Mitchell demurred at first he finally agreed and acted as nurse until after Dr. Halsted returned. Dr. Halsted was almost as determined about having his own way as was Miss Hampton, and for a time he insisted that Mitchell continue in his role of operating room nurse. Miss Hampton finally capitulated and the operating room had a female nurse again!

Miss Nutting, as successor to Miss Hampton, was no less eager to develop the training school to the highest degree of

efficiency. She had graduated from the school herself in 1891, was made Assistant Superintendent in 1893, and became Principal in 1894. She was intellectually serious and did not especially relish practical jokes. Dr. Osler was about the only one who dared to deal with her in a mischievous and prankish manner. Dr. Casler tells me that he was walking through the Hospital corridor one day when an attendant appeared with a large basket of grapefruit while Miss Nutting was approaching from the other direction. Dr. Osler immediately seized the basket and bowled one grapefruit after another down the corridor, aiming at Miss Nutting's "nether extremities" as wickets. There was nothing for the austere Miss Nutting to do but take it in good part, which she did: "It was Dr. Osler, you know, and his behavior cannot be predicted."

Miss Nutting collaborated with Miss Dock in the preparation of their two-volume history of nursing that was published in 1907. The same year, she relinquished her position at Johns Hopkins to become Professor of Institutional Administration at Teachers College, Columbia, in New York. In 1910 she was made Professor of Nursing and Health at Columbia and occupied that chair for fifteen years until she became Professor Emeritus. Miss Nutting has received many honors including the Liberty Medal of the National Institute of Social Sciences in 1918, an honorary M. A. degree from Yale in 1922, and the honorary presidency of the Florence Nightingale Association of England in 1934. As I write she is still living in New York City at the age of eighty-two and must look back with great pleasure upon her distinguished career.

During Miss Nutting's incumbency at the Johns Hopkins, she and I became very good friends. I enjoyed talking with

her not only about Hospital matters but also about books and affairs in general. Recently I heard from one of the former Hospital nurses that a story was current that I had visited Miss Nutting one evening in the nurses' home. When about to leave I am supposed to have found that the front door of the home was locked, and Miss Nutting having no key to it, I was forced to leave through her window in order to get back to my room in the Administration Building! The tale seems absurd, for it is scarcely conceivable that Miss Nutting had no key to the front door. Who invented this fantastic yarn I have no idea.

Miss Georgina Ross succeeded Miss Nutting as Superintendent of Nurses in 1907. She made important contributions to the practical side of the nurses' training. Miss Nutting had been more especially interested in developing the theoretical side. Among the assistants of Miss Ross was Miss Effie Taylor.

In 1910, Miss Ross was succeeded by Miss Elsie Lawler. On her staff were Miss Bessie Baker and Miss Elizabeth Thomas (who later became Mrs. Frank R. Kent). Miss Lawler continued as head of the training school until 1941, when she was succeeded by Miss Anna Wolf, whose work in training schools in China and in Chicago is well known.

That the women of the training school were of a high order is indicated also by the number of Hopkins men who chose them (or were chosen by them!) as marital partners. Instances that come quickly to mind are: Dr. Hunter Robb and Miss Isabel Hampton, Dr. W. S. Halsted and Miss Caroline Hampton, Dr. J. M. T. Finney and Miss Mary Gross, Dr. F. H. Baetjer and Miss Mary Carey, Dr. J. W. Lord and Miss Evelyn Pope, Dr. W. S. Thayer and Miss Susan Read, Dr. Guy L. Hunner and Miss Isabella Stevens, Dr. F. R. Smith

and Miss Anna Jack, Dr. Frank Hagner and Miss Bessie Allemong, Dr. Rupert Norton and Miss Cecilia Hendrickson, Dr. T. S. Cullen and Miss E. Beckwith and (as second wife) Miss B. Dixon, Dr. R. H. Follis and Miss Louise Riggs, Dr. J. M. Slemons and Miss Anne Goodsill, Dr. Ernest S. Cross and Miss Maye Herschner, Dr. R. T. Miller, Jr., and Miss Mary Hooper, Dr. Sydney R. Miller and Miss Ella Wood, Dr. J. Earle Moore and Miss Grace Barclay, Dr. Frank R. Ford and Miss Lowell Mitchell, and Dr. Cecil Vest and Miss Marguerite Dorer.

A very gratifying tribute was paid to the Johns Hopkins nurses by Major Julia C. Stimson (President of the American Nurses Association) in 1939: "They make their Alma Mater known about the world. They give glory and prestige to it and to all nurses. Leadership and vision for their profession, efficiency and devoted service to patients—that is what their reputation rests upon. . . . No nurses anywhere owe a greater debt to their heritage. None have had greater leaders. None have greater opportunities nor, in consequence, greater responsibilities."

During the nineties the members of the Hospital staff had most intimate and delightful social relations with one another. Enduring friendships were established among a group of eager, earnest young people. Those of us who are still living look back to the old days with very great pleasure, albeit with a certain degree of nostalgia. We were all hard workers, and it was rare for any one of us to be found derelict in the performance of the duties that were assigned to him. Some relaxation and recreation we had to have, of course, and in the evenings after the day's work was done we often visited Hanselmann's

restaurant on the northwest corner of Wolfe and Monument Streets, not for acidophilus milk, but for beer and pretzels. This place was known as "the Church," and all but a few total abstainers were fairly regular attendants. Dr. Councilman once remarked upon the "very good time" that the group of men working in the Hospital in its earlier days had. "It is an important thing," he said, "that people should be happy in their work, and if work does not bring happiness there is something wrong; and both at the University and at the Hospital there was that wonderful happiness in work." Visitors to the Hospital who enjoyed its hospitality in the early years commented upon the staff as "a mutual admiration society"; wonder has been expressed as to whether there can ever be anything quite like those days again!

Dr. Welch and Dr. Osler entertained the more distinguished visitors to the Hospital by giving dinners in their honor at the Maryland Club and the University Club. As hosts they knew how to make their out-of-town guests talk of their own work and experiences. They arranged the discussions so as to bring out the best of other people. Those of us who had the privilege of hearing them learned much.

Dr. Osler lived at 1 West Franklin Street, and after his marriage, Mrs. Osler and he were most generous in their hospitality. We were all made welcome at five-o'clock tea whenever we cared to "drop in," and many of us were asked there over and over again to dinner. On such occasions Dr. Osler was full of pranks and practical jokes, some of which might have been embarrassing to a wife if she had not possessed Mrs. Osler's good nature and sense of humor. One of my treasures is a photograph that Dr. Osler gave me in March, 1899, in

which he is stooping forward with his little son Revere on his back, and the photograph bears the inscription, "And on his shoulders not a lamb, a kid."

This small boy, Revere, was soon collaborating with a young girl, Doris Reid (daughter of Professor Harry Fielding Reid) in writing plays and producing them at 1 West Franklin Street. Dr. Osler had to witness the productions, though his behavior as an auditor was not always entirely pleasing to his young son.

In those days fantastic medical histories occasionally appeared in the medical journals over the name of Edgerton Y. Davis, but those "in the know" were aware that this was a pseudonym for William Osler. Leonard Mackall, writing of Osler as a bibliophile, states that once when a librarian at the New York Academy of Medicine asked him to write his name in the register, she was much surprised to find instead "Miss Persimmons" written in a well-known hand. When spending a week end at Atlantic City or elsewhere, he would appear in the hotel register as "James Bovell" or some other medical worthy in order to ensure freedom from interruption of his little holiday.

The home of Dr. and Mrs. Henry M. Thomas was one in which I was always made welcome, and I prized their friendship highly. Dr. Thomas' father, James Carey Thomas, was one of the Johns Hopkins trustees, his sister, M. Carey Thomas, was President of Bryn Mawr College, and another sister, Helen Thomas, married Simon Flexner in 1903.

Another companionship that I enjoyed in the nineties was that of Dr. and Mrs. Stewart Paton. Dr. Paton, who had brought to the United States the newer ideas of psychiatry that he had learned in Germany, gave lectures on psychiatry in the

Medical School and was director of the laboratory at the Sheppard and Enoch Pratt Hospital at that time. Our common neurological interests brought us together. Through the Patons, I became acquainted with Mrs. Paton's sister, Lilian H. Halsey, who did me the honor of becoming my wife a little later on. Bicycling, including tandem bicycling, was a favorite form of exercise in the nineties. Dr. and Mrs. Paton were often seen on a "bicycle built for two," and on meeting acquaintances while wheeling it was Dr. Paton's custom to remove his feet from the pedals, thus intimating that in his family it was his wife who did the work!

Nor can I forget the companionship afforded by the Medical Journal Club in Baltimore, a group of the leading younger physicians and surgeons of the city, of which I became a member. This group included S. B. Bond, John M. T. Finney, Thomas B. Futcher, J. Bradley Gaither, Cary B. Gamble, Jr., William S. Gardner, Herbert Harlan, John Hobach, John C. Hemmeter, J. M. Hundley, B. B. Lanier, J. Williams Lord, Frank Martin, Charles W. Mitchell, L. E. Neale, Charles O'Donovan, Frank R. Smith, William Sydney Thayer, Henry B. Thomas, I. Ridgeway Trimble, Eugene Van Ness, Mactier Warfield, Ridgely B. Warfield, J. Whitridge Williams and Hiram Woods, Jr. Ten of us were connected with the Johns Hopkins Hospital; the others were on the staff of the University of Maryland Hospital or were active practitioners in Baltimore. We met at regular intervals for discussions of recent medical literature and all became close friends. One of my most cherished possessions is a loving cup inscribed with the names of these men which they presented to me on June 2, 1900, when I was about to leave Baltimore to take up work in Chi-

cago. Another treasured belonging is a beautiful gold watch that I have carried in my waistcoat pocket for over forty years; it bears the inscription "Lewellys F. Barker from William Osler, June 1900."

The Baltimore Monthly Medical Reunion was another organization that did much to cultivate friendly relations among the better known medical practitioners in Baltimore. Founded in February, 1881, eight years before the opening of the Johns Hopkins Hospital, it was made up of thirty physicians and surgeons, all so prominent that I hesitate to mention one without naming all on the list. A dinner was given monthly by members in rotation. When anyone fell from the ranks (by death or removal to another city) his place was filled by another carefully selected Baltimore physician. Gradually several members of the Johns Hopkins Staff were included and made welcome. I was lucky in being asked to join some thirty years ago and have since enjoyed many good dinners there. It was a little shocking to find, on looking over the present membership recently, that only two (J. M. T. Finney and J. M. H. Rowland) are older than I am, the other twenty-seven are younger.

Another dinner club that met regularly was made up of a much smaller group, headed by R. Brent Keyser, a trustee of Johns Hopkins, and including J. M. T. Finney (surgeon), W. S. Thayer (internist), J. S. Ames (physicist and later President of the University), H. F. Reid (geologist), W. H. Buckler (archeologist and trustee of the University), B. Read (businessman), R. F. Bayard (lawyer), George Weld, and myself. Each of us entertained in turn, and after dinner each member spoke for a few minutes on the topic on which he was

best informed. We had many pleasant trips on the Chesapeake Bay in Mr. Keyser's steam yacht, the *Kaleda.*

Transportation within the city of Baltimore in the nineties was by means of private carriage, cab, or horsecar; as yet electric railways were not in use. Dr. Osler, dressed in frock coat and top hat, went to private consultations in a hansom cab; even as late as 1905, when I began consultation practice in Baltimore, I went in the same garb and in hansoms. Automobiles were not in use in Baltimore in the last decade of the nineteenth century, but they began to appear early in the next decade. Those who were around the Hospital in 1901 say that they will never forget the day that a "Locomobile Steamer" belonging to Dick Follis and Billie Fisher rolled in the front gate of the Hospital. There had been one or two other cars in Baltimore, but those who drove them are no longer living, and Follis has, I believe, the distinction of having driven a car longer than any other person now living in Maryland. I am told that his car could travel at the rate of fifteen miles an hour, a great advance for that time over the seven or eight miles per hour speed of horse and buggy! At that time there was a shed between the B operating room and the old private Ward B, and Dr. Hurd, the Hospital Superintendent, had his assistant Mr. Brady assign a part of this to Follis and Fisher for a garage. He also provided gas for lighting the torch with which they vaporized the gasoline fuel of the car before starting. That Follis and Fisher were greatly envied by other members of the Hospital staff goes without saying. Later on, when automobiles became a necessity for everyone, I decided that I must learn to drive one. So I went to a school for chauffeurs for three months, learned all about a car, how to assemble

it, how to change tires, etc. I then purchased a car and drove it for two weeks, but after that I got into the back seat, giving the wheel over to my chauffeur, and have never driven a car since. I have thus been relieved of much strain following my general rule of not doing anything myself that others can do better for me!

We went occasionally to Ford's theater on West Fayette Street, where we saw Maurice Barrymore, Richard Mansfield, Mrs. Leslie Carter, Lillian Russell, and Ellen Terry in leading parts. Cocktails had begun to be popular, and elaborate dinners at which champagne was served were not uncommon. Certain airs—"Annie Rooney," "After the Ball is Over," and "Say *Au Revoir*, But Not Good-Bye"—were very popular with the youngsters. These and other songs became familiar to hospital interns who visited burlesque shows at the old Monumental theater.

But life was not all "gay" throughout the nineties. In 1892, labor unrest became serious. Great strikes occurred and were put down forcibly with bloodshed. "Coxey's Army" of unemployed marched to Washington. Those of us who lived through the period are not likely to forget the great panic of 1893. But, as Herbert Lyons, Jr., has said, "despite all the gloomy facts, if the nineties weren't gay, we feel they should have been."

Chapter IX. FIVE YEARS IN CHICAGO (1900-1905)

I

The Chair of Anatomy

THE UNIVERSITY OF CHICAGO, which had been endowed by John D. Rockefeller, was at this time in its youth. In addition to the buildings housing its departments of the liberal arts, laboratories of biology, physics, chemistry, anatomy, and physiology had been constructed. The President of the University, William R. Harper, consulted his friend Dr. Mall regarding the appointment of a professor of anatomy. Mall recommended me for the position and I was given the chair. Though I had always hoped and expected ultimately to work in internal medicine, this opportunity to become a full university professor could not be ignored. Mall urged that since I had already spent much time in preclinical subjects, it would be wise to occupy the chair in anatomy for a time, at least, as even if I went into clinical medicine later I would be all the better prepared for it. He pointed out that the work I had done in pathology as well as my work on the nervous system was excellent preparation for clinical medicine. Early in June, 1900, I was to give an address before the Ontario Medical Association in Toronto, "On the Present Status of Therapy and Its Future," and this, he said, would show a continuation

of my interest in clinical medicine. Dr. Welch and Dr. Osler supported Mall in the advice that he gave me. So I accepted President Harper's offer, though my heart ached when I thought of leaving the Johns Hopkins Hospital where I had lived for nine years.

Rush Medical College was affiliated with the University of Chicago, and the intention was to develop all the preclinical subjects except pathology at the University in South Chicago and to concentrate the clinical and the pathological work at Rush in West Chicago, where the abundant material of the Presbyterian Hospital and the Cook County Hospital was available. Arthur Dean Bevan had been Professor of Anatomy at Rush Medical College, but he had become greatly interested in surgery and was glad to relinquish the chair in order to devote himself entirely to clinical work.

I became a member of the Quadrangle Club, near the University, and secured comfortable bachelor quarters there. President Harper's brother, Robert F. Harper, who was one of Mall's close friends, was a member of the Quadrangle Club, and through him I quickly became acquainted with others, among them Alexander Smith, the chemist, whom I found congenial.

At the University a group of very able men was already at work in the preclinical sciences. Neff was in charge of chemistry, and Michelson headed the department of physics. Charles Otis Whitman was Professor of Zoology, and with him were associated C. B. Davenport and Frank R. Lillie. John M. Coulter was Professor of Botany. In a part of the anatomical laboratory I was delighted to find H. H. Donaldson already housed as Professor of Neurology. Jacques Loeb was Professor

of Physiology. Over at Rush Medical College, Frank Billings was Professor of Medicine, and with him were associated James B. Herrick and Bertram W. Sippy. Nicholas Senn was Professor of Surgery with Arthur Dean Bevan as his principal associate. John Clarence Webster was Professor of Obstetrics and Gynecology, and Ludwig Hektoen was Professor of Pathology. Association with this remarkable group of men quickly convinced me that the art of medicine and the science of medicine were in good hands in Chicago.

In my department I was fortunate to secure Joseph Marshall Flint, Dean DeWitt Lewis, and Daniel G. Revell to assist me in the teaching of anatomy, for they were all interested in gross anatomy, whereas the teaching of microscopic anatomy was, at first, my main occupation. Donald Armour and R. R. Bensley joined my staff later. Bensley, a very able man, became Professor of Anatomy in 1907 and occupied the chair for many years.

As no good atlas of anatomy was at the time available in English, I set to work to translate the three volumes of Werner Spalteholz's beautiful *Hand Atlas of Human Anatomy*—no small task—and this was published by J. B. Lippincott and Company, though the English text was set up and printed by S. Hirzel in Leipzig. Of the several books with which my name is connected, these volumes have had the largest sale. The *Hand Atlas* has been in steady demand since publication, though recently there have been difficulties in importing the English edition from Germany and it has been necessary to reproduce it in this country by a photostat process. With Lewis and Revell, I wrote *A Laboratory Manual of Human Anatomy*

(583 pages). This was also published by Lippincott while I was in Chicago.

In December, 1900, I gave a talk in Indianapolis, "On the Importance of Pathological and Bacteriological Laboratories in Connection with Hospitals for the Insane," in which I reviewed the benefits derivable from such institutions and emphasized the ideals that should be held by those who work in them, calling attention to the striking results from the physiological side that Loeb had just published in his *Physiology of the Brain* as well as to the results of combining work in the laboratory with clinical psychiatry as had been recently demonstrated at Worcester, Waverley, Danvers, New York, Baltimore, and Gallipolis. The opportunities in Indianapolis, with Dr. White and Dr. Edenharter co-operating, seemed to me to be full of promise.

2

Federal Commission on Plague in San Francisco

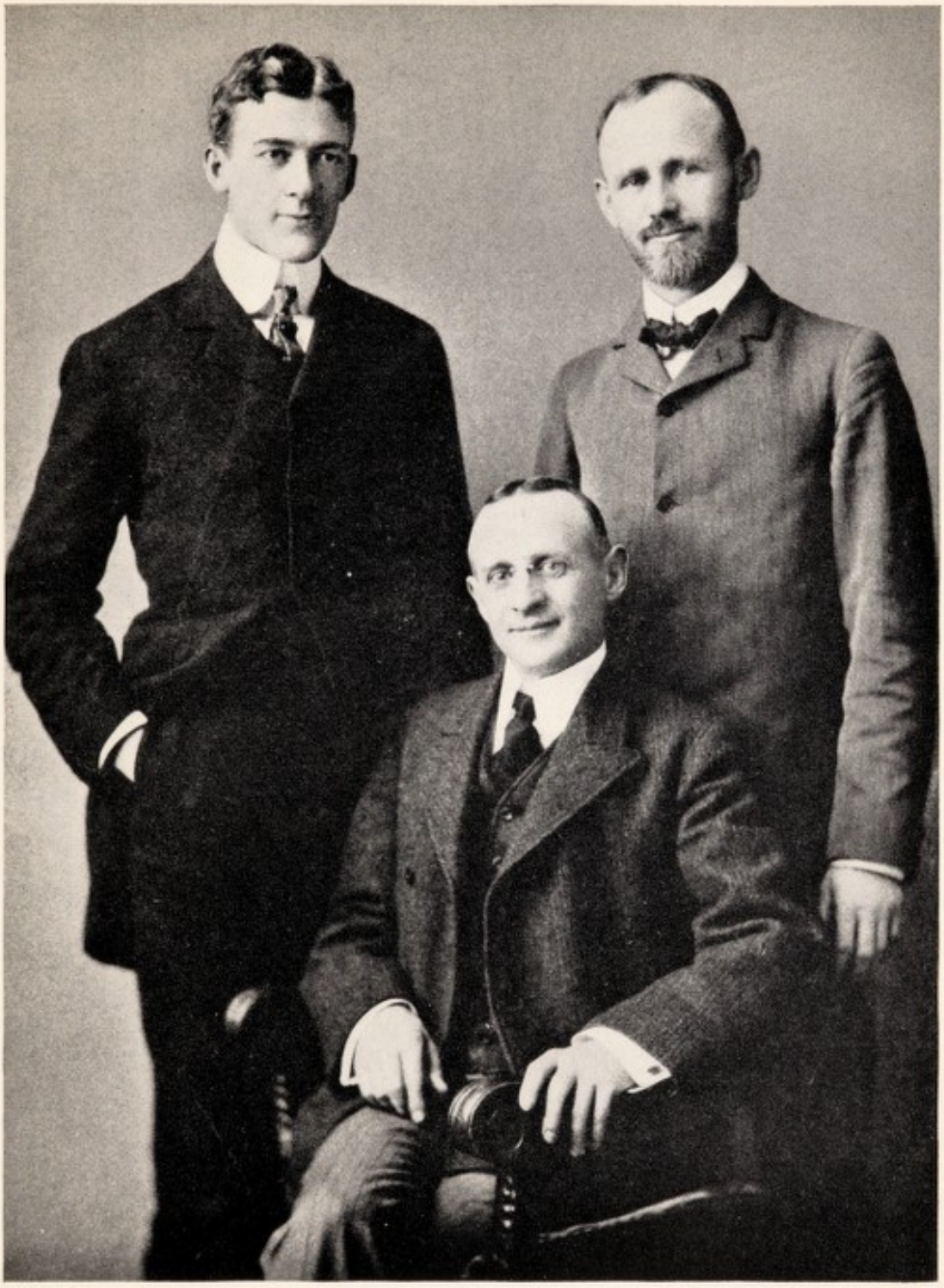
Early in 1901, my work in anatomy at Chicago was temporarily interrupted by appointment to a Federal commission. When we saw bubonic plague in the Orient in 1899, Flexner and I had no idea that our experience with the disease was to give us an interesting opportunity to study it again eighteen months later in the United States. Bubonic plague had been reported as occurring in San Francisco, but its existence had been strenuously denied. It was admitted that some Chinese who had died had swollen lymph glands, but physicians who had been in practice in San Francisco for a long time maintained that "glandular swellings" had been occurring among the Asiatic inhabitants of the city for at least thirty years and no epi-

demic of plague had occurred. It was asserted by some physicians that the cases that had been reported as bubonic plague were simply examples of the benign glandular swellings that are common among the Chinese. It was natural for the commercial interests of the city and state to hope that this explanation was correct.

From reports that he had received, the Surgeon General of the Marine Hospital Service in the Treasury Department in Washington, Dr. Walter Wyman, had been convinced that it was unsafe to accept the statements of those who denied the presence of plague and at his request President McKinley, through the Secretary of the Treasury, Mr. Lyman J. Gage, appointed, on January 19, 1901, a commission "for the purpose of ascertaining the existence or non-existence of bubonic plague in the city of San Francisco, California," under instructions that the members of the Commission would receive from Dr. Wyman. The Commission was composed of "Professor Simon Flexner, University of Pennsylvania, Chairman; Professor F. G. Novy, University of Michigan; and Professor L. F. Barker, University of Chicago, Recorder."

With Dr. Flexner I had, of course, been associated for many years, and I knew that he was eminently qualified for the work to be undertaken. It was gratifying, too, that Dr. Novy had been appointed a member of the Commission, for he was a skillful bacteriologist. Closely associated with Victor C. Vaughan, he had also worked in Koch's laboratory in Berlin and in the Pasteur Institute in Paris, and had written important papers on the infectious diseases and on immunology.

The Commission was instructed by Dr. Wyman to proceed, at the earliest practicable date, to San Francisco, and to hold



FEDERAL PLAGUE COMMISSION—1901

Left to right: Dr. Barker, Dr. Flexner, Dr. Novy

its first meeting at the Occidental Hotel. The members of the Commission were directed to get into communication with the proper local authorities with a view to obtaining facilities for the examination of cases, either deceased or living, suspected of being infected with the disease. They were further informed that it was the desire of the Bureau that their "investigations should be entirely unprejudiced and independent," the findings to be telegraphed to the Bureau immediately upon reaching a conclusion but not to be otherwise given out until authorized by the Bureau. The members of the Commission were also told to call upon and pay their respects to the Governor of the state and the Mayor of San Francisco.

I arrived in San Francisco on January 25, 1901. Flexner and Novy reached the city two days later. After a preliminary meeting at the Occidental Hotel, we arranged to hold further meetings at 11 o'clock daily. We were courteously received by the authorities of the city and state, who offered to aid in every way possible the investigations concerned. The City Board of Health supplied us with a map of Chinatown, on which were charted the location of the cases that the Board had examined and had reported as plague. Through the press it was announced that we would be glad to confer with anyone who had information to give with regard to the existence or nonexistence of plague in the city. Letters were sent to a number of physicians requesting interviews. The majority of those written to responded, but we found that opinions were divided, some physicians being confident that plague had occurred, others being just as sure that it had not. These preliminaries proved to be of value, for through them we learned how to gain access to the sick and dead Chinese and how to proceed

without exciting the opposition or suspicion of those among whom we were to work. We were gratified that representatives of the principal commercial interests of the city called upon us, welcomed us to California, and offered their aid. A room in the City Hall was put at our disposal. This was converted into a laboratory, the equipment being purchased new in San Francisco.

The attorney of the so-called "Chinese Six Companies" advised the Chinese to co-operate with the Commission, and as a result of this proclamations were issued ordering the Chinese to report all cases of sickness and death, no matter what the cause, to the offices of the Chinese Six Companies in order that daily inspections might be made. Because of my clinical experience, the visits of inspection were delegated to me, whereas Flexner was to do the pathological work and Novy the bacteriological.

The poorer classes of the Chinese in San Francisco lived in a shockingly unsanitary way—marked overcrowding, small rooms often entirely devoid of light or means of ventilation, and filthy rooms in basements that were damp and emitted a foul stench. The conditions, though bad enough, were better than among the Chinese we had observed in Hong Kong, where destitution had been even more pronounced. The Chinese in San Francisco we found on the whole to be very well fed and fairly well clothed; they were not barefooted or barelegged as they were in Hong Kong and Canton. Many of them were, however, opium smokers.

Beginning February 6, Mr. Wong Chung took me daily to visit the rooms of all persons reported as sick to the offices of the Chinese Six Companies. I made a physical examination of each patient and recorded notes of the findings. Many of the

sick reported turned out to be cases of advanced tuberculosis or other chronic diseases and had to be visited only once. In any doubtful case, the first visit was followed by others and the progress of the illness was closely watched. I inspected daily every dead body in the undertaking establishments in Chinatown, along with the assistant city physician, Dr. F. P. Wilson, who had pathological and bacteriological investigations made by Dr. W. H. Kellogg, the bacteriologist of the City Board of Health, of bodies that were suspected to have died of plague. Such bodies were also studied independently pathologically by Dr. Flexner and bacteriologically by Dr. Novy.

In the eight days from February 6 to February 13, we saw three cases of bubonic plague while they were still alive, two of them being definitely recognized clinically as plague before death, and in addition three other cases were found among the dead Chinese, verified by pathological and bacteriological examinations (cover-slip preparations, cultures, animal inoculations). Of the thirteen deaths that came to our attention, six were found to have been undoubtedly due to infection with plague. Two of the deaths occurred in the Chinese Theater on Washington Street, one of the deceased having been an actor. The other four plague deaths had occurred singly in different parts of Chinatown. When we telegraphed Surgeon General Wyman our conclusions, orders were sent from Washington that immediate steps should be taken to admit the existence of plague and to institute promptly the measures necessary to exterminate the disease. It was also intimated that unless these instructions were complied with it might be necessary to put San Francisco and even the whole state of California into strict quarantine.

The public was not alarmed earlier because there had been no large epidemic. But the progress of the plague in California had been characteristic of plague elsewhere before a large outbreak, the same kind of "sneaking" progress that was observed in Hong Kong, Calcutta, and Bombay for months before large numbers of people were attacked. One reason, probably, that no great outbreak had occurred in San Francisco was that the rat population had not become generally infected. Studies of rats found dead as well as several living rats caught in the sewers of Chinatown did not reveal evidence of infection with the plague bacillus.

We found that before our visit to San Francisco at least twenty-five deaths due to plague had been discovered during a period of about eleven months (March, 1900, to January, 1901). These cases had been reported by Dr. W. H. Kellogg and by Doctors Kellogg and Kinyoun, and these physicians together with Dr. John M. Williamson, President of the San Francisco Board of Health, affirmed that bubonic plague existed and should be vigorously combatted. If the California people, and especially those in authority, had been willing to accept the findings of those competent observers, it would not have been necessary for the Federal government to appoint a special commission. Unfortunately, the physicians who announced the existence of the plague were subjected to a vicious and unjust vilification.

After our Commission had made its report, the city and state authorities co-operated in adopting measures for stamping out the disease. Chinatown was cleaned up, and only an occasional sporadic case of plague was reported between 1901 and 1904. In 1907, after the devastating San Francisco fire,

there was, however, a recrudescence of plague, and it was no longer confined to the Chinese but scattered throughout the city. Dr. Rupert Blue of the United States Public Health Services was sent to San Francisco, and he and the pathologist Dr. William Ophüls urged drastic action. Unfortunately the press refused to publicize the state of affairs, fearing that the public would become unduly alarmed. At this juncture the matter was taken up by a committee of the California Medical Association with its president, Dr. George H. Evans, as chairman. A Citizens' Health Committee was formed, and a campaign of publicity and education was instituted. Authority was concentrated in able hands, the public became thoroughly aroused and in a few months the outbreak was brought under control. In 1924 there was an outbreak of plague in Los Angeles in which the majority of cases were pneumonic plague, thirty out of thirty-two cases being fatal. In August of 1941, a case of plague was reported by the California health authorities. The disease appears to be kept going by fleas, rats, ground squirrels, and marmots.

3

Address on "Medicine and the Universities" (Whole-time Clinical Chairs)

On returning to Chicago from San Francisco, my work in anatomy was continued diligently. About one year later, an invitation to give an address to Johns Hopkins alumni in the West gave me opportunity to develop in some detail my ideas upon "whole-time" professors in the clinical chairs of university medical schools.

Though in the preclinical subjects of anatomy, physiology,

pathology, and pharmacology, the professors in the better medical schools gave their whole time to the departments in which they worked, rarely receiving any financial remuneration other than their salaries, it was still customary even in the best schools to pay either no salary or relatively small salaries to the heads of the clinical departments of medicine, surgery, gynecology, and obstetrics. The occupants of these chairs made their incomes in the main from the fees they received from private and consultation practice. Mall had told me (some think he got the idea from Ludwig) that he thought the time would come when the heads of clinical departments would be given salaries large enough to permit them to devote all their time to teaching and investigation and that they could then avoid the distractions that interest in private practice necessarily involved. He recognized the fact, however, that in order to bring this about it would be necessary (1) for the university medical schools to receive special endowments for the purpose, and (2) to find able clinicians who would be willing to accept such whole-time chairs, even if this resulted in their having smaller incomes than before. The idea interested me very much and as it had never been publicly promulgated I thought much about it and decided to advocate it if a suitable opportunity arose, especially as I had had some clinical experience myself, and Mall had not. Accordingly, when the western alumni of the Johns Hopkins University invited me to speak at their meeting in Chicago (Feb. 28, 1902), I addressed them upon the topic "Medicine and the Universities" (published in *American Medicine*, July 26, 1902, and in the *University Record*, Medical Number, July, 1902).

In this address I made a plea for the better organization and

endowment of the medical departments of our universities. After discussing the dilemma in which proprietary medical schools found themselves when advances in the preclinical sciences made the cost of laboratories and good teachers in these preclinical subjects far exceed the fees the students paid, I pointed out that they had found it necessary to affiliate with universities in order that the latter might provide adequate training in the preclinical sciences. Thus arose what I designated as the "semi-university" or "pseudo-university" medical schools. This was a great step forward as far as the preclinical teaching was concerned. It greatly increased productive scholarship in the departments of anatomy, physiology, and pathology, which became veritable beehives of industry and centers of original investigation, resulting in the birth of at least five scientific journals *(Journal of Experimental Medicine, American Journal of Physiology, American Journal of Medical Research,* and *American Journal of Anatomy),* in which contributions were limited to the publication of the results of original research. But it still left the clinical branches in the medical schools in an unsatisfactory position. In these clinical subjects, the professors were either not paid at all or they received only insufficient stipends which forced them to depend upon fees obtained in private practice for a living. Though a few of the clinical assistants, especially those in charge of the clinical laboratories, were paid a living wage, the majority of these younger men also had to resort to private practice. Moreover, these semi-university medical schools rarely owned hospitals with adequate clinical facilities for the number of students taught. Though the professors of medicine, surgery, and obstetrics often had sufficient personal influence, or the school itself

was influential enough, to secure the privilege of teaching in the wards and amphitheaters of various charity hospitals, the latter were often political institutions with all the faults of administration and lack of efficiency that politics connote. Even when the hospitals were privately endowed, if the management was not in the hands of the medical school itself, great difficulties were encountered by the clinical teachers. Continuity of service was rarely possible, and such a thing as a graded staff directly responsible to each professor was almost unknown, though this is absolutely indispensable for satisfactory clinical work. Moreover, when one considers the amount of time and energy that the clinicians were compelled to devote to their private practice and the discouraging conditions that existed in the hospitals in which they had to work, it is nothing less than marvelous that they accomplished as much as they did. Many of them read widely in English, French, and German medical journals and kept in close touch with the progress of the subjects they taught. Indeed, some of the abler and more energetic of these clinical teachers, despite the unfavorable circumstances in which they worked, actually made contributions to the advance of the medical sciences by their original work. I was compelled to admit, therefore, that the record said much for the energy and character of the men who had been attracted by clinical medicine, surgery, and obstetrics in America, but I asked the question: "What might not be done by such men if the clinical subjects of the last two years were to be placed upon a real university basis?" It seemed to me that if men with similar capacities were bred to university careers, placed in charge of hospitals especially constructed and endowed for university purposes, and paid enough to permit them to give up private

practice entirely and devote their whole time and strength to teaching and investigating in such hospitals, still better results might reasonably be expected.

Continuing the address, I had to admit that, to describe the character of a school of medicine developed throughout according to true university ideals, it would be necessary to depict conditions that as yet existed nowhere in completeness. Though the preclinical subjects were rapidly approaching a satisfactory state, prospects for similar approximation to university ideals in the clinical subjects seemed as yet remote. In universities, each department should be a center of original research as well as of instruction, for the mere imparting to students of knowledge that has already been acquired is the function of a college or a seminary rather than of a university. To quote from my address:

> A true university is made up of a group of scholars who are not only familiar with what is already known but who, endowed with unusual capacities and skilled in the methodology of their respective sciences, invade new territories, searching diligently for new facts. Methods already devised are used when they are sufficient; new methods are invented when old ones fail. Each scholar works for the sake of truth in his own department. He does not permit himself to consider too attentively the applicability of the truths he discovers to conditions belonging to other departments of knowledge. He may not be too regardful of the compatibility of a new fact with the preconceived ideas held by himself or by others. He will do well not to spend too much time thinking of the effect of a new fact upon the desires or the fears of the people. He must have a profound belief in the ultimate value of truth, no matter how unpalatable it may be, or how useless it may seem to those who live at the time it is found out.

Each leader in a department of a true university, I declared, should be both a teacher and an investigator, though among

his associates he may find it profitable to his department to have some who are predominantly teachers rather than investigators and others who excel at investigation but are not especially good at teaching. I even went so far as to say that I was convinced "that the influence, for any considerable length of time, of a noninvestigating teacher cannot fail to be actually harmful to a student," for, "though he may possibly acquire large stores of information, the student will not make progress in independent work or in independent thought; indeed his powers in this direction will be inhibited if not in time wholly obliterated." Though I now think that this was an overstatement, it expressed my belief at the time. I am glad, however, that I had sense enough to see that some investigators were also handicapped, as will be seen from the following remarks: "No less pernicious to the student would be the effect of an investigator whose personality is repellent and nonsympathetic, and who has little or no capacity to interest students in his subject, to inspire their enthusiasm for work, or to train them in accurate observation, sound reasoning, and vivid imagination."

I maintained, therefore, that the clinical chairs of internal medicine, surgery, and obstetrics should, as the chairs of anatomy, physiology, and pathology had been, be elevated by placing them upon a true university basis: "For the sake of people who need help in time of illness, for the sake of the medical profession, on account of our universities, and for the prestige of the science of the nation, there is every reason for that elevation, and this would speedily be brought about if universities and their benefactors fully understood the situation." To put all the departments of a medical school upon a true university basis, I further pointed out, would require large sums of money.

For university hospitals, properly organized for teaching and original research, at least two million dollars would be required for each of the three major clinical departments. It would be necessary also to select professors and assistants with the same care as to talents, attainments, and personality as is exercised in the choice of any other professor in a university, and the heads of the departments should give their whole time and energy to their departmental work, to organizing, to practicing in the hospital wards, to teaching, and to investigation. The professors should be well paid and should not engage in private practice even if the university had to pay them double the ordinary salary in order to retain them wholly in the university work. I suggested that if any patients at all, outside of the hospitals, were seen in consultation—for there was some force in the argument that the well-to-do public should, at least in some rare and difficult cases, be permitted to profit by the opinion and advice of the clinical university professor—the fees from them might be contributed to the budgets of the hospitals themselves, in order to remove all temptation from the staff.

To the objection that would be raised that university clinicians who gave their whole time to teaching and investigating in hospitals would not come into contact with the kinds of patients and the types of diseases that are met with by the practitioner in private practice, I admitted that this appeared to be a plausible argument but did not hold when more closely examined. For, nowadays, in the hospital wards and in the outpatient departments, the university clinician would see many more of those people and of those varieties of complaints that previously were seldom seen except in family practice. Though a whole-time professor might lack some of the *savoir faire* in

dealing with patients that is acquired in private practice, he would not exhibit "the more superficial examination of the patient, the more hurried consideration of cases, the less rigorously established diagnosis, and the writing of a prescription *ut aliquid fiat* that the exigencies of private practice are said sometimes to entail." Granted that something difficultly definable but of real value to a student might emanate from a teacher who does a large private practice, I questioned whether it would be comparable with the inspiration to scientific work that the whole-time professor might be expected to give. But it was not necessary for the student to be deprived of either influence since the clinical departments, though headed by whole-time men, would contain some associates who engaged in private practice, and the students could thus profit from the teachings of both types. The private practitioner type of teacher is needed in the medical school, but finding the proper place for him is important. It seemed to me, at that time, that the teaching in the third year of the students' course would best be carried on chiefly by whole-time men, and the associated clinical professors and instructors who also engage in private practice might teach chiefly in the last year of the course. The address closed with a plea to university authorities to adopt the plan suggested and to secure the necessary money. The fact that the Rockefeller Institute for Medical Research in New York and the Memorial Institute for the Study of Infectious Diseases in Chicago had recently been endowed was proof that wealthy men could be interested in giving money for medical research, and it seemed to me probable that, unless the universities seized the opportunity to create research facilities in their clinical departments, they would find that philanthropists

would divert the money that should go to them to independent foundations. "Poor professional faculties in a university will drag down the philosophical faculties; adequate schools of medicine and law will lend prestige to the school of philosophy. Each faculty should vie with the others in working for the welfare of the whole university."

How much influence this address has had upon medical education in our universities, I do not know. In any event, it was the first attempt that had been made to elaborate, in any detail, the possible organization of the clinical departments of university medical schools upon the so-called "whole-time" or "true university" basis. As I write about it now, some forty years later, I am aware of some possible objections to the plan that owing to lack of experience, I could not then fully recognize. At the time I had not read Sir James Paget's *Memoirs* in which he stated that "one who has not studied in both hospital and private practice is not much more than half-instructed in his profession." But the possible objections to the plan never seemed to me to be potent enough to make me relinquish, in any part, the ideals of whole-time medicine as set forth in my address of 1902. I shall make some further comment upon this topic when I come to the offer of a "whole-time" chair that was made to me in 1914.

4

Studies of Hereditary Disease

In 1892, Dr. Sanger M. Brown, then Professor of Neurology in the Post-Graduate Medical School in Chicago, published in *Brain* a clinical report of a family in which some twenty-four cases of a peculiar form of "hereditary ataxia" had occurred. It

differed from the form of cerebellar ataxia described by P. Marie of Paris, resembling more closely the form known as Friedreich's ataxia, though the disease in Sanger Brown's series had its onset much later in life than did Friedreich's disease. The brains and spinal cords of two of the cases (xviii and xx) had been sent to Dr. Welch in Baltimore, and he was kind enough to turn them over to me for study. I began to examine the tissues in Mall's laboratory, continued the work after going to Chicago, and published a voluminous report of the findings in the *Decennial Publications* of the University of Chicago in 1903. Dr. Adolf Meyer had studied earlier the tissues from case xvii and had published his findings in *Brain* (1897). The lesions he described in his case were essentially the same as I found in mine, though they differed in some details, these differences corresponding to certain differences in the clinical symptoms that had been present during life. The chief changes consisted in degenerations in the direct cerebellar tracts and elective degenerations of the posterior funiculi of the spinal cord. Meyer and I differed somewhat in the interpretation of the findings, but we were in general agreement as to the principal neurone systems involved, though we confessed entire ignorance as to why these had been especially picked out by the disease process. This study greatly aroused my interest in the heredo-familial diseases as a whole, and many years later (1925) Dr. T. P. Sprunt and I published a volume entitled *Degenerative Diseases; Their Causes and Prevention,* a work undertaken while I was translating from the German and editing an interesting treatise by H. W. Siemens, entitled *Race Hygiene and Heredity* (N. Y., 1924).

In all medical work, it is important for the physician to try

to determine the parts played by inheritance and by environmental factors in the causation of disease. Family practitioners are in a peculiarly favorable position to recognize the significance of each of these two sets of factors, for they can, more easily than the consulting internist, acquaint themselves with the various traits of the different members of the families among whom they practise. They quickly learn that certain diseases tend to "run" in some families, though they are rarely or never met with in other families. Even length of life (barring accidents and certain infections) is largely a matter of heredity, depending, in the main, upon the genes of the chromosomes of the germ plasm derived from the parents.

5

Marriage and Second Period of Study in Europe

During the summer of 1903, which I spent at North Haven, Maine, after much enjoyable sailing with Miss Lilian Halsey, I asked her to marry me. She accepted and we were married six weeks later at the house of Dr. and Mrs. Stewart Paton in Baltimore on October 29, spending a brief honeymoon in the country in Maryland. Our friends were very generous. Among our wedding presents was a perfect first folio edition of the *Fabrica* of Vesalius presented by Sir William Osler. I kept it in a fireproof safe until 1940 when I presented it to the Welch Memorial Library. Dr. and Mrs. Osler also gave us four beautiful silver candlesticks. Thus began a marriage blessed with constancy of marital affection that has known no interruption for over thirty-eight years.

The University of Chicago granted me leave of absence

for a year, and we sailed for Europe early in November. On the boat we met two charming people, Mr. and Mrs. Denny Brereton. We found them so congenial that the four of us arranged to travel together.

Landing at Gibraltar, we had fifteen days at our disposal for a trip into Spain before the next steamer was due to leave for Naples, and we visited Granada, Cordova, Seville, Toledo, and Madrid, and enjoyed the beautiful sights of old Spain.

My chief medical interest in Madrid was in the personality of the great neuro-histologist, Professor Santiago Ramòn y Cajal, whose studies of the retina, the central and peripheral cerebrospinal system, and the sympathetic nerves had greatly enriched our knowledge. I had had occasion to refer to his studies over and over again in my book on the nervous system, so that it was an especial pleasure to meet him in person and to see in his laboratory the exquisitely beautiful preparations on which his writings and the well-known illustrations accompanying them had been based. At the time I visited him he was fifty-one years old, at the very prime of his powers, and busily engaged in studying neurofibrils, having just perfected a new and simple method of demonstrating them. In the development of the technique of neurohistological examination, no other single person has equaled Ramòn y Cajal; he showed his genius in his simplification and improvement of the methods of others —Golgi's silver-impregnation; Ehrlich's vital staining—and by devising original procedures himself. To him belongs the lion's share of positive contributions to the finer histological knowledge of the nervous system in the closing decades of the nineteenth century.

Returning to Gibraltar, we sailed for Naples, where we

visited the Zoological Station, in which tables were supported by a dozen different countries. Many American biologists have profited by the magnificent facilities afforded there, and they in turn have had an important influence upon the development of seaside laboratories in the United States. This aquarium at Naples was still presided over by its generous founder and organizer, Dr. Anton Dohrn. He conducted us through the laboratory, showed us the steam yacht and other boats used for collecting material, and pointed out to us one elderly Neapolitan who had formerly collected specimens for Johannes Müller, the great physiologist, whom the medical historian, Dr. J. J. Walsh, called the "father of modern German medicine."

As an executive, Dr. Dohrn set an impressive example. It was a part of his policy to permit the greatest possible freedom of investigation and publication to those who worked at the Station. Though ever ready to advise and assist, he never attempted to drive or direct the research work too much along the lines of his own special interests. At times, two men might publish quite contradictory results of laboratory studies, in which case Dr. Dohrn exercised no censorship, preferring to let time decide the merits of the case. About five years after the time of our visit to him, Dr. Dohrn died. Dr. Stewart Paton, who had worked with him at Naples, expressed his appreciation of the man and his work in an article in *Science* (1909).

After paying respects to the head of the University of Naples, the distinguished psychiatrist, Professor Leonardo Bianchi—well known to me on account of his views regarding the functions of the frontal lobes of the brain—we sailed for Sicily. Though I knew that there were universities in Sicily, I

was wholly unprepared to find that in the University of Palermo there were 1,400 students, in the University of Catania 1,060 and in the University of Messina some 645, and that some of the professors—San Felice, Fusari, Ughetti, d'Abundo, and Trambusti—were authors of treatises that I had earlier had occasion to consult. In Palermo, besides visiting the university, we saw the remarkable osteological collection in the catacombs of the Convento de Cappucino. In the subterranean passages beneath the convent, the mummified bodies or skeletons of the wealthier inhabitants of Palermo had been stored for decades. In later years, the curious custom had developed of placing a photograph of the person beside the remains in the catacombs. A few years before our visit, the government had put a stop to this method of disposal of the dead. However, when the great Italian statesman, Signor Francesco Crispi, a Sicilian by birth, died in 1901, special permission was given to place his embalmed body in the catacombs, and we were told that his widow went at regular intervals to the sub-conventual regions to mourn her dead.

On reaching Rome, because of my earlier work at Johns Hopkins on the pathology of malaria, I was interested in visiting some of the men whose names had been notably associated with studies of malaria—especially Marchiafava, Celli, Bignami, and Bastianelli. I found that the Italians had entered upon a great anti-malarial campaign, Italy being the first country in the world to establish special anti-malarial legislation, supplying quinine cheap and when necessary without charge, and providing properly protected dwellings for state employees of railroads and custom houses. As some two million Italians suffer from the disease each year, and from 12,000 to 15,000

of the patients die annually, the social and economic importance of the anti-malarial campaign had become obvious. Through mechanical prophylaxis (protection against mosquito bites) alone, marvelous results had been achieved where it could be applied. But mechanical prophylaxis is relatively expensive and beyond the means of the Italian peasants unless paid for by the Italian Society for the Study of Malaria, and the majority of the poorer people had to depend upon quinine prophylaxis. Much was being done by the Society in the way of educating physicians how to use quinine most advantageously, with especial emphasis upon the administration of large doses early in the attack with continuance of strong treatment for from two to four weeks before resuming again the smaller prophylactic doses.

One morning I had the pleasure of making rounds with Bignami and Bastianelli in the ancient hospital of Santo Spirito in Rome, which was founded by Innocent III in the year 1198. The physicians lamented the antiquity of the arrangements in the hospital but were buoyed up by the fact that a new hospital, with all modern improvements, was soon to be provided. Some of the scientific laboratories in Rome were modern and well equipped. Bignami had been given a new laboratory, in which active work was being carried on. He had turned his attention to the pathology of the central nervous system and showed me some of his newer preparations, including sections of the horn of Ammon from a patient dead of hydrophobia; the Negri bodies were exquisitely demonstrable in the specimens.

The Italians seemed to have some difficulty with my name, especially the Lewellys part of it; in one place we were amused to find that the porter of the hotel had registered us as "Dr.

and Mrs. Lovely." At Rome, we parted company with the Breretons, who had to return to America, and my wife and I went on to Florence and thence to Munich where I was to work at the University during the winter semester. There we found suitable living quarters in a pension opposite the Glaspalast (Crystal Palace) and agreed upon what we thought was a fair price for rooms, heating, breakfast, and luncheon. To our surprise, at the end of the first week we were presented with an extra bill for fuel. I protested, of course, but was told that we had burned each day the quantity of briquettes that was supposed to be a week's supply! We arranged for dinners at the Pension Liesecke, where two sisters served delicious food—the best of German and American cooking. I spent my forenoons at work very profitably in the medical clinic of Professor Friedrich von Müller and my afternoons in the chemical laboratory of the University. In von Müller I found a great clinical teacher—one of the best Germany has ever produced. He exerted a profound influence upon me. An accurate diagnostician and a reliable therapist, he had early recognized the importance of the clinical laboratories in which physical, chemical, and biological methods could be applied to the study of the patients in his wards. He and his wife were exceedingly kind to us during our stay, entertaining us frequently at their home and advising us how best to employ our time. In his old age he sent me his photograph with his greetings "*für Ihre ganze Familie von Herzen; Ihr alter Freund der nun mehr 80 Jahre ist. Auf Wiedersehn!*"

On Saturday nights and Sunday afternoons we attended the theater, which was excellent in Munich. My wife was fond of opera, but my own ear for music, perhaps owing to a long line

of Quaker ancestors, is less appreciative than hers. She took me to hear *Tristan and Isolde*, but my comment, I am ashamed to say, was that "it was an excellent opera to sleep through." Since then I have heard most of the great operas and have derived pleasure from them; but I realize that I do not experience the thrills that are enjoyed by the true lover of music. It is a lamentable defect!

We took the opportunity to visit the great galleries of Munich, and enjoyed the paintings in the old and new Pinakothek, as well as the sculptures in the Glyptothek. While we were in Munich, Isadora Duncan made her debut. We also saw the so-called "sleep dance" or "dream dance" of the hypnotized, hysterical Madame Madeleine. Though hypnotic exhibitions in public were prohibited by law in Germany, the difficulty was surmounted by von Schrenck-Nötzing, who arranged that "the Madeleine" should be presented as a clinical case before the medical society (*Aerztliche Verein*), where four hundred of us had gathered in the amphitheater. The case was discussed by several experienced hypnotists, and diverse opinions were expressed. Weighing as critically as I could the conflicting comments that were made, I came away from the meeting with the feeling that Madame Madeleine's performance was qualitatively a mixture of hypnosis, hysteria, and hocus pocus, but as to the quantitative relation of these three ingredients I did not venture to guess.

The Bavarians are a pleasure-loving, *gemütlich* people and much entertainment is provided in Munich for citizens and visitors. I remember with especial pleasure going to a Botticelli Ball at the *Künstlerhaus*, my wife and I wearing fancy costumes. The beer in Munich was the best in the world, ex-

cept perhaps that of Pilsen, and we enjoyed an occasional stein at the Hofbrau, Spatenbrau, and Loewenbrau cellars. The winter in Munich was marred only by the distressing news of the great Baltimore fire of February 7th, 1904, which destroyed the buildings of the principal business quarter within an area of 150 acres. We were greatly relieved when we heard later that the homes of our friends had not been burned, though many of them had suffered losses of business property.

At the end of the winter semester my wife and I made another rather extensive tour, going through the Dolomites to Cortina and on to Venice. We then took a steamer to Trieste and visited Budapest, Vienna, Prague, Nuremberg, Würzburg, Dresden, Leipzig, Weimar, and Jena. I wrote a full account of the hospitals and greater medical personalities of these cities in a series of articles entitled "An Intersemestral Excursion," published in the *Journal of the American Medical Association* (1905). The Anatomical Congress was meeting when we were in Jena, and Professor Karl von Bardeleben gave us a warm welcome, inviting me to attend the meetings and insisting that my wife and I participate in the social festivities. After one dinner the members of the Congress and their wives went into the public square, made a circle about the statue of the founder, sang songs, and each threw a little beer from his mug upon the statue.

We next went to Berlin, as I wished to work at medicine and chemistry there during the following semester. We found comfortable living quarters in a pension on the Lützowufer—though Mr. and Mrs. Abraham Flexner, who tried it on our recommendation three years later, found it unsatisfactory in

that the landlady became irate when they kept their windows open at night "and it took all day to warm the flat!"

In Berlin I found another excellent clinician, Professor Friedrich Kraus, who invited me to attend his clinics and introduced me to some of the members of his staff. Especially impressive was the interest Kraus took even then in "the patient as a whole," about which he wrote a book in 1919 entitled *The General and Special Pathology of the Person* (*Clinical Syzgiologie*).

At the First Chemical Institute of the University I met the distinguished Professor of Chemistry, Emil Fischer, who at that time was making important studies of the chemistry of proteins, the polypeptides and their constituent amino-acids. He kindly gave me permission to work in his laboratory. Dr. Simon Flexner, who had recently married, also entered upon work in Chemistry in Fischer's laboratory, and it was very pleasant to find myself at a table next to my old friend. Emil Abderhalden was then one of Fischer's most active assistants, and at his suggestion I undertook with him the study of methods for demonstrating the presence of certain amino-acids in pathological urines. From the urines of dogs that had been treated with phosphorus, by methods too complex to be described here, we were able to isolate tyrosin, glycocoll, leucin, and phenylalanin. Our paper was published in *Hoppe-Seylers Zeitschrift* (1904). The methods learned during this study were made use of later by Dr. B. A. Cohoe and myself in our researches on proteide diet and its content in different kinds of nitrogen compounds.

While in Berlin, I paid my respects to the great anatomist Professor Wilhelm Waldeyer, whose celebrated article in 1891

dated the inauguration of the "Neurone Doctrine" of the structure of the nervous system and had stimulated me to write my volume, *The Nervous System and Its Constituent Neurones* in 1899. At the time of our visit, Waldeyer was sixty-eight years old. He received me most kindly, asked about Mall and other friends of his in America, and surprised my wife and me by entertaining us at an elaborate banquet, inviting Hans Virchow and a number of his other friends and their wives to meet us. Waldeyer was very proud of his wine cellar, which contained many rare vintages. He insisted on my wife sampling each of many varieties while he told her of the history of the wines and how he came by them. It was the most severe test of her tolerance for alcohol she had ever undergone, but to my surprise, and I may also say to my relief, she came through the ordeal unscathed!

My work in Germany, both in Leipzig in 1895 and in Munich and Berlin in 1904, convinced me so completely that work in foreign laboratories can be most useful to an American student that I made it a point for years afterwards to encourage as many of my students as could afford it to spend at least a few months in study in Europe, particularly if they could read German and French. Foreign laboratories, foreign clinics, and foreign masters are less essential for Americans now than they were at the beginning of this century. Moreover, as I write, conditions in Europe are prohibitive of trips abroad for medical study, and one wonders how long it may be before American students will be able with profit to undertake them again. Medicine in the United States and Canada is now in a "blooming period," and our great medical centers are likely, for a long time ahead, to be the Meccas of ambitious students of the

medical sciences. But in time the world will, we must hope, again become quiet enough to favor international medical visits. And even though America should retain the lead in medicine, our countrymen will do well to keep in mind the advantage of postgraduate studies in other lands, since, in addition to the beneficial general cultural effects of intelligent travel, scientific workers in medicine can scarcely fail to profit by visiting the best foreign clinics and laboratories. Such visits will have a broadening tendency, will sharpen critical faculties through comparisons, will satisfy curiosity regarding the personalities of men whose writings have been read, and, in general, will do much to widen horizons. Moreover an entire change of work and environment may do wonders for a man's physical and mental well-being. Writing from Berlin some "Travel Notes" for the *Journal of the American Medical Association* in the summer of 1904, I made the following comment:

> Nothing contributes more to liberal-mindedness, to broad medical cosmopolitanism, and to the dissipation of a narrow chauvinism than a first-hand acquaintance with the methods and results of medical workers in different lands and in different places in the same land. I am reminded of the assertion of Peer Gynt who said that, though born in Norway, he had become a citizen of the world, getting his luck from America, his well-filled bookshelves from Germany, his clothing, wit, esprit, and cynicism from France, his powers of work and thought and some egotism from England, his patience from the Jews, a little *dolce far niente* from Italy, and his courage from the Swedish steel in his blood. To become a medical *Weltbürger*, one must learn to appreciate the virtues of his fellow craftsmen of all nations. If a man really becomes, like Ulysses, a part of all that he has met, it surely behooves him to meet with and assimilate as much of what is great in the world as he can.

6

Educational Conditions and Social Life in Chicago

I returned to Chicago in the autumn of 1904 and resumed my work in anatomy at the University and at Rush Medical College. At the first meeting after my return of the University of Chicago Biological Club, I was invited to present a paper on "New Methods of Studying Amino Acids in Urine," and early in 1905, I gave an address on "The Art of Living Long and Keeping Happy," at the Contemporary Club in Indianapolis.

Dr. Frank Billings, head of the Department of Medicine, was the leading medical consultant in Chicago and exerted great influence in professional circles. His personal power, with that of Dr. Ludwig Hektoen, was comparable in the Middle West to that exerted by Dr. Osler and Dr. Welch in the East. In the exercise of his powers, Dr. Billings had ever in mind the welfare of the Medical School, his colleagues, and the general public, and he was one of the most unselfish men I have ever had the privilege of knowing. He excelled not only as a teacher, practitioner, and promoter, but also as a benefactor; it is no wonder that he was greatly beloved. As a single example of his thoughtfulness and consideration I may mention that he had the Board of Trustees of Rush Medical College appoint me, early in 1905, professor of medicine in his department because he knew that I desired ultimately to become an internist and was aware that such an appointment could not but be helpful in the furtherance of my aims. When Dr. Osler heard of this, he wrote me: "I am so glad that you have made arrangements for clinical work this winter. I felt

sure, from what Dr. Billings said, that he could arrange it. What a Saint he is!" In connection with this clinical work I became interested in the deviations of the heart from normal functioning and published a paper on the "So-called Cardiac Neuroses," a topic that permitted me to correlate the newer studies of the vegetative nervous system with the clinical symptoms of certain disorders of the heart.

The great surgeon of Chicago, Nicholas Senn, after notable success in teaching and practice—he was then sixty years old—was enjoying a medical trip around the world, a full and entertaining account of which is recorded in his "Travel Notes" published in the *Journal of the American Medical Association* in 1904.

After the expense of my years of postgraduate work in Europe, it was necessary to supplement my salary in some way, if possible, and as I did not engage in medical practice, the only way to earn money was by medical writing. The royalties from the translation of Spalteholz's *Anatomy* afforded some income, as it sold well from the first. Thanks to Dr. George H. Simmons, the able editor of the *Journal of the American Medical Association,* I was for a time paid for writing editorials, as in Baltimore I had made some money writing editorial articles for Dr. George M. Gould in Philadelphia. Such peddling of minor medical articles—the English call it "cadging snippets of highbrow reviewing"—besides adding to the income of a struggling young medical man, gives him helpful practice in writing. I wrote, for example, a series of nearly twenty editorials in 1904 on the topic "Truth and Poetry Concerning Uric Acid." Dr. Simmons had become the editor of the *Journal* in 1899 and continued in that capacity for a quarter

of a century. His ideas and those of his successor Dr. Morris Fishbein upon the art and practice of medical writing are embodied in a small volume published in 1905. Under the editorial guidance of these two men the *Journal* has become the leading medical weekly of the world.

The University of Chicago was the third real university—for graduate study and research as contrasted with an undergraduate college—to be developed in America. It had been preceded by Johns Hopkins University (1876) under President Gilman and by Clark University under President G. Stanley Hall. The older institutions like Harvard, Yale, Columbia, and Cornell did not develop any extensive graduate work until later on. President Harper from the beginning laid emphasis upon postgraduate work, and almost half of the students entering applied for it in the twenty-seven departments in which research was conducted in addition to the instruction offered. The result of the first decade of work as revealed in the decennial publications of the University astonished the country and exerted a profound influence upon education and culture in other institutions.

Harper brought together a truly remarkable group of men to form his faculty. Science was dominant, with Whitman, Davenport, and Lillie in biology, Coulter in botany, Michelson in physics, Neff and Stieglitz in chemistry, Loeb in physiology, and Donaldson in neurology. The classics were ably represented by Paul Shorey in Greek and by excellent men in Latin. James R. Angell, later President of Yale University and an admirer of William James, taught psychology. He developed the doctrine of "functionalism," and one of his pupils, John B. Watson, later became well known for his radical "be-

haviorism." In philosophy, the work of John Dewey, Tufts, and Mead did much to develop the doctrines of pragmatism and the application of the scientific method to metaphysical as well as scientific truth. In the social sciences, A. W. Small, W. I. Thomas, and Thorstein Veblen revolutionized their subjects through the application of biological and evolutionary principles to the study of social, political, and economic problems. In religion, W. R. Harper, Shailer Matthews, and others studied religious experience from the standpoint of psychology and evolutionary doctrines. In the field of education, with Dewey at its head, the "progressive movement" was promulgated and spread from Chicago to the country at large.

Perhaps this important group of men had a somewhat too narrow conception of the scientific method. It may be that in recent years, since the arrival of President Hutchins, the conception is being widened by making it less militantly modern and by integrating the best of what is old with the best of what is new. In any case, freedom of discussion is still prevalent in Chicago. Proof that arguments on both sides of a question can be patiently listened to is evidenced by the University of Chicago *Round Table Discussions* to be heard frequently over the radio. Though the "possible harmony of diverse things" (of philosophy and religion with science), which is Whitehead's ideal of a university, has not yet been reached in Chicago, the conflict that goes on gives opportunity for debate that may in time become fruitful. In the opinion of Mortimer J. Adler, now Professor of the Philosophy of Law at Chicago, this must await "fundamental educational reform below the level of the university," perhaps through the revival of a liberal curriculum

in the colleges, such as that being striven for at St. John's College at Annapolis by President Stringfellow Barr.

There are some who fear that the philosophy taught by the John Dewey group and its infiltration of our institutions of higher learning is destructive of religion and of the foundations of our social order. They think that there is a strong "anti-Christian and anti-realist metaphysical drift" among the intelligentsia of both England and America that is leading to indifferentism and skepticism. Whether or not this is true I do not know; in any case, the situation should be interesting to both churchmen and philosophers. That the so-called "instrumentalist" philosophy is having an effect upon prevailing ideas of jurisprudence can be seen in recent publications such as William Seagles' *The Quest for Law* (1941), in which the matters of "natural law," and of a fixed law of Right and Wrong (the "Moral Law") are discussed. T. F. Woodlock, commenting upon this book, fears that the trend in modern jurisprudence is toward the view that there is no such thing as "natural law" and that law is and should be free of all metaphysical elements whatsoever, and in thus emancipating law from all fixed principles he sees great peril. I think he senses danger to the idea of the "sanctity of human personality" and fears submergence of the *person* in the *group*.

During my Chicago period, I became acquainted with young Dr. Joseph E. Raycroft, who was inaugurating a movement that was destined to become of greater importance in American college life than he could have foreseen at the time. He had supervision of athletics at the University of Chicago and began systematic medical examinations of all who participated in college sports. His work in the West and that of the late

R. Tait McKenzie in the East gradually led to similar medical control of athletics in most of the colleges of the country, thus safeguarding better than ever before the health of the students. In his later life, in Princeton, Dr. Raycroft became interested in the history of ancient civilizations, and in 1941 I heard him read at the Osler Historical Club in Baltimore a very interesting paper entitled "Old Wine in New Bottles."

In Chicago, my wife and I had settled down in a small apartment on Washington Avenue, and there our first child was born. When the baby was less than a year old he suffered an attack of meningo-encephalitis, so severe that he was never able to talk intelligibly or to develop mentally. When it became certain that he would never be normal, we thought it wisest to send him away from home where he would have special care.

My father and mother were living in Chicago when we were there, and my sister Grace attended Dearborn Seminary and graduated from the University of Chicago with the Bachelor of Science degree. She made many good friends in Chicago, and became well prepared for her work as a teacher later on in private schools for girls in Chicago, Baltimore, and New York City.

Our life in Chicago was made very pleasant, thanks to the Harpers, Dr. Billings, the Websters, the Judsons, the Hektoens and many others. Indeed, we were quite overcome by the generous hospitality of the Middle West, and when the time came to leave Chicago in 1905, we had the satisfaction of knowing that many long-lasting friendships had been established in the "windy city." Dr. John Franklin Jameson, the head of the Department of History, was also leaving Chicago,

and a farewell dinner of more than a hundred persons was tendered to him and me on May 27, 1905.

Earlier in the same month I had gone on to New York to attend the dinner given in honor of Dr. Osler before his departure to England. This dinner at the Waldorf Astoria on May 2nd was a memorable affair. Tyson of Philadelphia was Chairman and the addresses were made by Shepherd of Montreal, Wilson of Philadelphia, Welch of Baltimore, and Jacobi of New York. Weir Mitchell made the presentation of Cicero's *De Senectute*. It was in his earlier address (February 22, 1905) that Dr. Osler had made his well-known comment on men over sixty.

Chapter X. HEAD OF THE DEPARTMENT OF MEDICINE AT JOHNS HOPKINS (1905-1914)

I

The Appointment of a Successor to Dr. Osler

AT THE END of the school term in the spring of 1905, after sixteen years of fruitful and inspiring work in Baltimore, Dr. Osler resigned from the chair at Johns Hopkins and accepted the Regius Professorship of Medicine at the University of Oxford. With Welch, Halsted, and Kelly, he had shared the credit of initiating and carrying out reforms in hospital organization and medical teaching and research that had not only brought great renown to the Medical School but had marked an era in the development of higher medical education in America. Dr. Osler, as teacher, practitioner, investigator, and organizer, had developed a medical clinic on a higher plane than any other of his time in America. The loss that Johns Hopkins was to suffer through his departure was recognized by everyone to be prodigious, and the medical profession in Baltimore and the Medical and Chirurgical Faculty knew that they could never expect to see his like again.

The authorities of the University and the Hospital, learning in 1904 that Dr. Osler was to go, were placed in a doleful situation. They were compelled to seek a successor to Dr. Osler, knowing full well that whoever was chosen must suffer by

comparison with "the Chief," and that no matter whom they selected they were likely to be subjected to more or less severe criticism. It was common comment that "no one can fill Osler's shoes; the man who succeeds him, no matter how able he may be, can scarcely be expected to do more than shuffle around in them."

It would be interesting to see a record of the discussions that must have taken place among the authorities of the Medical School and the Hospital at this time concerning the filling of the chair, but so far as I know none is available. Of the men on the ground, Thayer was outstanding because of his long association with Dr. Osler, his admirable training, his generally recognized ability as teacher, investigator, and practitioner, and his charm of personality. He had been Associate Professor of Medicine from 1896-1905. Doubtless other American centers were thoroughly canvassed in the search for a clinician whose attainments would not be so grossly inferior to those of Dr. Osler as to precipitate a violent storm of protest if he were appointed to the chair.

Rumors that Dr. Osler was to leave soon became rife outside Baltimore, and there was much speculation as to who would be his successor. When my wife and I were at Beg Meil with Dr. and Mrs. Paton in the summer of 1904, we heard of Dr. Osler's call to Oxford and Margaret Paton at once said that I should succeed him, but my wife and I thought this extremely unlikely. When we returned to Chicago we found that the newspapers in Baltimore and Chicago stated that "Dr. Osler's successor is likely to be two men instead of one. It is said that Dr. Wm. H. Welch, Professor of Pathology, will take the chair of internal medicine in the univer-

sity and that Dr. Wm. S. Thayer will become professor of clinical medicine." The papers also intimated that Dr. Welch would be succeeded in the chair of pathology either by Dr. Councilman of Harvard or by Dr. Barker of Chicago.

Meanwhile, I learned from my brother-in-law, Mr. R. T. H. Halsey, that President Butler of Columbia and the medical faculty of the College of Physicians and Surgeons of New York were considering me for one of their chairs of general medicine, but they had difficulty in finding a suitable hospital position to go with the chair. I was asked whether I had any prejudices against going to New York, and it was also suggested that if I were considering any similar medical chair elsewhere I should let them know in order that the New York offer could be hurried.

The first real intimation that I might be seriously considered as successor to Dr. Osler came to me in a letter from my wife while I was attending a meeting in St. Louis, Missouri. She wrote that my secretary, Miss Smith, had greatly distressed my mother by saying that Dr. Hektoen had told her that Dr. Osler's Oxford appointment might lead to my appointment as his successor. My wife told Miss Smith that we were not even thinking of such a possibility, and my mother, who could scarcely bear the thought of our leaving Chicago, said: "The Johns Hopkins had better not make him such an offer, for we just won't let him accept it."

But on October 20, 1904, after the St. Louis meeting, the following letter was written to me by Dr. Welch:

My dear Barker:

After some hesitation I have decided to drop you a line entirely on my own initiative. Our Faculty has not as yet given any official con-

sideration to the question of selecting a successor to Dr. Osler and I do not know when the matter will be taken up. But when the time comes I am confident that you will be considered for the position. The only reason for writing to you now with reference to the subject is that a rumor has recently come to me that you may receive a call from elsewhere which may tempt you. Then it has also occurred to me that in your efforts to create opportunities for taking up clinical work in Chicago, you might assume obligations which would make it difficult later to cut loose from them. I should, therefore, consider it a favor if you would let me know the situation before you make any engagements or accept any offers which would preclude your favorable consideration of an offer from our Faculty of the Chair of Medicine.

Of course I should not write this if I did not consider it fairly probable that an offer would come to you from our Medical School, but at the same time I have no assurance of this. I have not spoken of the matter to more than two or three of my colleagues, and the result may be quite different from what I anticipate. Still, feeling as I do at present, and considering the matter as of the first importance for our future, I am anxious that you should keep me informed in case anything should occur which might require a decision on your part that would make it difficult for you to accept a position here. I was tempted to speak with you on this subject in St. Louis, but decided that it would be better to wait. Even now I should have waited if I had not heard the rumor, which may have no foundation, but still it is sufficient to induce me to say what I have in this letter.

You will of course hold what I have written as strictly confidential, and will, I trust, not attach undue importance to it, as no one knows that I am writing you.

Very sincerely yours,

William H. Welch.

On October 29, Dr. Mall wrote me of the plan to make Dr. Welch Professor of Medicine. But he felt sure he would decline the offer and that, if he did not accept it, it might be made either to me or to Dr. Dock.

It was not long before I began to hear from various quarters

that the appointment of Dr. Osler's successor had not yet been decided upon. On October 31, 1904, my old friend Dr. Hunter Robb wrote me jocularly from Cleveland:

Dear Barker:

The J. H. appointment is not so sure in my humble belief. Isabel and I are convinced of your fitness for the place. On the quiet, I am doing a bit of lobbying for you, so if the job comes your way I shall expect a good rake off in some way or another. I have not heard the result of your State Board examinations so I suppose they threw you down! *

Always your Robin.

In December, 1904, a letter came from Dr. Mall, telling of a present his wife was sending to our child. He went on to say:

I consider now that there is no doubt about your getting the call to the Chair of Medicine. The opportunity here will be much greater for realizing your ideals than ever before and you will have a great career with us. So far we have not discussed the matter in Faculty but it will come up early next year. It is not well to start with things until the holidays are behind us. The Welch plan, that is, to make Welch Professor, is now in the papers and the public thinks that the succession is settled. Your name is frequently mentioned in the papers but few believe that there is anything in it.

On March 2, 1905, Dr. Mall wired me "Dr. Welch will write you the good news." When Dr. Welch's letter arrived I learned that the members of the faculty were in favor of recommending me for the chair and asked me to go to Washington to confer with some of them, which I did. On my return to Chicago after this conference I wrote President Harper of the University of Chicago, who had been ill, as follows:

My dear President Harper:

I have just returned from Washington where I had a conference

* I received notice on November 11, 1904, from the State Board of Illinois that I had successfully passed their examination for license to practice.

with representatives of the Johns Hopkins Medical Faculty. As you already know from Dr. Welch's letter, they voted unanimously to recommend me to the Trustees for appointment as Dr. Osler's successor, that is to the Professorship and Headship of the Department of Medicine in the Johns Hopkins University and to the position of Physician-in-Chief to the Johns Hopkins Hospital with all the facilities and opportunities thereto appertaining. The hospital is, as you know, the best one thus far organized for the care of patients and for clinical teaching in any of the English-speaking countries and perhaps in the world. All that is lacking there to make the position correspond to the ideal that you, Dr. Billings, Dr. Hektoen, Dr. Webster and I have for some years had before us as desirable at the University of Chicago is the research side of the department. The care of patients in a great university hospital and the teaching are admirably provided for but there are but scanty funds available for special research in the department and the plan that I cherish of having, along with suitable laboratory equipment, a skilled chemist, a skilled physicist and a skilled pharmacologist constantly present in the department to apply the methods of these basal sciences directly to the solution of the practical problems ever existing in connection with the diagnosis and cure of disease, cannot at once be realized. I made it clear to them that much could be done toward this at the present time if a fund of $10,000 per year for these specific purposes could be raised. It may not be possible for them to secure such a fund immediately, but they have expressed themselves as being heartily in accord with the ideal, and they are willing, if I accept the position, to do all in their power to further its realization, not only by active co-operation and the readjustment of expenditures to this end, but also, as I understood them, by entering upon a campaign to secure some new money purposely for it.

Now while I feel confident that ultimately at the University of Chicago there must develop even greater opportunities, a University Hospital on the Midway with research laboratories attached and an even nearer approach to our ideals than Johns Hopkins now offers, the prospect of immediately entering upon such work as can be undertaken at Johns Hopkins and the opportunity to go ahead at once with clinical work and the plans I have so long had close to my heart appeal to me immensely. I shall be thirty-eight years old this autumn and I

realize that if I personally am destined to have any share in increasing our knowledge of disease and devising methods for its cure I must be actively engaged at the problems during the years just ahead. My desire is, of course, to work where I can do most, and can help others to do most, for the advance of medicine. Deeply regretful as I shall be to sever my connection with Chicago where I have been so kindly received and liberally supported and to leave the splendid group of men working there, it looks to me as though it were, in the circumstances, my duty to do so. I owe so much, however, to you and to Dr. Billings and have grown so accustomed to relying upon you both for advice that I do not wish to take this next step without your full acquiescence. I have told the Johns Hopkins Faculty that I did not want to decide until I had further consulted you. They agreed that this was very natural but they expressed the hope that I may be able to accept or decline their offer early next week. The urgency of the situation alone permits me to trouble you with the matter before your convalescence has proceeded further. Dr. Welch and Dr. Mall especially asked me to convey to you their esteem and warmest regards. The Johns Hopkins Faculty desire that nothing concerning the decision shall be made public until the Trustees make the announcement.

At the same time I wrote Dr. Frank Billings as follows:

Dear Dr. Billings:

The offer which the telegram you showed me referred to has arrived. I have just returned from a conference with the Johns Hopkins men and I must thank you sincerely for the very kind letter you must have written to them about me, for Dr. Mall told me that it made a very distinct impression upon the Faculty. I know that you meant whatever you wrote and that pleases me greatly.

They offer every facility in their power. The position is that of Professor of Medicine and Head of the Department in the Johns Hopkins University and Physician-in-Chief to the Johns Hopkins Hospital. It is their intention to advance Dr. Thayer to a full professorship in the department and to do everything possible to make him happy and retain his valuable services for the University. I feel very sorry for the grievous disappointment he must feel in not receiving the offer of Dr. Osler's

chair, for as you know he is one of my closest friends and besides has worked most faithfully for the hospital and the University. The decision of the Faculty is not intended as any reflection on Dr. Thayer as is shown by the desire to promote him; it only means that they wish the head of the department to be someone of more laboratory experience and more varied scientific interests. I was told that in case I do not accept the chair, Dr. Dock will be asked to take the place.

Attractive as Baltimore is to me with these magnificent opportunities ahead, I hate dreadfully to leave Chicago. I like the city and have come to feel much at home in the University and in the Medical School here. Thanks to President Harper and to you I have been most liberally supported and encouraged. The ideals that we have all had before us in Chicago seem nearer realization now than ever before as President Harper has recently told me; and besides I dislike much to have to think of severing my direct connection with the fine group of men that together have been constantly working and moving toward them. Still, as I have just written President Harper, it seems to me that it would be wrong for me to decline the opportunity for immediate clinical work that the control of a well-organized and liberally endowed university hospital offers. The funds at present available in Baltimore for research along the lines we have so often talked about are, it is true, not large; but the Faculty there is desirous that the department of medicine shall move as rapidly as possible toward the realization of the ideal by readjusting the present budget and by attempting to secure more money. Something at least can be done toward getting a start in research in the department of medicine in addition to the care of patients and the teaching.

Both President Harper and Dr. Billings gave me their approval of acceptance of the Baltimore offer and I wrote Dr. Welch promptly. On March 22, 1905, he wired me "Greatly pleased. No announcement until Trustees act. Have written you." The official notification came a little later from President Ira Remsen.

My friend, Dr. Ludwig Hektoen, wrote me:

Of course your going away means an irreparable loss to us here in Chicago and a grievous personal loss to me and other friends. I have accustomed myself to look at this matter from the standpoint of your deserts and qualifications and my consolation has been that medicine in this country will be enriched by your services wherever you are. Hence a certain stolidity in my attitude in the case, which might seem somewhat peculiar.

I had worried lest the years spent in anatomy, histology, and neurology might have been a drawback to me. But Dr. Mall encouraged me by writing me:

Ludwig took undesirable positions until he was fifty—Professor of Anatomy, Professor of Zoology and Professor in der Kriegsakademie—before he got to Leipzig. You are fifteen years ahead of him. Now you will have the opportunity to fill a university chair of medicine and do what no man has done in America, found a research department. The place for you is here and you may rest assured that I will try to pay my debt to you by supporting Medicine as you did Anatomy when we fought together. Please forgive me for writing but I cannot hold in longer.

Our roll of honor at Johns Hopkins is a long one but it holds no sturdier advocate of scientific research in medicine than Franklin P. Mall. His death at a relatively early age was a great loss to the institution in which he worked. Fortunately his successor Dr. Lewis H. Weed has been animated by similar ideals.

It was to the surprise of nearly everybody that the position was offered to me. For though I had been well trained in the preclinical sciences of anatomy, histology, pathology, and chemistry, I had had as yet but meager experience in the teaching and practice of internal medicine. I was made Professor of Medicine and Physician-in-Chief to the Hospital, while Thayer

was appointed Professor of Clinical Medicine and Associate Physician. The only way that I can account for the decision arrived at is by assuming that those in authority (and especially Welch and Mall) were sympathetic with the ideals of internal medicine that I had promulgated in my address entitled "Medicine and the Universities," and though the funds available were insufficient to establish a so-called "whole-time" position, they hoped that I would approach those ideals as closely as I could in the circumstances even though some private practice would be necessary to supplement salary. The Oslers telegraphed their hearty congratulations. Just what the attitude of Dr. Osler himself was I did not ask, but he was in a peculiar position.* He was personally greatly attached to Thayer and proud of his achievements. It could not have been easy for him, I thought, to support the candidacy of any other man than Dr. Thayer, and yet it was scarcely conceivable that his colleagues would have cared to override him if he had made a strong protest. One thing we can be sure of, and that is that the decision arrived at (rightly or wrongly) by the authorities was based upon their opinion as to what would really be best for the welfare of the Hospital and Medical School regardless of any personal interest they might have in any of those who were considered for the appointment, for I have never known a group of men anywhere who were less subject to the influence of "medical politics" or of any private personal interest than were the members of the boards at Johns Hopkins. This has always been true in the past, it has been true during the

* It was more than twenty years later that Dr. Welch told me Dr. Osler had urged that I be appointed.

time of my membership, and I hope that it always will be true in the future.

Dr. Thayer's friends could not help but feel disappointed, some of them bitterly so. But I can never forget Thayer's own behavior at the time. Regretful as he must have been, none but his closest relatives and friends, perhaps, would have known of his disappointment. Thayer was the soul of magnanimity and as loyal in his support of me and my conduct of the department as though he, himself, had been responsible for the appointment. Over and over again, he exhibited his unselfish devotion to the welfare of the clinic, and backed me up enthusiastically in certain changes that I introduced.

To a reporter on the *Baltimore American*, Dr. Mall made the following statement:

> I had the selection of Dr. Barker as professor of medicine in mind from the very start, after Dr. Osler's determination to withdraw was made public. Dr. Barker is a man of wide scientific training in the various branches of medicine as a basis for handling all the medical problems which will present themselves, and his appointment to this chair is perfectly natural, as Dr. Barker is really a medical man, and throughout all his scientific work has had in view the practice of medicine. That is really what he had in view when he was working at the Johns Hopkins, when he was studying abroad at the University of Munich, and when he went to the University of Chicago as head of the anatomical department there. So in coming to the Johns Hopkins as professor of medicine he has fulfilled his original desire.
>
> Dr. Barker is a most efficient man, a brilliant man, and well qualified by his broadness to undertake the position. He has all the intenseness and the endurance of a genius, and he is a most inspiring teacher. Whatever he has gone into thus far he has studied and worked with faithfully and he has obtained large results.
>
> Dr. Thayer's appointment is also a wise one. Dr. Thayer is one of our first clinicians; he is a good teacher and a man of the finest per-

sonality and gentlemanly bearing. He, too, has had excellent training, which, added to natural ability, has made his selection most suitable.

And President Remsen stated that the work of the medical clinic under the direction of Doctors Barker and Thayer would in his opinion be well attended to. At this time Thayer was forty years old and I was thirty-seven; to us two relatively young men the task of carrying on the work so wonderfully begun by Dr. Osler was assigned. The confidence our friends had in us was, of course, an enormous stimulus to both Thayer and me to do our utmost to succeed.

2

Address on "Methods in Medicine"

In the spring of 1905, Dr. Councilman wrote me that in connection with an exhibit of practical technical procedures at the Massachusetts Medical Society I was to be invited to give an address on "Methods in Medicine," for it was desired, he said, to emphasize the fact that "knowledge of the condition of a patient is to be drawn out of the patient himself, rather than manufactured without the aid of the senses in the interior of the physician's head." As I was soon to begin the teaching of medicine in Baltimore, the invitation came at an opportune time, for it compelled me to give serious thought to the subject and to try to crystallize in concrete form the ideas that had been more or less vaguely floating in my mind. Having read Claude Bernard's *Introduction à l'étude de la médecine expérimentale,* Helmholtz's *Das Denken in der Medizin,* Billroth's *Lehren und Lernen der medizinischen Wissenschaften,* and Romberg's *Erfahrung und Wissenschaft in der inneren*

Medizin, I was firmly of the opinion that all so-called methods in medicine are but parts of, or aids to, the one great method of acquiring knowledge, namely, "the method of science." For science is universal in its scope; in its legitimate domain it includes the acquisition of truth in every sphere, and no matter what facts it deals with, whether mathematical, physical, chemical, biological, psychological, or sociological, it must deal with them in one way—the scientific way. And that way is to collect facts carefully, to arrange them according to their likenesses and sequences, and to interpret them in the simplest manner compatible with verification by healthy minds of our own grade of culture. Knowledge in medicine, as in all sciences, has been and is being advanced in this way; indeed it can scarcely be advanced in any other way. Though knowledge in medicine began by chance observation, it has developed through reasoning and the spur to further observation that reasoning has given. Held back for a long time by faulty observation and imperfect reasoning, retarded at times by dogmatism and metaphysical assumptions, medicine has slowly become more rational and very gradually truly scientific. The scientific habit of mind is bound to pervade medicine more and more as enlightenment spreads. If we do not hold to the path of science in our studies of medical problems (problems of diagnosis, of causation, of prognosis, and of treatment) we are sure to be led into bypaths that run backward rather than forward. We must collect facts, compare them, and arrange them according to their mutual relations and connections, and then by the aid of the imagination epitomize their relations and connections in the form of brief formulas, or so-called general laws. Just as the law of gravitation, the law of conservation of mass, the

law of the conservation of energy, and the law of organic evolution have been arrived at, so also in medicine we shall gradually attain to simple statements (laws) that will summarize the succession and relation among more limited ranges of medical facts. The human mind analyzes, synthesizes, abstracts, and determines; induction and deduction are its forms of operation and observation. Reflection, experiment, and comparison are their aids. Through the concepts thus arrived at, thought can be tremendously economized and suitable action can be more easily decided upon.

Medical observation can now go far beyond the collection of impressions by the unaided eye. With the microscope, the spectroscope, the X-ray, the ophthalmoscope, the bronchoscope, the cystoscope, and a host of other instruments, and with the aid of chemical reagents, cultures of bacteria and viruses, and animal inoculations, the number of visual impressions we can receive have been multiplied a thousandfold. The unaided ear can be helped out by the stethoscope and by sounds produced by percussion. We no longer have to guess about a patient's temperature by reliance upon the sense organs of our skin; we make use of the clinical thermometer. For our conceptions of size, shape, position, weight, movement, time, and rhythm we use ruler, caliper, balance, chronometer, and graphic recording machines. In other words we pass ever more from the vague to the exact, from crude estimations to quantitative measurements expressed in terms of standard units.

It used to be said sarcastically that "nothing can be less deserving of credit than medical theories unless it be medical facts." This is no longer true, though for a long time medical science chafed under the allegation. Medicine was slow to apply

the experimental method to its investigations but, since this method has been systematically and judiciously applied, medicine has made progress by leaps and bounds, until today experimental physiology, experimental pathology, and experimental therapy have become the most helpfully productive parts of medicine, and from the results they are yielding there is great hope for the future. The older statistical methods, helpful as they were, were insufficient and were sometimes applied in a faulty way, for doctors formerly were taunted by the accusation that "statistics can be made to prove anything in medicine." For settling questions of causation, the statistical method is far inferior to the experimental method, though it can be a useful adjuvant to the latter. A few well-devised experiments will often settle a causal relation definitely, where thousands of laboriously compiled statistics would throw no light upon conditioning sequence. The parts played by the scientific imagination and preconceived theory in original research are very great, but they should be relegated to their proper place. Thus, Claude Bernard advised his pupils to doff their imaginations as they did their overcoats on entering the laboratory, but to put them on again on leaving; during an experiment imagination should be banished lest it hinder the power of observation.

Scientific medicine has a great advantage over philosophical or scholastic systems of medicine in that it is independent of personal authority. A thing is not so any longer because Hippocrates, or Galen, or Sydenham said so. Because Darwin, Virchow, or Pasteur held an opinion in their time does not necessarily make it valid in the twentieth century. Knowledge is but relative; it takes new form as science advances. Verifica-

tion by experience, not justification by faith, as Huxley once said, is the touchstone of science. Nonsubmission to his authority is, in a sense, one of the highest tributes succeeding generations of scientific medical men can pay to the memory of a medical genius of an earlier time. For devotion to doubt, the consecration of distrust, and the systematic questioning of results are safeguards in medicine as in other sciences. Though we believe in an invariable order in nature, we should always be apprehensive lest we confound a mere coincidence with an inevitable sequence; in many a supposed "fact" there has been discovered a purely hypothetical ingredient that has been unwittingly put into it. The more rapidly the medical profession becomes imbued with the scientific spirit, the more quickly will medicine become rational and precise, and the sooner will therapy cease to be occult, expectant, nihilistic, or merely empirical and become judiciously active and definite.

For a time there was a cry against the newer type of medical school for it was said that the teachers were "making scientists, not practitioners," but it is now generally recognized that good schools turn out "scientific practitioners," rather than merely scientists or merely practitioners. A scientific practitioner must be as well educated on the clinical side as he is in physiology and pathology. Though his ideal of treatment may be one based on physiology, he will not withhold a remedy that empirical experience has proven to be useful, even when a scientific basis for its use has not yet been determined. Scientific medicine includes empirical medicine as well as experimental medicine, but a physician animated by the scientific spirit will be continually struggling to pass out of the obscurities of empiricism into light.

Some think of clinical work as only "applied science," but this is an old fallacy due to an erroneous definition of science. If physiologists and anatomists wish to exclude diagnosis and therapy from the list of sciences, they will be compelled in order to be consistent to exclude also their own subjects, since they, in turn, are largely dependent upon "applications" of physics and chemistry. All sciences that deal with concrete phenomena are "applied" sciences; the only "pure" science perhaps is mathematics. To deny to diagnosis and therapy the rank of sciences is an invidious distinction that smacks of the old aristocracy of learning. Pathology and therapeutics are in reality far more complex sciences than physiology and anatomy, and the range of their problems is much wider. These problems are being ever more successfully attacked. The progress that medicine has made in recent years has been most encouraging, and we can feel very confident that with a continuance of the application of the method of science we shall increasingly know, we shall gradually become more able accurately to predict (the stage of prediction is, perhaps, the finest in the history of any science) and we shall gain ever more power to control.

It was very gratifying to me to find Dr. S. J. Meltzer, a truly scientific physician, preaching the same doctrine perhaps even more forcibly than I had done in an address that he made to the students of the University of Pennsylvania three years later. He asserted that the "clinical investigator must possess the same enthusiasm for purely intellectual work, and a burning love for research and discovery, as is possessed by investigators in other branches of science, qualities without which no great success can be attained." It was Dr. Meltzer who suggested that a special society be formed that would give oppor-

tunity for young clinicians who were actively engaged in research to come together and discuss their work. Thus arose the American Society for Clinical Investigation, which held its first meeting in Washington, D.C., in the spring of 1909, with Dr. Meltzer as its first president. His presidential address was entitled, "The Science of Clinical Medicine: What it Ought to Be and the Men to Uphold It." This Society proved to be a boon to younger clinical investigators and has done much to diffuse the spirit of original research among our younger clinicians. In addition to the national society, local organizations with a similar purpose in mind have been founded, notably the Society of Experimental Biology and Medicine in New York City. At the annual meeting of the American Society for Clinical Investigation held in 1921, Dr. Warfield T. Longcope in a memorial address paid a very high tribute to Dr. Meltzer as he spoke of his influence on the origin and ideals of the Society.

3

Adjustment to the Situation in Baltimore

On taking up my new work in Baltimore in 1905, I had to make several decisions as to methods of work and the general conduct of my life. After renting a house at 6 East Franklin Street, I had to consider carefully two problems; (1) the carrying on of the work of the medical clinic at the Johns Hopkins Hospital, and (2) the making of arrangements for private consultation practice, a certain amount of which was necessary to supplement my salary in order to provide a living income.

The second problem was simple. Dr. Osler had bequeathed to me his secretary, Miss Blanche O. Humpton, who had been

his faithful aide for nearly fifteen years and was familiar with the details of his consultation practice. She advised me to see patients in consultation by appointment only, and she knew how to arrange my private work so that it would not conflict in any way with my duties at the Hospital and the Medical School. Miss Humpton has been with me continuously since 1905 and with her sister, who joined us later, has been of inestimable value to me in the organization of my office and its staff.

The first problem was, of course, paramount and was far more complicated. Luckily for me, Dr. Thayer as associate Professor of Medicine was a tower of strength, was thoroughly familiar with the conditions of the clinic, knew the special capacities as well as the particular limitations of each of the members of the staff, and was ever ready to help me with his wise counsel. The Resident Physician at the time was Dr. Rufus Cole, who later on was put in charge of the clinical work of the hospital of the Rockefeller Institute for Medical Research when it was opened. Dr. Cole had grown up in medicine under Dr. Osler's tutelage and was of immense help in initiating me into the routine work of teaching and practice in the clinic. I have often said that without Dr. Cole as my guide in the clinic, and without Miss Humpton as my mentor in private consultation practice, I would have been seriously handicapped. I could not have had better help than these two gave me.

Dr. Thayer and I did our best to develop the minds of our students in the atmosphere of a teaching university, teachers and taught being kept in the closest relationship possible.

Ira Remsen, who had succeeded Daniel C. Gilman as President of the Johns Hopkins University, invited me to make

an address on the thirtieth Commemoration Day of the University (February 22, 1906), and this gave me the opportunity to deal in some detail with the conditions that should in my opinion prevail in a modern medical clinic, choosing as my subject, "The Relations of a Medical Clinic to the Science of Medicine and to Medical Practice."

I first paid a tribute to my predecessor, Dr. Osler (who had made the Commemoration Address in the preceding year), emphasizing the immense loss suffered by Baltimore and the country as a whole through the departure of that scientific leader of world-recognized ability. He was a man of unique personality, revered and beloved by everyone; he had elevated internal medicine as a vocation in an extraordinary way, and he had exerted upon his students, to whom he was deeply devoted, an influence that had been welded into their characters and was prized by them among the sacred things of their lives. I admitted that my colleague Dr. Thayer and I took up with some trepidation the work of the department that Dr. Osler had so brilliantly begun and so masterly nurtured, for we had a very deep sense of the responsibilities involved. Luckily we had inherited the staff that he had organized and would have their aid in the continuance of the work. And we had decided to conduct the clinic, for a time at least, as nearly as possible along the lines that Dr. Osler had followed, preserving the traditions of practice, teaching, and research that he had transmitted to us. If some changes needed to be made later on, they could be made step by step as a continuation of the development that had already occurred.

The medical clinic in Baltimore had set a good example of advancing medical science and at the same time of promoting

the medical art. It had kept a proper balance between the two, realizing that students who are to become the physicians of the newer time must be trained in the method of science and be imbued by its spirit if they are to use practical methods efficiently in the diagnosis of disease and in the treatment of the sick. The art of making human exertion more fitting has ever progressed with a pace equal to the advances made in knowledge. It would be folly to attempt to divorce art and knowledge, for it would be like trying to separate the head from the hand. Claude Bernard put it well when he said: "A skilled hand without the head that directs it is a blind instrument; the head without the hand that accomplishes remains impotent."

The Johns Hopkins Medical School had been criticized for too much cultivation of science and theory. The students, they seemed to think, would indulge too much in hypotheses or mere speculation. The motto of the critics seemed to be: "Discard theory and be practical; do not be a scientist, but become a physician!" But as I had emphasized in my earlier address "Methods in Medicine," this critical attitude is due to a misunderstanding of what is meant by the science of medicine and by the use of the scientific method. It is not enough to collect facts by observation. It is necessary to try to establish relationships between facts and to attempt to explain them rationally. After a large series of facts has been gathered, one must form hypotheses as to their meaning and then subject these to the acid test of experiment. Working in this way, the physician or surgeon is compelled to make new observations, more accurate and more precisely defined than before, thus steadily increasing the store of facts. The chain is endless—observation, reflection,

hypothesis, experiment, and then observation again. Only by following this procedure can knowledge be advanced.

It has been through reasoning and experimentation that we have learned how to aid our sense organs by means of instruments. A host of instruments has been devised to aid the doctor in gaining knowledge about the different parts of the human body, but students must learn how to use these means of refinement of our powers of observation. The greater his skill in applying the various technical methods that are available, the better prepared the medical man is to collect facts of importance regarding the condition of his patients. Unfortunately, new methods that have been invented are not always quickly adopted and applied by the medical profession as a whole, and the public may suffer because they do not get the benefit of recent acquisitions. It is said that when Helmholtz invented the ophthalmoscope, which permits us to see in detail the structures within the eyes of patients, a famous surgeon said that he would never use it for he thought it too dangerous to throw such a bright light into a diseased eye, and another declared that though it might be useful to doctors whose eyes were bad he himself had very good eyes and did not need it!

It is desirable, I continued, that the students who have studied patients in the hospital wards should, when the cases are fatal, study the organs and tissues at postmortem examinations. Unless their teachers make a practice of attending autopsies, or at least of participating in clinical-pathological conferences at which both the clinical and the pathological findings are presented and compared, the students will miss experiences that can be very enlightening. The pathologist may corroborate or refute the conclusions arrived at by clinical

studies, a satisfaction to the clinician in the one case and a spur to better clinical study in the other.

With the advent of modern bacteriological, immunological and chemical studies, the medical student has been provided with methods that permit him better than formerly to decide by the studies he makes as to the *causes* of the maladies from which his patients suffer. In diphtheria, for example, he can isolate the causal bacillus by means of a culture made from the throat. In pneumonia he can determine by stained smears or cultures from the sputum whether the lung inflammation is due to pneumococcus, streptococcus, staphylococcus, or some other micro-organism. In malaria he can by microscopic study of the blood determine which variety of malaria he is dealing with. In septicemia, by means of a blood culture he can make sure whether he is dealing with an infection that is curable or with one like that due to the green streptococcus, which was up to the time of my address rarely amenable to therapy and almost invariably fatal. In dysentery he can, by examining the stool, find out whether the disease is due to one of the dysentery bacilli or to amoebiasis, and his findings will determine the method of treatment that may be successfully applied. By estimating the calcium content of the blood, he may often easily distinguish between an anxiety neurosis and the symptoms of latent tetany that such a neurosis may resemble. By determining the glucose tolerance of a patient, the severity of a diabetic condition can be ascertained. And in an obese, sluggish patient, the measurement of the basal metabolic rate will give indications as to how far a deficiency of thyroid secretion on the one hand or merely faulty dietetic habits on the other may be responsible.

In a good medical clinic, the physician will strive to make an accurate diagnosis not only of the main malady that is present but of *all* the deviations from normal structure and function that exist. In other words, each patient must be studied thoroughly in all domains in order that a comprehensive multidimensional diagnosis can be arrived at, for, without this, treatment is likely to be too greatly restricted and the results obtained will often be unsatisfactory. Thus, for example, a psychoneurotic may need more than merely mental treatment, for psychotherapy alone will often fail to cure if the patient, in addition to his neurosis, has, for example, two abscessed teeth and is forty pounds under normal weight.

The medical clinic should be a repository in which all of the medical knowledge of the past is preserved and utilized—a veritable institute of instruction. But it must also be a workshop in which new wisdom is gained by experience—an actual center of research. The young men and women who are trained in it will not only become skillful in the art but also contributors to the science of medicine. They will not despise the gifts of empiricism, but they will also be possessed with the noble dissatisfaction that demands rational explanation. The clinic must cherish not only ideals of culture and of scholarship but also, and above all, ideals of service. In such a clinic the students will acquire practical skill while at the same time they learn to think scientifically. A medical clinic cannot do its best work unless it is pervaded by the spirit of interminable investigation, of untiring work, and of consuming thirst for truth.

4

The Study of Functional Nervous Disorders

Admirable as Dr. Osler's organization and conduct of the medical clinic had been, there was one field that had been inadequately cultivated, namely that of the functional nervous disorders like neurasthenia, hysteria, anxiety neurosis, psychasthenia, hypochondriasis, and the milder forms of elation and depression (affective disorders belonging to the group of the manic-depressive psychoses). When patients manifested symptoms of these disorders they were often rather lightly referred to as being "neurotics" and received too often but little attention from either staff or students.

There were several reasons for the relative neglect of this field. Dr. Osler had been trained in the pathological-anatomical rather than the pathological-physiological school, and he was more particularly interested in organic rather than in functional disorders of the nervous system. The work of the Hospital neurologist, Dr. Henry M. Thomas, was largely in the Out-Patient Department rather than in the Hospital wards, but the clinic owed much to him for his wonderful insight and his devoted labors. Moreover, the Hospital had as yet no psychiatric clinic (the admirable Phipps Psychiatric Clinic was endowed later), and even if it had had one, the medical clinic would still have been the part of the Hospital in which most of the patients exhibiting severe neuroses and very mild mental disturbances would have been received. Unfortunately present-day medical education has been very neglectful in respect to the problem of dealing in general practice with the maladjusted and mildly neurotic patient. The course on "Treatment of

Patients as Persons" inaugurated at Harvard Medical School in 1941 is a step in the right direction.

It soon dawned upon me that there was here at least one opportunity for improving the work of the clinic—an almost virgin field—and I began an intensive study of the diagnosis and treatment of these functional nervous disorders. When in Paris, in 1904, I had been much impressed by what I had seen of the work of Professor Déjerine in the Pinel ward of the Hospital Salpétrière. He was treating psychoneurotic patients, especially the hysterical and the neurasthenic, by "isolation and psychotherapy." Each bed was surrounded by drawn curtains so that the occupant did not see or communicate with neighbors in the ward. All letters and visitors from outside were cut off; the patients saw only their physicians and nurses. Very little use was made of drugs. Undernourished patients were encouraged to ingest an abundance of food. But the principal treatment was by means of influences brought to bear upon the mind (psychotherapy). The psychoneurotic patient after thorough diagnostic study was told that the condition was of nervous origin, that it was "functional" rather than "organic," and that it was curable. Symptoms were discussed and explained. Mental conflicts were uncovered and resolved. And the results achieved were remarkable. Paralyses, contractures, nervous crises, depressions, fatigability, fears, obsessions, indecision, and functional disorders of digestion disappeared in the course of a few days, weeks, or months under the influence of this simple treatment. The poorer people of Paris benefited by their sojourn in the Pinel ward practically as much as wealthy people similarly affected improve in the best conditioned and expensive sanitariums.

My observations of Déjerine's successes made me determine at the time to try these methods of psychotherapy in practice myself at the first opportunity. Though Weir Mitchell had used somewhat similar methods in Philadelphia—his "rest cure" with isolation and over-feeding was famous—and several other American neurologists were using psychotherapeutic methods intelligently, the Johns Hopkins Hospital, except for the work of Dr. H. M. Thomas, had been singularly backward in applying them. I decided therefore that by the utilization of the newer psychotherapeutic methods it might be possible for me to make a real contribution to the work of our medical clinic.

Several excellent treatises had been published, among them Dubois's *The Psychic Treatment of Nervous Disorders,* Camus and Pagniez's *Isolement et Psychothérapie,* F. X. Dercum's article *Psychotherapy* in Solis Cohen's *System of Physiologic Therapeutics,* and P. Janet's *Les Obsessions et la Psychasthénie.* I studied these carefully and set to work to apply the methods in the public and private wards of the Johns Hopkins Hospital, making use of only the simpler forms of psychotherapy and re-education (suggestion, persuasion, isolation, occupation, and guidance) without resort to hypnotism or to Freudian psychoanalysis.

During my first year in the clinic, we had more than eighty cases in which psychotherapy was the main influence in treatment, and at the spring meeting of the Association of American Physicians I read a paper entitled "Some Experience with the Simpler Methods of Psychotherapy and Re-education," in which the histories of some fifteen illustrative cases were recounted. The results obtained were so satisfactory that it seemed

worth while to urge general practitioners to give more attention to this form of treatment.

But to practice psychotherapy properly one who applies it should be an honest man and an expert clinician. He must be interested in functional disturbances as well as in anatomical changes. He should be well versed in normal and abnormal psychology and should be familiar with the relations of the emotions and the intellect to the will, to action, and to habit formation. He must understand that neurasthenia, hysteria, and psychasthenia are as much diseases as are pneumonia or gonorrhoea and that they often incapacitate those who suffer from them for a much longer period of time. The sufferings of the psychoneurotic and the mildly psychotic are real, not imaginary, and are independent of his will power and his morality, for they are determined by the condition of his nervous system at the time. Abruptly to tell a neurotic patient, after a physical examination with negative findings, "There is nothing wrong with you; go home and go to work" is not helpful and is likely to lessen the confidence of the patient in the physician. Nervous patients, like all others, expect to be taken seriously, not lightly, by their medical attendants. The doctor should begin by asking about the symptoms of the illness for which he is consulted, rather than about the family history. He should first win the trust of the patient by listening patiently to his tale, showing by the questions he asks that he is familiar with many of the symptoms from which the patient is suffering even before he speaks of them himself, by extending his sympathy to him in his distress, by telling him that he need have no fear for he believes that his disease is curable, and by assuring him that everything possible will be done to help him

to get well. Implicit medical obedience should be established; usually the patient's consent to obey can be gained, especially if the promise is made that nothing unreasonable or prejudicial to his welfare will be asked of him.

From 1906 on, I wrote many papers in which I urged the profession to apply psychotherapy in a conscious way to patients whose maladies give the indication for it. At the same time I warned against certain abuses of psychotherapy, and particularly against incomplete studies of nervous patients in whom conditions other than neuroses are often present and require measures other than psychotherapy for their satisfactory control. Too often ignorant lay psychotherapists have overlooked serious organic conditions like incipient tuberculosis, tabes, or multiple sclerosis, and the public should be protected from such charlatans. If focal infections, for example, are present in neurotic patients, they may have to be removed surgically; or if other abnormalities coexist, various forms of treatment (pharmacotherapy, hydrotherapy, mechanotherapy, electrotherapy, endocrine therapy, or vitamin therapy) may be indicated as well as the treatment by mental influences. Each patient should be told frankly about all the abnormal conditions (both organic and functional) found by the thorough diagnostic study that should always precede the inauguration of the treatment. One of the commonest accompaniments of some of the profound psychoneuroses is extreme undernutrition. This can now usually be quickly overcome by making use of injections of protamine zinc insulin twenty minutes before breakfast and before the evening meal. One patient gained thirty pounds in six weeks under this treatment, another sixty-three pounds in three months, and

the neurotic condition improved *pari passu* with the gain in weight.

The psychoanalytic method has in recent years proven to be a valuable instrument of research for the extension of our knowledge of the functional neuroses. Its emphasis upon exact studies of "vertical sections" of life histories of patients is an important feature. In a small volume entitled *Psychotherapy*, published in 1940, I reviewed the various methods of psychotherapy (including psychoanalysis) and commented upon their application in the treatment of both organic diseases and functional disorders. The special uses of psychotherapy at different ages of life (childhood, adolescence, adulthood, old age) were also briefly described. To the psychotherapist nothing human dare be foreign; the wider his experience with human beings of all sorts and conditions in a variety of circumstances, the better prepared he will be to give helpful psychotherapy.

Re-education over a considerable period is one of the most important factors in producing lasting cures of psychoneurotics. It is often very easy to make symptoms disappear quickly, but the experienced neurologist will not be duped into thinking that he has thus made a complete cure. In many instances, the re-education dare not be hurried; the mind and body must often be influenced slowly in order to achieve the results desired. Patients who become cured of their neuroses are among the most grateful of a physician's clientele. When psychoneurotic patients can afford it, the physician can be greatly helped by the co-operation of special nurses. Much of the success that we have had in Baltimore in the treatment of psychoneurotic patients is to be attributed to the efficient aid of special nurses who have

had hearts and minds that fitted them peculiarly for this type of work.

The better psychoanalysts have made very important contributions to our knowledge of nervous patients, and we must be grateful to them. As a method of research, psychoanalysis seems to me to be even more helpful than as a method of treatment. In certain selected cases of psychoneuroses, however, skillful psychoanalytic treatment may find its proper place. But thorough general diagnostic study should, I again emphasize, precede any form of treatment. Too many specialists in therapy seem to be unaware of the great importance of preliminary thorough diagnostic study.

5

Organization of Research Divisions in the Clinical Laboratory

A second real opportunity for improvement of our medical clinic soon occurred to me, namely, the possibility of arranging for an extension of research work in the clinical laboratories. Dr. Osler had, from the time when the medical clinic was first organized, shown a personal interest and enthusiasm in clinical laboratory work as an indispensable accompaniment of the work in the wards. He insisted upon careful routine studies of the blood, the urine, the sputum, the stomach juice, and the feces and assigned small rooms adjacent to the wards for the making of the necessary tests. After the Medical School was opened, he realized the urgent need of facilities for the instruction of medical students in the methods of the clinical laboratory, and a special clinical laboratory was built for the purpose. Each third-

year student was given a systematic training in the microscopical, chemical, and physical study of materials derived from patients in the wards, and each fourth-year student was required to apply these methods in the actual investigation of the individual case assigned to him in his practice as a "clinical clerk." The instruction in clinical laboratory work had been admirably organized by Dr. Thayer and had been continued under the guidance successively of Doctors Futcher, McCrae, Emerson, and Boggs. Thorough X-ray studies of patients had also been provided for. All this had made it possible to carry on the work at the bedside on a much higher plane than would have been possible otherwise. The papers published in the *Bulletin* and in the *Reports* of the Hospital had revealed the wholesome influence of the work of this clinical laboratory.

But through my experience in Friedrich von Müller's clinic in Munich I had learned that the work of a clinical laboratory could be advantageously extended by securing investigators trained in the so-called "pure sciences" of physics, chemistry, and biology who would devote themselves to the special application of the methods and principles of those sciences to the solution of the special problems of diagnosis and therapy. Von Ziemssen had recognized this need, and clinical research laboratories had been established in the hospital at Munich. Later von Müller also regarded these as essential for the work of a university medical clinic.

Soon after I took charge of the medical clinic in Baltimore I decided, therefore, to introduce such special research laboratories in addition to the general clinical laboratory work and the X-ray work that had previously been provided for. On my recommendation to the Medical Board, arrangements were made

for three research divisions of the clinical laboratory, each of them to be in charge of a salaried investigator.

A *biological division* of the laboratory was organized, with Dr. Rufus I. Cole in charge, for original investigation (upon patients and upon animals) by means of applying newer biological methods, especially bacteriological and immunological. A *physiological division* for the purpose of studying disease conditions from the standpoint of disturbance of function was headed by Dr. Arthur D. Hirschfelder. Methods of the physiological laboratories, especially graphic methods, and animal experimentation were here to be applied. Problems of excretion in experimentally produced disorders of the kidney, problems related to blood pressure and to disturbances of the function of the heart, and problems bearing upon the pathological physiology of the nervous system were early undertaken. It was in this division of the clinical laboratory that one of my assistants, Dr. Charles S. Bond, first made electrocardiographic studies at the Johns Hopkins Hospital. The interest in cardiac function became so dominant that this division of the clinical laboratory came later to be known as "the heart station." A *biochemical division* was also developed as a third research branch and was placed in charge of Dr. Carl Voegtlin. In this the problems of metabolism and nutrition were to be investigated, a field of work that has become ever more important with the growth of knowledge of metabolism, nutrition, endocrinology, and the vitamin doctrine. I would have liked to establish also a *psychopathological division* but was unable to do so for lack of available money. Fortunately, when the University obtained endowment for the Henry Phipps Psychiatric Clinic, this need was satisfactorily met.

This extension of research facilities in the laboratories of the Medical Clinic was certainly one of the most important advances made during the nine years that I held the professorship. My deepest regret was that, owing to shortcomings in my own nature, I was not to become an original investigator of importance myself. The talents I had were for other kinds of work.

6

Amphitheater Clinics

Though greatly restricted as a function in modern medical teaching in contrast with its dominance in the old-time medical school, the amphitheater medical clinic, properly conducted, still has, and should continue to have a useful service to perform. Dr. Osler set a fine example of what an amphitheater clinic should be. He made the clinical clerk give an abstract of the history of the patient and of the data accumulated, and then questioned him regarding the more important features of the case. This Socratic method has characterized the ampitheater clinics at Johns Hopkins ever since. Many of our graduates have told me of their recollections of facts that were impressed upon them indelibly at my amphitheater clinics. Between 1905 and 1914, I gave two amphitheater clinics weekly, one to the third-year students and one to fourth-year students, and in the last thirty-five years I must have given nearly a thousand of them. In clinics on organic nervous diseases it was my custom to emphasize the importance of orderly sequence in the study of a given case: (1) Collection of the symptoms and signs referable to the nervous system (the sensory, motor, reflex, secretory, trophic, and other disturbances); (2) consideration of the data

from the standpoint of localization (site of the lesions); (3) diagnosis of the nature of the malady; and (4) conclusions regarding causation. By adopting such a system the student is less likely to make mistakes than if he tries at the beginning to decide upon the nature of the malady before him.

As the head of the department responsible for the conduct of the practice, the teaching, and the research activities of a clinic, I had to learn how to prepare for amphitheater clinics without the expenditure of too much time and energy. I was not, however, except in an emergency, satisfied to give a clinic "off-hand," relying wholly upon previous knowledge and experience. For medicine is advancing with such great rapidity that a clinical presentation that is adequate in one year might be woefully inadequate in the following year. Besides acquainting one's self with the data accumulated about the patient before the clinic, the teacher must review the more important publications upon the subject to be dealt with in order that the latest advances in knowledge may be discussed. He must learn as much as possible from earlier students of the matter. I found how to do this relatively easily. For many years I have been a voracious reader of the medical literature. At my home I have a complete set of the several series of the *Index Catalogue of the Surgeon General's Library* and of the *Quarterly Cumulative Index Medicus*. As soon as I knew what the topic of the clinic was to be, I consulted these volumes for references to (1) the older articles of historical importance and (2) the more recent articles, especially those published within the preceding three years. This list of references, sometimes thirty or forty in number, was given to my chauffeur, J. P. McCormick, who collected the books or periodicals from the libraries and brought them to

my house. One who has read much medical literature can tell almost at a glance whether or not a particular article contains material that must be carefully studied. Selecting from the mass those that looked to be more important, I would dictate abstracts of them (into a dictaphone) in the evening, and these were typewritten by my secretary on the following day. By this method I could quickly become acquainted with the newer work on any subject and could be sure that no advance of significance pertinent to it would be neglected at the clinic. It was always my desire when giving a clinic to be truthful and strictly accurate, and to go no further with positive statements than was justifiable on the basis of the data available; I was careful not to exaggerate but tried always to present the real facts. It was my ambition, however, at every clinic to penetrate to the very heart of the facts in the case under consideration. Many of the clinics thus prepared have been published—some of them in *International Clinics*, some in *Medical Clinics of North America*, and some in the volume entitled *Tuesday Clinics at the Johns Hopkins Hospital*.

7

The Executive Work of the Head of a Clinic

No matter how capable a professor of medicine may be as teacher, practitioner, or investigator, his department will be greatly handicapped unless he organizes it well and administers it efficiently. More than once I have seen a man who was excellent in other ways fail as a departmental head because of lack of executive ability. In rare instances it may seem necessary to appoint a man as professor (and head of a clinic) because he is a

great teacher and investigator though he is without capacity as an administrator. In such a case, the department may possibly get on all right provided the professor is willing to delegate the executive functions to an associate, but all too often such a two-captained vessel will suffer shipwreck.

In any good organization, there must be a correlation of activities that will result in smooth working of the whole machine. In my executive capacity as the head of the medical clinic I first analyzed the tasks that were to be performed in the wards, in the out-patient department, and in the clinical laboratories. These tasks included (1) the care of patients suffering from diseases of different sorts (respiratory, circulatory, digestive, locomotor, urogenital, hematological, neurological, metabolic, nutritional, and toxi-infectious), (2) the teaching of students in their last two years of medical study, (3) the conduct of original investigations, and (4) the supervision and co-ordination of all the departmental activities. After such analysis of tasks I considered the available personnel and the special aptitudes and particular limitations of each member of the staff. Then a division of labor corresponding to the diversity of functions and of talents was arranged for in the way that I thought most likely to promise success for the activities of the graded staff of resident and visiting physicians. The work of a clinic ought to be considered as a functional whole, and the efforts of individual members of the clinic can be fully effective only through the adequate organization of the whole, under the general direction of the head of the department. The chief executive should learn how to protect his own time and energies. I made it a rule to delegate to others in the department whatever responsibilities they could undertake as well as I could; the principle *qui*

facit per alium facit per se should be kept in mind by the head of any department.

The staff of a clinic is always in a state of flux. Interns may or may not become assistant residents or residents later on; assistants may rise through the ranks of associates to become associate professors. A high degree of continuity in management is desirable; able men should always be in training to step into the positions of those higher in rank. In this way good management will tend to perpetuate itself. Unfortunately, promising men on whom one has counted for positions of importance in the department may be called to other medical schools leaving vacancies that may be difficult to fill. For example, our clinic missed Thomas McCrae when he was appointed to a professorship in Philadelphia, it missed Rufus Cole when he was taken from us by the Hospital of the Rockefeller Institute, it missed Charles P. Emerson when he was made Professor of Medicine in Indianapolis, it missed Frank J. Sladen when he was called to the Ford Hospital in Detroit, it missed Arthur Bloomfield when he was made a professor at Leland Stanford, it missed Arthur Hirschfelder when he was called to Minneapolis, and it missed Carl Voegtlin when he was taken from us by the United States Public Health Service, though we had the satisfaction of knowing that these men carried Johns Hopkins methods and ideals to the institutions that acquired them. Emergencies of one sort or another are always arising to complicate the work of the chief executive of the clinic. But the proper selection and disposition of personnel will always be one of the most important functions of the head of a clinic. Attitude toward research is also a significant indicator of alertness and progressiveness of management.

The chief executive of a clinic should himself set an example of orderliness, industry, punctuality, and integrity. He should have a mind large enough to grasp large issues and at the same time keep mastery over details, and he should be able to detect the center of gravity in every situation. He should be a man of broad human sympathy and understanding and should feel a sense of social responsibility for his department as well as for the public at large. He should be of a type that can command the respect and co-operation of the members of his staff, inspiring them to do the best work of which they are capable. He should know what is practicable and possess the instinct that keeps him from attempting the impossible, from adopting plans that will not work. Businessmen recognize the importance of such qualities. The late John D. Rockefeller once said that he was willing to pay more highly for the ability to deal successfully with men than for any other kind of ability.

The management of a clinic encompasses all of its activities. The real test of the ability of a chief executive is the ratio of accomplishments to opportunities; the head of the department must have the capacity to keep a big organization steadily at work. But opportunities in medicine are constantly undergoing change; a good executive must be alert to change and should have imagination enough to see whither such changes will lead so as to modify his plans accordingly from time to time.

The nine years from 1905 to 1914 were filled with most agreeable and profitable work. And it was possible to dovetail a certain amount of social activity in with the multitude of professional calls upon my time. Thayer and I were very fortunate in finding a large group of young men as assistants who aimed at careers in internal medicine. And we found among the stu-

dents of the Medical School a group of men and women of high intelligence and of noble ambition, many of whom in their subsequent careers made us very proud of them. Teachers develop an interest in their pupils and in their successes that is almost parental.

Among the graduates between 1906 and 1914 who have run careers in internal medicine were Dr. Frank J. Sladen, now Physician-in-Chief to the Ford Hospital in Detroit, Dr. Henry C. Thacher, now internist in New York City, Dr. E. S. Cross, now associated with me in practice, Dr. Paul W. Clough, now Associate Professor of Medicine at Johns Hopkins, Dr. Thomas P. Sprunt, Dr. Charles R. Austrian, Dr. Walter A. Baetjer, and Dr. Sydney R. Miller now prominent teachers and practitioners in Baltimore, Dr. Ralph H. Major, now Professor of Medicine at the University of Kansas, Dr. Arthur L. Bloomfield, now Professor of Medicine at Leland Stanford University, Dr. Roy R. Snowden, now Associate Professor of Medicine at the University of Pittsburgh, Dr. Alan M. Chesney, now Dean of the Johns Hopkins Medical School and Associate Professor of Medicine, Dr. James H. Gibbes, now consultant-internist at Columbia, South Carolina, Dr. Maurice C. Pincoffs, now Professor of Medicine at the University of Maryland, Dr. Robert L. Levy, now Professor of Clinical Medicine at Columbia in New York, Dr. F. Janney Smith, now internist in Detroit, Dr. Ernest S. DuBray, now Associate Professor of Medicine in the University of California, Dr. John T. King, Jr., of Baltimore, Dr. Frank A. Evans, of Pittsburgh, and Dr. David W. Carter, now Internist and Associate Professor of Clinical Medicine at Baylor University in Dallas,

Texas, and Dr. F. M. Hanes, Professor of Medicine at Duke University, Durham, North Carolina.

A similar list of men of this period who entered upon important careers in surgery, obstetrics, and pediatrics might be given. Among the graduate students who came to us as assistants in medicine at that time were Dr. George R. Minot of Boston, now Professor of Medicine at Harvard (who was awarded jointly with William P. Murphy and George H. Whipple the Nobel Prize in Medicine for 1934 for work on liver treatment of the anemias), Dr. Francis W. Peabody of Boston, Dr. Carl von Noorden, Jr., of Germany, Dr. Fletcher McPhedran, of Toronto, and Dr. D. Sclater Lewis of McGill University, Montreal.

During 1911, we had to deal with a serious and widespread epidemic of diphtheria at the Johns Hopkins Hospital. A large number of the Hospital physicians and nurses and many of the medical students were attacked. Indeed it became necessary temporarily to close the Hospital to patients from the outside as the wards were crowded with patients suffering from diphtheria. Fortunately diagnoses could be made promptly and treatment with diphtheria antitoxin was efficacious. At the time of this outbreak, the method of preventing diphtheritic infection by means of immunizing injections of diphtheria toxoid had not yet been devised. Since then large outbreaks of diphtheria are easily preventable by such prophylactic injections.

In the autumn of 1912, while I was attending a medical meeting in one of the southern states, a telegram from my wife informed me of the sudden death of our little son Lewellys F. Barker, Jr. He was about three months old and had appeared to be healthy. The pediatricians supposed that it was a

so-called "thymus death." In the following year my wife and I established a small fund ($1,400) to be known as the Lewellys F. Barker, Jr., Memorial Fund, the income of which was to be used by the library of the Johns Hopkins Medical School for the purchase of books upon diseases of children.

In 1919, when subscriptions were asked for the Building Fund of the Union Memorial Hospital, my wife and I sent a check for $1,000, whereupon Dr. Finney agreed to establish in that hospital a cot in memory of the same deceased child.

In 1910, my work was interrupted for a few weeks by a series of attacks of pain in the right upper quadrant of the abdomen. Though I was not jaundiced, the symptoms were severe enough to warrant an exploratory operation. Dr. John Finney applied his knife, removing four gallstones from the gall bladder and taking out the vermiform appendix, and since then I have been one of the bearers of "Finney's mark." As a boy of five I had had typhoid fever, a common forerunner of gallstones. It is interesting that cultures made from the interior of one of the stones yielded many colonies of the typhoid bacillus; these typhoid bacilli had continued to live within me for thirty-five years, though safely locked up, apparently, within the gallstones!

Chapter XI. RESIGNATION OF THE HEADSHIP OF THE DEPARTMENT OF MEDICINE (1914)

IT WILL BE RECALLED that in 1902 I had made an address entitled "Medicine and the Universities," in which I strongly urged the reorganization and endowment of the clinical departments of medical schools to provide the heads of the clinics with adequate salaries and permit them to give up private practice and give their whole time to the work of the hospital and medical school. I had intimated that if I were offered a professorship of medicine on such a basis, I would be glad to accept it. When I was invited to succeed Dr. Osler at Baltimore in 1905, I asked Dr. Welch whether or not a "whole-time" chair was available, but funds had not yet been provided for this purpose, and he said that I would have to take the position on the basis upon which Dr. Osler had held it. Dr. Welch, Dr. Halsted, Dr. Mall, and I hoped, however, that the time was not far distant when some philanthropist might offer an endowment that would enable the University to place the clinical departments on a "full-time basis" or what we regarded as a "true university basis."

I organized my work so as to give the major part of my time to the clinic, refusing to see private patients except at definite hours on certain afternoons each week. As private practice tended to grow, I secured able assistants who saw the patients at times other than those to which I rigidly restricted myself.

During the years that followed, ferments that were to have a profound effect upon education in general and upon medical education in particular in the United States had begun to work. The General Education Board had been founded in 1902 by John D. Rockefeller, Sr., with Frederick T. Gates as chairman and Dr. Wallace Buttrick as secretary. It studied conditions of education throughout the United States, formed comprehensive plans, and soon began to do much for the improvement of Negro education, for the development of state departments of education (especially in the southern states), for the improvement of agriculture by farm demonstrations, and for increasing college and university endowments. When Mr. Rockefeller endowed anything it was his custom to turn over all responsibility for its management to its officers and trustees.

The Carnegie Foundation for the Advancement of Teaching had been founded by Andrew Carnegie in order to provide retiring allowances for college professors. Dr. Henry S. Pritchett became its President in 1906, and he added to its functions by making it an institution for fearless criticism of academic standards and practices.

The American Medical Association, of which Dr. George H. Simmons was secretary, had through its Council on Medical Education received illuminating reports from Dr. Colwell upon conditions in many of the medical schools of the country.

The philanthropist, Dr. Robert S. Brookings, had given large sums of money to Washington University, St. Louis, for the improvement of general and medical education, but the clinical facilities and teaching there were still far from adequate.

In 1909, Abraham Flexner, at the request of Dr. Pritchett, began his study of medical education in the United States and

Canada, visiting and inspecting personally no less than 155 different schools. Though not a medical man himself, he was well versed in educational principles, had informed himself regarding the history of medical education in Europe and America, and had interviewed professors in the Johns Hopkins Medical School (at that time the best one in America), thus having in his mind a pattern with which other existing schools could be compared. His report, contained in *Bulletin Number Four of the Carnegie Foundation for the Advancement of Teaching*, was a pitiless and sensational exposure of the really dreadful conditions that existed in some schools. Writing later on of the effect produced, Mr. Flexner has said that "the medical profession and the faculties of the medical schools, as well as the state boards of examiners, were absolutely flabbergasted." Lawsuits were threatened—one suit for libel for $150,000 was instituted—and anonymous letters warned Flexner that he would be shot if he showed himself in Chicago! The poorest medical schools began to collapse; in Louisville, Kentucky, the medical schools were reduced in number from seven to one; and the fifteen medical schools in Chicago were soon consolidated into three.

Pleased with the immediate results of the publication of this bulletin, Mr. Pritchett authorized Mr. Flexner to go abroad in 1910 in order to study the conditions of medical education in Europe. He visited Great Britain, Germany, Austria, France, and Italy during this tour of inspection. His observations and conclusions were published in 1912 in *Bulletin Number Six of the Carnegie Foundation for the Advancement of Teaching*. In Germany and Austria he "found medical education sound precisely where it was deficient in America," though he pointed

out certain deficiencies. In Great Britain the teaching of medicine was concrete and practical, but research was not sufficiently cultivated, teaching being largely incidental to private practice. He approved, however, of the physiological school at Cambridge. In France he praised the opening of the hospital wards to medical students but deplored the French procedure of beginning with the clinic and carrying on instruction in anatomy, physiology, and chemistry co-ordinately with the clinical studies. The fundamental importance attached to the combination of teaching and research within clinics as well as within laboratories in the German schools was strongly emphasized in this bulletin. The opinions of medical educators in the United States were certainly markedly influenced by Mr. Flexner's reports.

Bulletin Number Four had made a strong impression on Mr. Frederick T. Gates of the General Education Board, both as a criticism of existing conditions and as a program for action if sufficient funds could be obtained. He asked Mr. Flexner what he would do if he had "a million dollars with which to make a start in the work of reorganizing medical education." The prompt reply was "I should give it to Dr. Welch." So much had already been done at Johns Hopkins that if a million more were available for endowment there, a still greater example in medical education might be set. At Mr. Gates's request, and with Mr. Pritchett's consent, Mr. Flexner went to Baltimore and told Dr. Welch of the possibility that a large sum might be made available for additional endowment of the Johns Hopkins Medical School and that he would like to get the judgment of the faculty as to the best uses to which such a gift could be put.

An interesting account of this visit will be found in Abraham

Flexner's autobiography *I Remember* (1940). At a dinner given to Mr. Flexner by Dr. Welch, Dr. Halsted and Dr. Mall were present. When asked for his views, Dr. Mall said that if a million dollars became available there was in his judgment only one thing that should be done with it and that was to "use every penny of its income for the purpose of placing upon a salary basis the heads and the assistants of the leading clinical departments, doing for them what the school did for the underlying medical sciences when it was started." This it will be recalled was precisely the idea that had been elaborated in considerable detail in my address "Medicine and the Universities" in 1902. Dr. Welch and Dr. Halsted also approved of this plan for the installation of "full-time" academic teaching and research in the main clinical branches, though it was soon found that some of the clinicians were loath to advocate such a thoroughgoing reform. Indeed, several members of the faculty hesitated, doubted, and wavered. Some felt that a very novel precedent was about to be established and did not dissimulate their fear that it might be fraught with danger.

After three weeks' careful study in Baltimore, Mr. Flexner made a confidential report to Mr. Gates in which he urged a gift of $1,500,000 rather than of $1,000,000, since the larger sum would be necessary to place the medical, surgical, and pediatric clinics upon a "full-time" or "real university basis." Mr. Gates and the General Education Board approved, but at Mr. Flexner's suggestion it was thought wise before taking action to make sure that the faculty and trustees of Johns Hopkins would be willing to reorganize the clinics in the manner suggested and also to cut down the attendance at the School to two hundred and fifty students. The administrative board of the

School endorsed the plan subject to the ratification of the medical faculty. In the latter, the preclinical staff approved, but there was at first some lack of unanimity among the clinicians, partly because it had become known that Sir William Osler did not favor the whole-time plan. Some patience was necessary in order to swing the whole faculty to adoption of the suggested changes. Some have complained that Dr. Welch showed unnecessary procrastination at this time, but he wisely refrained from compelling a premature acceptance. He was never precipitate in the act of steering but found it politic to lead others on by unconscious steps to his own conclusions. However, in less than two years a favorable decision was reached, and in 1913 the General Education Board made the appropriation.

Of the full-time chairs thus established, Dr. W. S. Halsted was to occupy the surgical and Dr. John Howland the pediatric. The whole-time chair of medicine was offered to me, and Dr. Welch and other friends urged me to accept it if I could see my way clear to do so. I would have liked very much to take it, particularly as it was to be placed upon the basis that I had so strongly pleaded for some twelve years earlier. It was embarrassing to find myself in a situation in which I had to decline the offer. How I should have welcomed it in 1905! But in 1914 I found myself in a familial and financial situation that had greatly changed. My oldest child was a permanent invalid requiring the continuous care of a trained nurse. Two younger children were being educated at considerable expense. My father was permanently disabled, had to be kept in a sanitarium, and was without money. My sister, too, at that time needed financial aid. Notwithstanding these difficulties, the matter was given most careful consideration before a decision was reached.

My wife and I inspected some modest houses in the neighborhood of the Hospital with the idea of possible rental. We went over the family budget most carefully to see whether sufficient retrenchments could be made to justify my acceptance of the salaried position. My wife was willing to make every effort in her power to meet any situation that might arise. Had I been younger, we would doubtless have thrown caution to the winds. But I was already past middle life and the responsibility of making provision for the future of my family could not be disregarded. The matter was fully discussed with Dr. Welch and with the Director of the Hospital, Dr. Winford Smith, and both agreed that, in consideration of all the circumstances, they did not see how I could accept the new chair. I finally had to say no and sent my resignation to the faculty and the trustees to make way for a whole-time appointee.

At the end of this long travail, I could not help being thankful that the matter was at last settled. I hoped, however, that in some way or another satisfactory plans for the continuation of my clinical work could be devised. If I tried to be brave, it was not the spurious courage of one who did not see the danger to his career. The graduating class of 1914 pleased me by presenting me with a loving cup as a token of their appreciation of my teaching. Such a tribute from my pupils helped me to transcend in some degree the chagrin of losing my position.

Fortunately, an excellent man, Dr. Theodore Janeway of New York, was appointed as the first full-time professor of medicine in America. With his approval, I continued to be a member of the staff as Clinical Professor of Medicine.

It is not surprising that many people, even some of my friends, felt that by declining the whole-time professorship I

had lost some of the ideals I had earlier cherished. This was an error. I felt then, and I feel as strongly as ever now, that the full-time plan for the heads of the clinics represented a timely and much needed reform. It is interesting that even Dr. Osler, who had opposed it at first, late in his life urged it on McGill University. It has been adopted since 1914 in more or less modified form in many of our best medical schools. Though time is shifting the foundations of the controversy, the main purpose of the reform has now been accomplished. Whole-time should, as a rule, still be adhered to, I think, though I can conceive of circumstances when the rule might well be broken, for a man may be more important than any system. Now and then a person of extraordinary talent may be so desirable as the head of a clinic that he should be allowed to choose his own conditions of work. Osler was such a man.

As I pointed out in an address entitled "Some Tendencies in Medical Education in the United States," made in Montreal in 1911 (cf. *J.A.M.A.*, 1911, 56) the functions of the clinic had grown to a size and complexity no longer compatible with the form of its organization. With the demands made upon a single professor at the head, only a superhuman personality could be expected fully to succeed. In that address I discussed several possible ways of reorganizing a great clinic to meet satisfactorily the new requirements. The director of a clinic, in surmounting the difficulties of administration, in arranging for the teaching and research as well as for the care of the patient, in piloting intricate measures, and in dealing with troublesome persons, has hard tasks to perform. A study of that address of 1911 may prove to be helpful to some who are today responsible for the management of modern university medical clinics;

some of the recommendations made in it seem to me to equal in importance the reforms advocated in my address of 1902 on full-time medicine.

The whole matter of transition from the "part-time" to the "whole-time" professorship at Johns Hopkins is of such great interest that I think it worth while for historical reasons to include here a few of the letters that I have kept on file.

As early as the autumn of 1911, I had heard that there was a possibility that funds would be provided for the creation of whole-time clinical professorships in Baltimore, and I wanted the authorities at Johns Hopkins to feel perfectly free to accept the gift regardless of any effect it might have upon my personal position. I therefore wrote the following letter to President Remsen of the University and sent a similar letter to Dr. Winford Smith, the Director of the Hospital.

October 9, 1911.

My dear President Remsen:

In view of the fact that, for one reason or another, a reorganization of the Johns Hopkins Medical School may, in the near future, become necessary or desirable, I should like the Advisory Board of the Medical Faculty and the Trustees of the University to feel that such reorganization, whatever it may be, can be undertaken without the least embarrassment due to the occupation of the chair of medicine by its present incumbent. I therefore authorize you, at any time, should a man of different type be desired, or should it be deemed desirable to require of a man of the same type more time and energy than is compatible with my occupation of the chair, to tender my resignation to the Trustees.

The men who are engaged in clinical work are so desirous of favoring the advance of medical education and medical science, that each one of them will, I feel sure, be ready, at any time, to sink his personal interests, if this can be the means of making progress.

Inside the faculty or out of it, I shall always regard the position I have held in it as the crowning reward of a life thus far devoted to

medical science and education, and my personal associations in the faculty as the most precious of those I have formed among men. That the medical school may go uninterruptedly forward on an ascending path of ideals and of accomplishment is my earnest hope and desire.

Yours respectfully,

Lewellys F. Barker.

The negotiations of the General Education Board and the authorities at Johns Hopkins were, as I have said, rather long drawn out, and it was not until October 25, 1913, that it was announced that the "Welch Fund" of $1,500,000 had been created for the endowment of whole-time chairs in medicine, surgery, and pediatrics. The gift caused a sensation in the medical world and among the general public. The reaction was on the whole favorable, though many difficulties were foreseen and criticism was not lacking.

My friend Dr. Henry M. Thomas, wrote me as follows:

October 25, 1913.

Dear Barker:

I was detained in the wards and missed you this morning, much to my regret. You have been in my thoughts constantly since I saw the announcement of the Welch Fund this morning. I know, of course, that it was not news to you and that you must have thought a lot of your own personal decision in the matter. You have my deep sympathy whichever way you decide, for it must entail a real renunciation which I wish you might have been spared. Please give my love to Mrs. Barker.

Affectionately,

H. M. T.

A few days later the following letter was received from Dr. Thomas McCrae, Professor of Medicine at Jefferson Medical College, Philadelphia:

Dear Lewellys:

You must be torn by very conflicting emotions at present. I wish

that there was some way in which one could help. You have to make a sacrifice whichever way you go, although I know that what is best counts more with you than the extent of the sacrifice. It is an infernally hard place to be. However, such things have a way of opening out. Which sounds wise but is not worth a hoot. Good luck anyhow whichever way you go. With very best wishes,

Yours very sincerely,

Thomas McCrae

On October 28 one of the men who taught me German by the Berlitz method wrote me:

My dear Dr. Barker:

Allow me to congratulate you most heartily for getting the great gift of $1,500,000 for your Medical School. The plan originated with you and if there were any justice and gratitude in this world the fund should bear your name. You share the fate of other great men and particularly with Columbus, for whom this continent should have been named instead of Amerigo Vespucci.

Very sincerely yours,

F. J. von Schwerdtner

In the *Baltimore American* of October 30, 1913, a cartoon appeared, amusing enough to reproduce here.

At the request of the editor of *The Sun* in Baltimore, I prepared a rather lengthy article upon what the new and large gift to the Johns Hopkins Medical School meant to the community. In it I stated that the attachment of Professor Welch's name to the gift was "a well-merited tribute to a man who is an exemplar of the type of scientist who has devoted his whole time and energy to the advance of medical science and education." The article dealt with the great possibilities for original research that the income from the large fund would provide and indicated that the plan had my full approval.

I soon began to receive many letters of sympathy and interest from my friends; indeed their immeasurable kindness almost overwhelmed me, but they were a source of relief at this stormy time.

On November 5, 1913, one of my former assistants who had attained to marked success in teaching and practice in Columbia, South Carolina, wrote me:

Dear Dr. Barker:

I have been very much disturbed in mind by reports that have reached me from Baltimore to the effect that you contemplate severing your connection with the hospital and medical school. Needless to say, many of us feel that such a step on your part would be little short of a calamity for the institution, and I am sure that we all hope sincerely that you will find it possible to remain there under the new conditions. I for one should always feel that the benefits of the late appropriation would be largely counterbalanced by the ill effects of your departure.

Respectfully and appreciatively yours,

Heyward Gibbes

Dr. George Dock, Professor of Medicine in St. Louis, wrote me on November 18, 1913, a very kind letter of sympathy.

A Chicago physician, Dr. C. Dencker, wrote me on November 27, 1913, a friendly letter from which the following is an excerpt:

I do consider the step taken by Hopkins a great advance in the right direction and predict that in twenty-five years all the clinical teachers of the leading schools will be on a university basis. That is inevitable and ought to be brought about. That the new system will hit you is true and I am sincerely sorry. But I know that such a bright man as you are finds always the right mental balance when sacrifices are asked for the betterment of existing conditions. You were the man who set the ball rolling. The present move is largely to your credit; be proud of it.

What will you do? Will you resign? Well, you must know best. But

WEANING TIME

IT DOES GO A BIT HARD SOMETIMES

CARTOON IN THE *BALTIMORE AMERICAN*,
OCTOBER 30, 1913

think it over. There is only one chair like yours in America. You can now decide one way or another; and whatever you do, you stand above criticism.

A letter from Dr. Frank Billings of Chicago, dated December 18, 1913, also interested me very much.

My dear Barker:

As to the situation in Johns Hopkins. It is very interesting and perhaps the system may be carried out there with benefit to the rest of the country; that is the rest of the country may look on with a great deal of interest while some of the men at Johns Hopkins make a sacrificial trial of the "all-time" teaching method.

I must say that while it is an ideal thing to do, my experience in life is such that I think it is an extreme, not as bad but like the old method of the proprietary schools where little or no time was given and only didactic teaching carried on.

To my mind the real practical solution is that the heads of departments and most of the teachers should devote a fixed amount of time to the teaching of students, not less than half a day, or perhaps fix it at four to six hours per day; that is, by teaching I mean to devote their time to real hospital work and investigation and teaching. That would make the hospital part of the day very valuable as a method of not only teaching students, but also of medical men including the teachers themselves. It would make a center of knowledge to go out to the world. Its benefit to patients would be chiefly to the poor. But while this is done in principle for teaching and to benefit the poor, we have no right to deprive those able to pay, of the advice of those whose knowledge has been gained by the work cited above. But those able to pay should be obliged to come to the hospital and to take rooms in the hospital or, if ambulatory, to come in restricted numbers as could be easily commanded, for a consultation hour, one to three times a week as could be easily fixed. In this way not much of the teacher's time, not more than two or three hours a day in the care of those able to pay for it, would be taken and the fees obtained thereby should be his reward for the work he does, not only for them, but for the poor as well. The fees he obtains plus the salary paid by the institution would enable an individual

like you, to meet his future obligations to his family and to himself in old age.

Outside consultations I think should not be carried on by the teacher, or if taken at all should be only in some very important case where the question of life or death is involved.

This would not only provide those who gave up their lives to teaching with an adequate financial return, but would help to broaden them in a more humanitarian way than the restricted hospital work, especially if that consisted chiefly of the care of the poor alone.

For many years now, as you probably know, I have devoted more than half my time to purely hospital work. I do not go out of town at all. I have very little outside consultation work and wish it were less or none, and have a few pay patients at the hospital. Were it possible I would not have a private office at all, but conditions in Chicago are such that I cannot well escape having three afternoon office hours in the week.

Could I have had such a life as I have led for the last eight years during my whole medical career I feel that I could have been able to accomplish something and am sure that I could have obtained a competency.

With kind regards, believe me,

Sincerely yours,

Frank Billings

On January 2, 1914, Dr. Osler wrote me from Oxford:

Dear Barker:

Happy New Year to you all!

I do not see how you could accept at the figure mentioned. It seems to me that there is an ethical question involved in this. How far have the Trustees or the Faculty the right to change conditions under which you accepted the professorship, conditions under which too you became involved in heavy expenditure?

There are two sides to this whole-time business for clinical men. It will not be very pleasant either for the Faculty or the Trustees to feel that their professors of medicine and surgery will play second fiddle in the town. I am afraid that it will have the disastrous effect of forcing

these men into some sort of professional isolation like that to which the anatomists and physiologists have retired. This is very marked here.

Love to the family all.

Sincerely yours,

William Osler

Early in 1913, Ira Remsen resigned the Presidency because of ill-health, and Dr. Welch was made Chairman of an Administrative Committee of the Faculty, which was to have charge until a new president was appointed (F. J. Goodnow was not made President until 1914).

On January 13, 1914, the following letter was sent to me:

Dear Dr. Barker:

At a meeting of the Trustees of the Johns Hopkins University held on November 7, 1913, it was unanimously resolved "that the Chairman of the Administrative Committee be authorized to offer to the chiefs of the departments of Medicine, Surgery and Pediatrics—Doctors Barker, Halsted and Howland—provided their selection meets the approval of the Advisory Board of the Medical Faculty, their present positions in the said departments, as the same are to be reorganized on the 'full-time' or university basis, in accordance with the plan proposed in the communication to the General Education Board of New York, dated October 21, 1913, and on the terms therein stated, at salaries of ten thousand (10,000) dollars each, and to express to them severally the earnest wish of the Board of Trustees that they should accept these positions."

The Advisory Board of the Medical Faculty having recommended and approved this action, and in accordance therewith, I have the pleasure of inviting you to continue as Professor of Medicine in this University upon an annual salary of ten thousand (10,000) dollars, the appointment and salary to date from the time of organization of the department upon the new basis, which it is desired shall not be later than September 1, 1914.

Hoping that you may be able to accept this offer, I am,

Very truly yours,

William H. Welch,

Chairman of the Administrative Committee.

On January 17, 1914, I sent the following reply:

Dear Dr. Welch:

Your letter in which you offer me the new position of Professor of Medicine in the Johns Hopkins University upon the so-called whole-time basis, at an annual salary of ten thousand dollars ($10,000), has come. Very attractive as this offer is in many ways, and appreciative as I am that the Faculty and the Trustees should consider me suitable for the position, I regret that the circumstances in which I now find myself make me unable to accept this offer. Could such an offer have been made to me in 1905, I would have accepted it gladly. The Professorship which I was then offered and which I accepted carried with it the privilege and necessity of some paid practice; under the conditions of that position, I have become involved in heavy expenditures and have assumed obligations and responsibilities from which it would be difficult, and in large part wrong, for me to withdraw.

Since the action already taken by the Faculty and Trustees in defining the new whole-time position is incompatible with the continuance of the position to which I was appointed, I understand that the position which I now hold will cease to exist on Sept. 1st, 1914, and that, accordingly, no formal resignation on my part is necessary; if I am wrong in this, and a formal resignation will in any way facilitate the progress of the reorganization now being arranged for, you are authorized, as I wrote you some time ago, to present it.

In leaving the position which I have held since 1905 and its delightful associations, I suffer a loss which would be exceedingly hard to face were it not mitigated by the pleasure derived from acquiescence in a plan, the realization of which the Faculty and Trustees believe to be to the best interest of the Medical School and Hospital. I desire to thank the Faculty and Trustees for their hearty support of the work of the Department of Medicine during my incumbency, and to express my hearty appreciation of the loyalty, the unselfishness, and the devotion to the work shown by the members of the department which during the past nine years it has been my privilege to conduct.

With high regard, I am,

Yours faithfully,

Lewellys F. Barker.

I sent at once a copy of my letter declining the chair to Dr. Osler, upon the receipt of which he wrote me on January 30, 1914, as follows:

Dear Barker:

I am very sorry to hear that the conditions have been made impossible for you. The letter which you have written does credit to your heart and head—more to the former. Certainly you have been hardly treated from the standpoint of ordinary academic courtesy. After a man has held a chair for eight years with great distinction, to change the conditions of tenure so as to make it impossible is, in my opinion, unjustifiable.

I hope Thayer will accept as it will be simply swapping stools and make no essential difference to either of you. He is a trump and it is one of the greatest among my many *pineal* satisfactions that you and he have got on so well together.

I am much worried and not a little disgusted with the whole business. It may work out better than we anticipate: I hope so.

Love to Mrs. Barker and "Hump." Tickle John H. under the 5th rib for me.

Yours ever,

W. O.

On February 13th, Dr. Harvey Cushing wrote me from Boston:

Dear Lewellys:

I have anxiously waited for your decision and I do not see how you could have made any other. I think you are entirely right and I doubt not that I shall have to take a similar stand when the matter comes to a head here. I shall be in Baltimore soon and shall hope to have a long session with you.

I hope that when my time comes to withdraw I shall be able to formulate as graceful and eminently satisfactory a letter as you have done.

Ever yours,

Harvey Cushing

On March 25, Dr. Osler wrote me again after I had told him of the names of men under consideration:

Dear Barker:

I do hope Thayer will see his way to take the Chair, as to bring in an outside man would make it very hard for you and him. It would be very difficult to pick between the men you name, any one of whom would be very acceptable, but it would place the Hospital and the Medical School in a very awkward position. The Chief would, for two or three years, at any rate, have to play second fiddle to you and Thayer. I must say I do not like the whole business. I have rather a feeling with Felix Sémon, who is a very level-headed Hebrew, who spoke of the clinical whole-time professorship as the "climax of doctrinary madness."

Sincerely yours,

W. O.

A few weeks later I received another letter from Dr. Welch:

Baltimore, April 19, 1914.

Dear Barker:

As you may have heard, the Advisory Board of the Medical Faculty at the special meeting on Friday adopted the report of the Committee recommending the election of Dr. Theodore Janeway to the professorship of medicine on the university basis. I made an effort to tell you beforehand about the choice of the Committee, but was unable to do so, as I learned that you were away.

Janeway has indicated his intention to accept, although I am somewhat apprehensive about the effects of the pressure which will be brought to bear upon him when he makes this known to his colleagues and others in New York. He intends to present his resignation at the Faculty meeting tomorrow night in New York.

While Mr. Keyser authorized me to approach Janeway, the formal action upon the recommendation of the Medical Faculty has not yet been taken by the Trustees.

I have to be in Washington at the meeting of the National Academy of Science from Monday to Friday of this week, so that I have asked Mr. Keyser to secure the action of the Trustees as soon as possible. I told him that you had some months ago authorized me to present your

resignation of the professorship of medicine, whenever I deemed it best. Possibly you may prefer to do so directly.

We shall of course desire and hope to make the title and position which you are to hold as satisfactory as possible, but it does not seem necessary to take this up at the moment, although we should do so soon.

We are keeping the matter of Janeway's appointment confidential for the present.

I hope that you will agree that we are doing the best we can under the circumstances for the hospital and university and the success of the new plan in endeavoring to secure Janeway. I am sorry that you did not know, so that you could have talked with him at the meeting of the Interurban in New York yesterday and Friday. He is most enthusiastic about the plan to create these university chairs for the clinical branches, and, although evidently rather oppressed with the responsibility, is eager to take up the work and make a success of it, as I feel that he would do.

You know how regretful I am that you could not see your way to accepting.

Very sincerely yours,

William H. Welch.

P.S. If you feel inclined, will you not write Janeway? I am sure that he would appreciate it. Thayer has written, and, when Janeway was here on Tuesday and Wednesday "incognito," he showed him around.

W.

On receipt of the above letter from Dr. Welch, I immediately wired Dr. Janeway, congratulating him on the appointment and assuring him of my full co-operation with him if he accepted the position. He wrote me on April 23:

My dear Dr. Barker:

Thank you very much for your telegram with its cordial offer of co-operation. My mind is about made up, after several weeks of rather fierce inward debate. I am now going through the other struggle of trying to make my friends here understand why I should leave them. Until I persuade those I most care about that I am right I cannot send my final acceptance. When I do, if I remain of my present opinion, I shall want a long conference with you as to the present organization of

your department, the men who have been valuable and loyal, and the men who can be spared, so I may do the least possible injustice, and make the fewest changes consistent with putting the new plan into effective operation. I shall need much help from you.

Very sincerely yours,

Theodore C. Janeway.

The Chairman of the Board of Trustees, Mr. R. Brent Keyser, who was one of my best friends in Baltimore, was exceedingly anxious that all matters connected with the change of plan should be straightened out satisfactorily, including the formal offers of new part-time positions to Dr. Thayer and to me. He felt that "for order's sake" it would be well for me to send a formal resignation to the Dean of the School and to have it promptly acted upon and "regretted." This was done.

Dr. Janeway accepted the offer. During May and June, I had long interviews with him, and we exchanged many letters with regard to the men on the ground and the work to be done. He wisely made as few changes as possible in the general set-up and showed that he was desirous of receiving all the help that he could get from members of the department.

On May 27, 1914, Dr. Flexner wrote me:

Dear Barker:

Dr. Welch and I lunched together in N.Y. the other day. He spoke of you and mentioned that he feared you were bothered and depressed. I can well believe you may be. I have indeed thought a good deal of your problems and I feel a deep sympathy for you. To give up what you have is a hard thing to do and to bear. But as under the circumstances you could do nothing else the next question is the extent to which the change in position may affect your work and influence.

Now it seems to me that you will only need to readjust yourself in order to preserve both. There are many kinds of work you can do and doing them will insure your influence unimpaired. Indeed the release

from administrative duties and details may make it possible for you to do even more scientific work than in the recent past.

If your doubts arise from any fear of loss of scientific prestige I think you can put them aside. You must have tons of crude ore only waiting to be worked up; no one will ever deny you opportunity for study; you will continue to be sought far and near by interesting patients, so that a free, useful and properly satisfying life is sure to be your portion.

If your old friend can ever be of any use to you, you will, I hope, do him the service to say so.

Yours as ever,

Simon Flexner

On June 17, 1914, the formal notice of appointment to my new position arrived:

Dear Sir:

At a meeting of the Board of Trustees of the University held June 9, you were appointed Professor of Clinical Medicine in this University at a salary of $1,000.

Very truly yours,

William H. Welch,
Chairman, Administrative Committee.

But this very formal note was followed the next day by the following much appreciated letter:

My dear Dr. Barker:

I have been instructed both by the Trustees and the Advisory Board of the Medical Faculty to express to you their high appreciation of the valuable services which you have rendered to the University in the capacity of Professor of Medicine. The department of medicine under your direction has been a source of strength and pride to the Medical School, and the authorities of the University and your colleagues are grateful for all that you have done in its successful development.

You know that we should all have been glad if you had been able to accept the professorship of medicine under the new arrangement. It is

a satisfaction to know that you are to continue on the faculty and to aid in making a success of the new plan of organization.

It was with sincere regret that the Advisory Board accepted your resignation from that body, but this seemed, for the present at least, to facilitate the inauguration of the new plan.

With warm regards, I am,

Very sincerely yours,

William H. Welch,
Chairman of Administrative Committee.

As a last item in this series of letters bearing upon the whole-time chair, I may quote from a letter sent to me on December 25, 1916, by the Chairman of the General Education Board (donor of the Welch Fund):

Dear Dr. Barker:

With Christmas greetings let me acknowledge your kind thought of the 24th ult., a pleasure too long enjoyed without thanks.

Never shall I forget the interviews at Dr. Harper's (in Chicago) fourteen years ago in which you unfolded to me your ideals of Medical Education, or the hours in which I first read your printed paper more formally and precisely defining those ideals. To your ideals as there and elsewhere presented we owe I suppose more than to any other factor our present progress.

Moses led his people out of the Egyptian darkness, across the burning desert to the very edge of Canaan. *Nor has the glory of Moses been dimmed* because, in the counsels of Providence, it was not given him personally to enter in, but only from a high mountain to look upon that fair land which he had so clearly foreseen, so vividly described, and whose fundamental laws he had laid down.

Very truly,

Frederick T. Gates

Chapter XII. CLINICAL PROFESSOR OF MEDICINE (1914-21); PROFESSOR EMERITUS (1921-)

I

Dr. Janeway's Incumbency

DURING MY HEADSHIP of the department I had done my best methodically to assign to the various members of the staff the performance of the duties for which they were best suited. Together they made a strong group, all the members showing a warm and intelligent devotion to their tasks. It was a pleasure to see these men gradually develop into fit condition for appointments to important positions elsewhere. We adhered to the old maxim that "the career should be open to the talent."

The advent of whole-time professorships at Johns Hopkins was not followed by any marked change in the methods of teaching in the medical clinic. The main criticisms that had been raised to the full-time plan were that the teaching might become too "theoretical" and that the "practical" side would be too much neglected. This criticism had been spiked by the selection of Dr. Theodore Caldwell Janeway as the head of the clinic, for he had gained distinction not as a teacher and investigator only (he had been the Bard Professor at Columbia University for seven years) but also as a man of large experience in medical practice—one who had attained to unusual proficiency

in clinical diagnosis. He relinquished a lucrative private practice at a sacrifice in order to accept the Baltimore position. Indeed, he was strongly objective in tendency and like his distinguished father, Dr. E. G. Janeway, had but relatively little interest in, or patience with, mere theory.

Dr. Janeway brought with him as associate professor Dr. Herman O. Mosenthal—who was much interested in the study of disorders of metabolism—and he retained either on his "whole-time" staff or on an associated "part-time" staff nearly all of those who were already at work in the department, including T. B. Futcher, T. R. Boggs, T. R. Brown, L. Hamburger, L. Hamman, T. P. Sprunt, S. R. Miller, W. Baetjer, P. W. Clough, G. R. Minot, C. R. Austrian, and J. T. King, as well as Thayer and myself. The readjustments necessitated by the new method of organization were quickly made, and the work was soon running smoothly with a minimum of friction and in a congenial atmosphere.

In the year following Dr. Janeway's appointment, Dr. Welch made a trip to the Orient. He, together with Flexner, Buttrick, and Gates, had been commissioned by the Rockefeller interests to decide upon the best methods of developing medicine in China. Six years later (in 1921), Dr. Welch went with John D. Rockefeller, Jr., to China again to attend the dedicatory ceremonies of the new buildings of the Peking Union Medical College, upon which the Rockefellers had spent nearly eight million dollars.

Dr. Janeway, on taking up his work in Baltimore, helped to plan a new building for the Hunterian Laboratory for Experimental Medicine, enlarged the facilities for metabolic stud-

ies, fostered researches in the "heart station," and secured a substantial increase of endowment for studies in tuberculosis.

To a certain extent however Dr. Janeway became dissatisfied with the whole-time plan. I understand that he felt he missed something important for the increase of his knowledge by being cut off from private practice and also that the financial rewards of the chair were insufficient in view of his obligations to his family. He resigned from the position during his third year of tenure, expecting to return to New York. Before the year was up, however, Surgeon General Gorgas, on account of the World War, called Dr. Janeway to Washington, where he was given the important task of organizing—with the aid of Dr. W. T. Longcope—the part of the medical work of the Army that had to do with diseases of the heart and blood vessels. He worked with great speed and tension, accomplishing much during the next six months. He contracted pneumonia and died in December, 1917, of a pneumococcus septicemia after an illness of only six days. His untimely exitus when only forty-five years of age was a severe loss to the medical world.

2

Hopkins Men in the World War

Johns Hopkins men played their full part in the World War in 1917-18. One of the trustees, Daniel Willard, was one of the seven civilians appointed by President Wilson to the Advisory Commission of the Council of National Defense and was made its chairman at its first meeting. Later, a General Medical Board of the Council of National Defense was established with Franklin H. Martin of Chicago as chairman; on

this Board the Johns Hopkins men included William H. Welch, J. C. Bloodgood, James Bordley, Jr., Thomas S. Cullen, J. M. T. Finney, Theodore Janeway, Winford H. Smith, William S. Thayer, and George Walker. This Board had the strong approval of Surgeons General W. C. Gorgas, W. C. Braisted, and Rupert Blue and included some eighty-six members representative of the medical and nursing professions in the United States. From its members, an executive committee of eleven, including the three Surgeons General, W. H. Welch, V. C. Vaughan, W. J. Mayo, F. F. Simpson, F. A. Besley, Cary T. Grayson, Colonel J. R. Kean, and F. H. Martin (chairman), was selected to advise on all matters connected with the health and sanitation of troops and all health agencies connected with the defense of the Government, including the Army, Navy, Public Health Service, and Red Cross.

Dr. Welch, Major R. E. Noble, and Dr. J. M. Flint were members of a Special Committee that formulated a resolution that demanded that: "Candidates for commission in the Medical Corps or in the Medical Reserve Corps of the Army and the Navy shall be graduates of reputable schools of medicine, and shall be without exclusive adherence to any particular school of doctrine or practice." Dr. F. H. Martin, writing of Dr. Welch and his influence at this time, said that he was "smooth, placid, always the statesman, sometimes almost to the point of being a politician; the great professional manager of quiet tread, and always with great influence; the gentleman and the soft spokesman, and one to be envied by the impetuous."

The work of the Johns Hopkins men in the A.E.F. in

France, where Finney was Chief Surgical Consultant, Thayer Chief Medical Consultant, and Young Chief Urological Consultant, was outstanding. Dr. Finney, in his autobiography, has given an excellent account of the work of the Johns Hopkins Base Hospital Unit in France.

3

Medical Writings and Addresses

My release from the many departmental responsibilities that I had carried during the preceding nine years made it possible for me to devote more time to medical writing. In such work, I was able to lighten and dispel the inevitable hours of disappointment that followed my voluntary demotion from the headship of the department; I did not want my nerve to slacken nor "to allow my sword to rust." It was up to me to try to set a good example under reverse. Someone once said that an active life is substantially one of the conditions of a happy life, and that "vacancy is worse than even the most anxious work." So in 1916, I wrote, with the assistance of Dr. M. C. Pincoffs, a three-volume treatise entitled *The Clinical Diagnosis of Internal Diseases*, which was published by D. Appleton & Company. During the preparation of these volumes I was impressed with the need for still another treatise that would deal comprehensively with metabolism and the disorders of the internal secretions. So I decided to edit such a work, securing Dr. R. G. Hoskins and Dr. H. O. Mosenthal as associate editors. We enlisted the collaboration of a large body of scholars, including both clinical and laboratory workers from different sections of the United States and Canada. We

received the ready and hearty co-operation of no less than ninety-eight contributors who composed the work. It was published in 1922 (Appleton) as a five-volume treatise entitled *Endocrinology and Metabolism,* and represented existing knowledge in those domains throughout the world at the time.

I found time also to write many articles on clinical subjects for publication in the medical journals. In these, emphasis was laid upon the desirability of very comprehensive diagnostic studies, especially of patients in hospitals in which medical students were in training. In one of these articles, especial stress was laid upon the value of clinical laboratory tests as a supplement to what could be learned about a patient by the ordinary methods of observation and physical examination. This article excited adverse comment from a great and honest British physician, Sir James Mackenzie, who, in a volume entitled *The Future of Medicine* (1919), made a plea for the simplification of medicine, for a reaction from the overelaboration of "laboratoryism" (instrumental and other laboratory aids to diagnosis). Though he admitted the usefulness of laboratory methods in research work, he maintained that in ordinary clinical work it should be the constant aim of the medical man to learn how to discard such instrumental aids. He opposed especially the laboratory ideals outlined for students at the Johns Hopkins Medical School, feeling that emphasis upon instrumental and laboratory aids to diagnosis tended to make students and physicians neglectful of the observation of symptoms, "on an accurate assessment of which trustworthy prognosis and truly scientific treatment can alone be based." He feared that the medical student of today finishes his medical course with his powers of observation (his senses of sight, hearing, and touch)

far less developed than did the student of twenty years ago. Sir James emphasized the study of early, often entirely subjective, sensations of patients—now almost entirely neglected by medical men, who focus their attention on the later and grosser symptoms of disease. He admitted, however, that, except in the case of heart disease, his study of subjective symptoms had not brought him very far, but laid the blame for his shortcomings upon the faulty nature of the teaching he received when he was a medical student.

Dr. Welch, after reading the review of Sir James' book in *The Spectator*, wrote me as follows:

> I am wondering if you are the object of Sir James' onslaught. . . . I remember telling delightful Sir James, when he was inveighing against his medical education, that it could not have been so bad if it had left him with some appreciation of his ignorance and how much he had to learn.

A little later, I published an article on the development of specialism in medicine, made possible by the advent of modern scientific medicine. Primitive medicine, a sort of medical folklore, needed no specialization, as it covered the whole field of medicine without discrimination. There was no diagnosis needed for the driving out of demons nor for the fighting of "black magic" with "white magic." In ancient times, however, a kind of specialism developed in which a physician claimed to be expert in the treatment of some one particular malady. Thus in the time of Galen (second century A.D.) there were physicians who treated one special disease only, surgeons for fistula, for hernia, or for the eye, alone. It was not, however, until the rational sciences had developed in the nineteenth century that true specialism could be developed upon a foundation of

biology, physics, and chemistry. At the time I wrote the article there were some seventeen recognized specialties in addition to internal medicine and surgery.

Primitive medicine has continued to be practised in all countries, despite the advent of modern medicine. This has been especially true in the country and in small towns and villages, because of the inaccessibility of skilled medical care. Now, however, country practitioners are much better trained, and the general public, through newspapers, magazines, the radio, and health lectures, no longer relies as it formerly did upon home remedies and medical superstitions. Dr. Harold D. Levine of Bristol, New Hampshire, in 1940 prepared an exceedingly interesting paper entitled, "Folk Medicine in New Hampshire." It is to be hoped that medical men in other states will record similar data upon this fascinating subject while the materials are still accessible.

Freedom from many of the responsibilities of the clinic also made it possible for me to give educational addresses to physicians and to the general public on certain medical topics—a kind of "medical missionary work" that seemed to me to be worth while doing. I thought it a natural and proper ambition to disseminate freely any knowledge I had for the common advantage of our people, endeavoring to concur heartily in whatever was best in the medical thought of our time. Among the subjects discussed in such talks were: (1) ideal body weight as calculated from body height and the disadvantages respectively of undernutrition and overnutrition; (2) the uses and abuses of endocrine products and the failure of so-called "methods of rejuvenation"; (3) common food fads and how to decide upon suitable diets; (4) the importance of the psychic

side of medicine; (5) the significance of personality disorders; (6) the distribution of vitamins in food and the relations of vitamin deficiencies to disease; (7) the parts played by heredity and environment in the development of disease; (8) the personal hygiene of middle and later life; (9) high blood pressure and what is known about it; and (10) the great value of periodic health examinations for the prevention of disease and for the promotion of longevity. In how far one dare indulge in such general educative work without making his wares too cheap and common is a moot question. In the biography of Dr. Welch written by the Flexners, he is cited as having said: "If there is an unenviable reputation in the medical profession it is that of the chronic scribbler in the journals or of the chronic babbler in the societies." One would not willingly lay himself open to that kind of criticism. One should always remember that the quality of such writing and speaking is likely to deteriorate. I have myself been somewhat distrustful of great versatility; those who are deeply versed in one or two subjects seem to me to be the least likely to talk or write about a great many diverse topics.

Most of my books and articles have been favorably received by the medical profession. There was, however, one marked exception, a small volume entitled *Treatment of the Commoner Diseases Met With by the General Practitioner*, (1934). I had written it in the hope that it might be as useful to men in general practice as the small German volume *Diagnostisch-Therapeutisches Vademecum* had been to me in earlier years. It made no pretense at exhaustiveness, but was meant only to be a convenient little book that the family doctor might carry in his bag for ready reference. A review of it in one medical

journal praised it, referring to it as "an ideal volume, thoroughly up to date"; but a review in another journal was devastating, complained of the tendency to make use of complex terminology, referred to statements of dubious acceptability or of partial or complete inaccuracy, and concluded by stating that it was incredible that it came "from the pen of the master." There were, unfortunately, some inaccuracies in the book. I do not think, however, that it merited quite so scathing a review. Many physicians have written to me of its helpfulness, and some have asked for a revision that would bring in the more recent therapeutic advances. The complaint about complexity of terminology probably arose from my use of words like nephropathy, arthropathy, and gastropathy. But these terms seem to me to be important, and I hope that they will be used more in the future. It was natural for me to become interested in terminology for, as an anatomist, I had introduced the B.N.A. into this country and had adhered to it in all my publications.

4

Social Contacts with Students and Staff

During my time as head of the department in Baltimore, my wife and I followed the custom that Dr. and Mrs. Osler had established of inviting each Wednesday evening to our house half of the students who were acting as clinical clerks in the wards for a discussion of the histories of the patients they had under study. We usually had a few of them at dinner before the meeting. Dr. and Mrs. Thayer followed a similar custom. It was thus possible for Thayer and me to become

gradually better acquainted personally with all the members of the senior class.

From 1905 to 1914, we had a Christmas party at our house each year for the resident staff, interns, and head nurses of the medical wards. Our two children, Halsey and Margaret, dressed as Mr. and Mrs. Santa Claus, distributed small gifts to our guests. After 1914, we had, of course, less intimate contact with staff and students than before, though we still had the pleasure of entertaining some of them at intervals.

About 1916, my wife started her knitting class, to which she invited the wives of members of the medical faculty, the wives of married medical students, the mothers of medical students, wives of physicians in attendance at postgraduate courses in medicine or at the School of Hygiene (after it was opened), and nurses who had married and were living in Baltimore. The meetings were held once a month at our house and three times a month at the homes of other members of the faculty during the school term. Each one who attended paid a fee of one dollar each year for the purchase of supplies. Bed socks, sweaters, helmets, and scarfs were made for the doctors and nurses in the Johns Hopkins Base Hospital in France. After the war, the class made bed socks and sweaters for the patients in the Maryland State Tuberculosis Sanitorium. Later, the class also did sewing, making layettes for the obstetrical department and sweaters for children in the Harriet Lane Home. Still later, the class made articles for the American Red Cross and for the British War Relief Society. This knitting class has been a veritable boon socially for many women who otherwise might have had but little opportunity for making acquaintances in Baltimore.

5

Successors to the Chair of Medicine

Dr. Thayer was appointed to the whole-time chair of medicine in 1918 as successor to Dr. Janeway. Thayer was serving at the time in France as the Chief Consultant of the Medical Service of the American Expeditionary Force and continued to serve in that capacity until the end of the war, returning to America early in 1919. Members of the clinic (Dr. Hamman and others) took care of the work during his absence.

The whole staff of the clinic gave Thayer a hearty welcome when he returned from Europe. He secured two very able men from New York, Dr. Walter W. Palmer and Dr. Alphonse R. Dochez, who acted as full-time associate professors. Though Dr. Thayer excelled in teaching and in practice, he was not happy in executive work and decided to occupy the chair only until a suitable successor could be found. He was glad when the right man was discovered in Dr. Warfield T. Longcope, who had been Bard Professor of Medicine at Columbia University for seven years. Dr. Longcope has been Professor of Medicine and Physician-in-Chief to the Johns Hopkins Hospital since 1922. He has already held the chair for a longer period than any of his predecessors and has during his tenure maintained the highest standards of practice, teaching, and investigation. He has the habit of unflagging toil and the talent to guide younger men. There has been a steady flow of able internists into his department including Dr. Alan M. Chesney, Dr. G. Canby Robinson, Dr. Perrin H. Long, Dr. J. Bordley, III, Dr. G. W. Thorn, Dr. E. C. Andrus, and some

fifty members of the part-time staff. The future of the medical clinic seems to be as bright as ever.

Though my own modesty should prevent me from doing so, perhaps, I cannot forbear quoting from the foreword Thayer wrote to a series of articles contributed to a *Festschrift* (edited by Dr. Henry W. Cattell) in honor of my sixty-fourth birthday in 1931, for it reveals, better than anything I could say, the generous and noble spirit by which Thayer was always animated. After some comments upon the earlier days of the Hospital Thayer said:

> When you came back to us as a welcome successor to the dear "Chief" you had been working for five or six years away from very active association with the clinic. With what keen vision you grasped the needs of the growing service! In the establishment of the biologic, physiologic, and especially the chemical division of the medical clinic you made a contribution of incalculable value to the hospital and the university. In addition to your earlier clinical achievement you had acquired a broad basis as an anatomist, as a pathologist and as one especially interested in the neuropsychiatric side of medicine. It was not long before your industry, your ability and your learning had launched you well upon the distinguished career which has been yours.
>
> We were a small group who knew you and loved you forty years ago. The boundaries of your reputation are now world-wide.
>
> We were youngsters forty years ago. Now—well, we are no longer young, but it makes us feel young again, those of us who have worked by your side, to join hands with your pupils and friends of later years in the affectionate greeting which we offer you today.

I am not one to yield weakly to my feelings, but I must confess that I am profoundly stirred whenever I reread this very kind message from one of the best friends a man ever had, penned by him the year before his death.

In 1932 Dr. Thayer died of a sudden heart attack. Five

years before his death the William Sydney Thayer and Susan Read Thayer Lectureship in Clinical Medicine had been founded by a group of his friends, and after his death the Hospital trustees dedicated a semi-private ward, the Thayer Ward, to his memory. An excellent account of Dr. Thayer's life has been written by his friend, Mrs. Harry Fielding Reid. It was published under the title *The Life and Convictions of William Sydney Thayer* (Oxford Press, 1936).

One might well wish to live in such a way as to be worthy of the memorable words of Huxley: "The servant of a tender conscience, who has learned to love all beauty, to hate all vileness, to respect others as himself." And that was the way Dr. Thayer had lived.

6

Change and Development in the Departments

In recent years the medical department has had to deplore the death of two of its distinguished associate professors, Dr. Thomas B. Futcher and Dr. Thomas R. Boggs, both of whom had become valued medical consultants in Baltimore. It is interesting that Dr. Palmer Futcher, a son of Dr. T. B. Futcher, became Resident Physician of the Hospital in 1941, the first instance of both father and son as occupants of that office.

Dr. Halsted suffered from ill health during the later part of his incumbency. Dr. Follis removed a gallstone from his common duct, and a second operation was performed three years later by Dr. Heuer. A brief account of the achievements of the first occupant of the Chair of Surgery is to be found in W. G. MacCallum's *William Stewart Halsted: Surgeon.* After the death of Dr. Halsted in 1922, Dr. Dean D. Lewis (who

had been associated with me in anatomy at the University of Chicago but had later gone into surgery and achieved remarkable success) was made Surgeon-in-Chief to the Johns Hopkins Hospital. He served from 1925-1939, when he resigned because of ill health; he died in 1941.

Dr. Alfred Blalock was made head of the Department of Surgery, in 1941, Dr. W. M. Firor having served in the two-year interim.

In special departments of surgery we have been able to turn to experts for help—to Dr. Hugh H. Young and his associates in urological surgery (see Brady Clinic), to Dr. Walter E. Dandy for neurological surgery, to Dr. S. J. Crowe (and his associates, H. R. Slack, E. N. Broyles, and others) for surgery of the ear, nose, and throat, to Dr. Harvey B. Stone for rectal surgery, to Dr. J. Staige Davis and his associates for plastic surgery, to Dr. H. H. Streett, Dr. L. D. Coriell, and Dr. B. L. Brun in dental surgery, to Dr. L. W. Ketron and his associates for skin surgery, to Dr. George E. Bennett, Dr. Robert W. Johnson, Jr., and other associates for orthopedic surgery, and to Dr. W. F. Rienhoff, Jr., for lung surgery.

In 1917, Dr. Welch resigned as Pathologist to the Hospital; since then the chair has been occupied by Dr. William G. MacCallum, who was called back from Columbia University. His *Textbook of Pathology,* published in 1916, has passed through several editions. Among Dr. MacCallum's assistants are Dr. Arnold Rich, Dr. S. S. Blackman, and Dr. J. H. Brown.

In special departments of medicine, all who work at the Hospital have been glad to have the aid of Dr. T. R. Brown and his staff in gastroenterology, of Dr. F. R. Ford and Dr. O. R. Langworthy in clinical neurology, of Dr. Thomas P.

Sprunt and Dr. Norman B. Cole in physical therapy, of Dr. J. E. Moore in syphilis, of Dr. Leslie Gay and Dr. J. H. Trescher in allergy, and of Dr. Perrin H. Long (with Dr. Eleanor Bliss) in chemotherapy. Roentgenology since the death of Dr. F. H. Baetjer has been cared for by Dr. J. W. Pierson assisted by Dr. C. A. Waters and others.

One of the most important contributors to the improvement of the Johns Hopkins Hospital during the past thirty years has been Dr. Winford H. Smith, who became its Director in 1911. As soon as possible, he set about the reconstruction of the buildings of the Hospital. All the older clinics, the out-patient department, the pathological laboratory, and the nurses' home became newly housed under his supervision. His services have been so generally appreciated that he has been called as a consultant in the construction of the teaching hospitals of at least a dozen medical schools in this country as well as of the hospital at the best medical school in China. Dr. Smith has trained a number of associates, several of whom have been appointed to directorships of large hospitals elsewhere. In all his work, Dr. Smith has been warmly supported by a wise board of fourteen trustees with Judge Henry D. Harlan as President and Mr. Charles H. Baetjer as Vice-President and by an excellent Women's Auxiliary Board with Mrs. Austin McLanahan as President.

Following the original endowment by Johns Hopkins, special funds have from time to time been given to the trustees of the Hospital for the endowment of special clinics and for the support of their personnel. With the men placed in charge of these clinics and with the members of each staff, I have been closely associated; these clinicians have contributed enormously to the

work of medical practice, teaching, and research at the Hospital.

The foundation of the Harriet Lane Home for Invalid Children provided for the Department of Pediatrics and, in 1913, Dr. John Howland was called from Washington University, St. Louis, to be Professor of Pediatrics in our Medical School and Pediatrician-in-Chief to the Hospital. He organized his staff well and was a productive investigator until his premature death. In 1927, Dr. Edwards A. Park, who had been on Dr. Howland's staff for nine years (1912-21) and later had been Sterling Professor of Pediatrics at Yale, was called to head the Harriet Lane Home and with his well-selected staff (including Dr. H. W. Josephs and Dr. L. E. Holt) has maintained a high level of work, utilizing all modern methods—general clinical, chemical, nutritional and psychiatric. In the earlier days of pediatrics in Baltimore, we had been much influenced by the brilliant work of Dr. Clement von Pirquet.

Dr. Stewart Paton had long emphasized the need of a psychiatric clinic at Johns Hopkins and had convinced Dr. Welch and Dr. Osler of the desirability of securing endowment for the purpose. It happened that Mr. Henry Phipps, who had given money for a Tuberculosis Dispensary, was so pleased with the use that Dr. Louis Hamman had made of that fund that he asked Dr. Welch if he needed money for any other venture. At Dr. Welch's suggestion, Mr. Phipps made a liberal gift to start a department for the diagnosis and treatment of mental diseases. The Henry Phipps Psychiatric Clinic of the Johns Hopkins Hospital thus came into being. As Dr. Adolf Meyer seemed to be the outstanding psychiatrist of the country, Dr. Welch and I were deputized to interview him with regard to the acceptance of the professorship of psychiatry. He was

at the time Professor of Psychiatry in Cornell University Medical College in New York and Director of the Pathological (Psychiatric) Institute of the New York State Hospitals. Earlier he had taught neurology at the University of Chicago, was pathologist at the Kankakee Hospital in Illinois, and had served seven years at the Worcester Hospital and at Clark University. He came to Baltimore in 1910 and occupied the position until 1941 when he resigned, at the age of seventy-five, and was succeeded by Dr. J. C. Whitehorn.

In 1913, Dr. Meyer chose Dr. Charles Macfie Campbell as his associate professor, and the latter worked and taught in the clinic until 1920 when he was made Professor of Psychiatry at Harvard Medical School. A fund of two million dollars was raised in 1923 to put the chair of psychiatry at Johns Hopkins on a full-time basis; half of the fund was contributed by Mr. and Mrs. Phipps, the other half consisting of donations from the Rockefeller Foundation, Mr. E. S. Harkness, and Baltimore citizens.

During his three decades of service at Johns Hopkins, Dr. Meyer has trained many in the principles and methods of modern psychiatry, including Dr. Esther L. Richards (now Associate Professor), who wrote the book entitled *Behavior Aspects of Child Conduct,* Dr. Leslie B. Hohman, who wrote *As the Twig is Bent* (1940), Dr. F. G. Ebaugh (now Professor of Psychiatry in the University of Colorado), who (with E. A. Strecker) wrote *Practical Clinical Psychiatry* (1940), Dr. L. S. Kubie (now a neuropsychiatrist in New York), Dr. Wendell S. Muncie (now Associate Professor), who wrote *Psychobiology and Psychiatry* (1939), Dr. M. S. Guttmacher, and Dr. Leo Kanner (now Associate Professor), who wrote *Child Psychiatry*

(1939). Besides his work in psychiatry proper that made him one of the most famous alienists in the United States, Dr. Meyer originated psychiatric social service, was one of the founders of the mental hygiene movement, developed psychiatric nursing, and made other important contributions to the humanism of medicine. Many will recall the story told of him and Queen Elizabeth of Belgium. On a visit to the Hospital she became separated from her guide, and it is said that Dr. Meyer ran across her in the corridor looking rather bewildered. He did not know who she was but asked if he could be of help to her. She is said to have retorted rather royally, "I am Elizabeth, the Queen of the Belgians." "Ah, yes," said Dr. Meyer, indulgently, "since when have you had this idea?" Dr. Meyer says the story is not true, but in any case the tale was *bene trovata!*

A special building known as the Marburg Pavilion, erected in honor of the memory of Mr. Charles Marburg by his brothers and sisters, has provided accommodations at the Hospital where private medical and surgical patients can be cared for by members of the Visiting Staff. A brother of Mr. Charles Marburg, Mr. Theodore Marburg, and his sister, were the donors of the endowed Johns Hopkins Club at Homewood, where members of the Johns Hopkins staff and their families can purchase excellent meals at low prices.

The Brady Clinic, a special department for urological patients, was donated to the Johns Hopkins Hospital by the late James Buchanan Brady. This clinic is headed by Dr. Hugh H. Young, who has trained many skillful urologists including Dr. J. A. C. Colston, Dr. O. S. Lowsley, Dr. W. L. Denny, Dr.

L. G. Lewis, Dr. A. F. Hutchins, Dr. H. C. Smith, and Dr. S. A. Vest.

A friend of mine, Mrs. Lucy Wortham James, one of the finest and ablest women I have ever known, endowed the Woman's Clinic to house obstetrics and gynecology, though the two departments are under separate heads. Obstetrics was under Dr. J. Whitridge Williams (placed on a full-time basis in 1919), whose *Textbook of Obstetrics* ran through many editions. He served as Dean of the Medical School from 1911 to 1923. A good account of his life has been written by J. Morris Slemons, under the title *John Whitridge Williams: Academic Aspects and Bibliography*. For a time, after the death of Dr. Williams, Dr. J. M. Bergland was acting head of obstetrics. In 1935, Dr. Nicholas J. Eastman became Professor of Obstetrics and Obstetrician-in-Chief (with Dr. C. H. Peckham, Jr., and F. F. Snyder as associate professors); Dr. Eastman had served in the department at Johns Hopkins for five years (1928-33) and had then spent two years as Professor of Obstetrics in Peiping Union Medical College. Gynecology (after Dr. Kelly relinquished the chair) was headed by my former schoolmate, Dr. Thomas S. Cullen, who has written several volumes on gynecological subjects. In the department also were Dr. Guy L. Hunner (Adjunct Professor), Dr. E. H. Richardson (Associate Professor), Dr. DeWitt B. Casler, Dr. Emil Novak, Dr. C. W. Vest, and Dr. Richard W. TeLinde. When Dr. Cullen was made Emeritus Professor, he was succeeded in the professorship by its present occupant, Dr. TeLinde.

Endowed by the Rockefeller Foundation, as a result of recommendations by Biggs, Welch, Rose, and Abraham Flexner, the School of Hygiene and Public Health is a part of the

Johns Hopkins University, not of the Medical School, but it is situated close to the latter and to the Hospital, and intimate relations exist between the members of its faculty and the medical faculty. The founding of this school was a landmark in public health education not only in the United States but in the world as a whole. Dr. Welch was its first Director, with Dr. Howell as Assistant Director (later Director). A competent staff, including Doctors Pearl, Frost, Bull, Freeman, McCollum, Turner, and Reed, was selected. The School registers about 175 students yearly, and instruction is given in some ten different departments. Students come from different parts of the world, many of them from Central and South America. The scientific and practical aspects of public health administration are taught. Public health officers already at work may also apply for instruction. The new department of preventive medicine of the Medical School (of which Dr. Perrin H. Long was made the head) is to be housed in the School of Hygiene.

In 1926, the General Education Board made a gift toward a chair of the History of Medicine, and Dr. Welch at the age of seventy-six was prevailed upon to be the first professor of that subject, spending a year in Europe buying books on the history of medicine. The large gift to the Medical School of the William H. Welch Medical Library was made in 1928. It was a boon both to the School and the Hospital, since besides making provision for the library (F. H. Garrison was librarian at first, succeeded by Dr. S. V. Larkey and assisted by Mrs. Thies-Mayer, Miss Frush, and Miss Wheeler), it now houses the Institute of the History of Medicine (in charge of Professor Henry E. Sigerist, since 1932, with Dr. O. Temkin as associate professor). At the dedication of the Welch Library

and the Department of the History of Medicine, Harvey Cushing, who has been described by one of his friends as "primarily an artist—imaginative, creative, and withal energetic and determined," made an admirable address, and the other speakers were Abraham Flexner and Karl Sudhoff. Cushing's own great historical collection of medical books was given on his death to the Yale Medical Library, the dedication ceremony of which occurred in June, 1941.

An important addition to the Hospital came in the form of the Wilmer Ophthalmological Clinic, donated in 1924 by the General Education Board and by personal friends of Dr. William H. Wilmer, who, placed on a full-time basis in 1925, headed the new institution until he retired in 1934. Dr. Alan C. Woods then served as acting professor and was made Director and Ophthalmologist-in-Chief in 1937. Among those associated with Dr. Woods in the department are Dr. F. B. Walsh, Dr. L. J. Goldbach, Dr. E. L. Burky, Dr. J. S. Friedenwald, Dr. C. A. Clapp, Dr. W. H. Marshall, and Dr. Louise L. Sloan.

In this and preceding sections, I have had much to say about the Johns Hopkins Medical School and Hospital. The space devoted to them may seem disproportionate, but since the larger part of my life has been lived in intimate relations with these two institutions, I have thought that a rather full description of the people and the events connected with them might be of some historical interest because of my first-hand knowledge. Some may think that the narrative I have written is more a history of the Johns Hopkins Hospital than of myself. But, perhaps, behind the document, the discerning reader may get glimpses of the man who wrote it.

For two decades perhaps, medicine at Johns Hopkins occupied a position of pre-eminence in America. But the time is past when any medical school can lay claim to a monopoly of excellence, and I am glad to have lived long enough to see a large number of other schools develop into an equal position; some of them at least in some respects are even superior to it. Today, in New York, Philadelphia, Boston, New Haven, Rochester, Cleveland, Cincinnati, Chicago, and many other cities, we now have schools of medicine of the highest class. We have also great private clinics like that of the Mayos. The transformation of medical education in America during the present century has been truly extraordinary—a cause for great rejoicing among all who have had the development of higher medical education at heart. America has unswerving faith in the principle that well-trained physicians and surgeons are essential for the public welfare; she will, I believe, remain steadfast and zealously insistent in the pursuit of this aim.

7

Delay in Naturalization

An autobiographer would be remiss if he failed to mention some of his derelictions. Though no one is very keen to lay stress upon his follies and faults, I want my story to be candid. One matter in which I was very blameworthy was my long neglect of the duty of becoming naturalized as a citizen of the United States. When I came to Baltimore from Canada, I had no idea that I was not to return later to live and work again in my mother country, or that I would permanently reside in the United States. Medicine absorbed me so completely that I

gave but little thought to the moral and political obligations of citizenship. I never had any political ambitions. The corrupt and unscrupulous practices of many politicians thoroughly disgusted me, though I should have realized that in a democracy it is the duty of every resident to do his part to promote good government. Indeed, I am ashamed to admit it was not until the approach of the great European war in 1914 that the importance of becoming naturalized really dawned upon me and I took out my first papers. When the United States entered the war, I at once went to see General Gorgas and offered my services, but he said that he thought I could be more useful by continuing my work at the Johns Hopkins Hospital than in any other way. I became a naturalized citizen of the United States on Nov. 8, 1918 (certificate No. 1,170,342). I had loved Canada and still do; fortunately this is not incompatible with equal love of the United States. I have, since naturalization, voted conscientiously at all elections, being registered as a Democrat (since Maryland is predominantly a Democratic state) but voting independently in Federal elections. Though two responsible parties are necessary for the political safety of the Republic, I vote for the candidate who seems to me to be the champion of what is right. When I recall that I was a resident of the United States for more than twenty-five years before I became naturalized, I am filled with remorse for my inexcusable negligence.

8

Misbranded Remedies

Later on, I was glad to be of some real service to one of the bureaus of our Government.

In the spring of 1930 Dr. J. J. Durett, Chief of Drug Control (United States Department of Agriculture) and Mr. D. M. Walsh, chief of the Department's Baltimore station, came to see me and asked me to assist the Government in its prosecution of the case against the "B & M External Remedy," which was advertised as "an efficient agent for the destruction of the micro-organisms causing tuberculosis, pneumonia, influenza, pleurisy, bronchitis, laryngitis, coughs, colds, catarrh, blood poisoning from external infections, and other germ diseases." It was recommended also for the treatment of cancer, locomotor ataxia, amyloid liver, and sarcoma. The remedy was applied to the skin and was supposed to act partly by penetration of the skin, partly by inhalation, and partly by counter-irritation.

The ingredients as stated by the manufacturer consisted chiefly of oil of turpentine, ammonia, and whole eggs, in addition to small quantities of formaldehyde, methyl salicylate, oil of mustard, creolin, water, and balm of Gilead buds.

Owing to the fantastic claims made for this remedy, the Government made seizures of the product as early as 1920, but juries in three instances upheld the claims stated in the labels of the product in disregard of the consensus of expert medical opinion. I was told that the reason the Government lost in these suits lay, for one thing, in the personality of the manufacturer, an elderly religious fanatic, whose manner was suave and exuded sincerity and frankness, and also his lawyers who were celebrated for their cleverness and legal ability. The latter did not combat the opinions of the Government's experts by bringing forward other doctors but stated that the remedy had been accidentally discovered to be a competent treatment

for the diseases mentioned; and they put on the witness stand many persons who evidently in good faith swore that they had been cured from those diseases by the use of the preparation.

The Department had made further seizures of the remedy and the first of the new trials was to be held in Baltimore. After several postponements of this trial, the lawyers in Baltimore representing the manufacturer gave up the claim to the seized packages and consented to a decree condemning and forfeiting the same to the United States of America.

Later on, however, the B & M remedy appeared in the market under a revised labeling. Though the changes in the label were cleverly made in the hope of avoiding prosecution, on close reading it was found that the misbranding was practically as flagrant as it had been before. The Government (through Dr. Durett) accordingly seized additional shipments with the determination to settle once and for all the practicability of controlling the labeling of patent medicines. In April 1932, Dr. F. J. Cullen (who had succeeded Dr. Durett) asked me, along with Dr. Victor F. Cullen and Dr. E. M. K. Geiling, to assist the Government in the trial pending in the Baltimore Court. The manufacturer claimed that the remedy was empirical, and it was suggested that Dr. Geiling and I be prepared to explode the idea that the chemicals in the remedy were "mystery compounds." Before the trial, those of us who were to testify for the Government held a conference with Mr. S. E. Sobeloff, the United States District Attorney, and had a thorough understanding concerning the character of the evidence that we were to be called upon to give.

Fortunately the jury, and especially the foreman, seemed to be intelligent and gave close attention to the evidence given

by our group. They were told that the ingredients were substances well known to the medical profession and that there was no sound evidence that any one of them, or all of them together, could be capable of producing the favorable results claimed. I made it clear that the impression made upon me by the advertising pamphlet was that the manufacturer was willing, through skillful imposture, to exploit human misery for private gain, to make patients spend time and money upon methods of treatment that are valueless, methods that experience had shown often deter patients from receiving the forms of treatment that are helpful—a form of cruelty that must seem despicable to all right-thinking people.

The jury, after being out for about an hour and a half, returned a verdict in favor of the Government. District Attorney Sobeloff wrote me: "Your splendid presentation of the subject on the witness stand contributed materially to the result of which we are all so proud," and a similar letter was received from the Drug Control Bureau in Washington.

After the close of the seizure case at Baltimore, criminal charges were filed against the manufacturer at Boston, Mass., who in 1934 entered a plea of guilty; a fine of $2,000 was the penalty imposed.

In 1939, the Drug Control Bureau became interested in another misbranded product and discussed the matter with me. The Government made seizures of the product and arranged that I should testify in the case. In June 1940, however, word came that the manufacturers had decided not to contest the case and made arrangements, I believe, to discontinue the misbranding.

9

Committee on the Costs of Medical Care

The Committee on the Costs of Medical Care was organized in 1932 to study the economic aspects of the prevention and care of sickness, including the adequacy, availability, and compensation of the persons and agencies concerned. There were forty-eight members (twenty-four physicians, three dentists, two nurses, six economists and sociologists, three nonmedical men concerned with public health work, two social workers, and eight representatives of the general public). The Chairman was Dr. Ray Lyman Wilbur who had formerly been president of the American Medical Association, as well as a college president and a member of President Hoover's Cabinet. Financial support came mainly from several great foundations.

As a member of this Committee I was in close touch with the work, and after its final report was published at the end of five years I wrote an epitome of it for the *Journal of the American Medical Association* (1933, 100:868-869) and also discussed it from the point of view of the physician (*Journal of the Medical Society of New Jersey*, 1933, 30:79-81).

In the final report there was (1) a majority report, (2) a minority report, and (3) certain special statements. All members of the Committee had agreed that adequate scientific medical service and facilities should be accessible to all the people, that services for the prevention of disease and for the maintenance of positive health are necessary as well as curative services, that those who furnish the services should be properly remunerated, and that in the field of professional education there is need for extensions and changes of emphasis to corre-

spond to changing social and economic conditions and to the better recognition of preventive and administrative needs.

I was one of the signers of the *majority report*, which recommended as the goals to be worked toward:

1. That medical service, both preventive and therapeutic, should ultimately be furnished largely by organized groups;

2. That all basic public health services should be made available to the entire population;

3. That the costs of medical care should be placed on a group payment basis through the use of insurance, of taxation, or of both, though service on an individual fee basis for those who prefer it need not be precluded;

4. That the study, evaluation, and co-ordination of medical service be considered important functions for every state and local community and that agencies for the exercise of these functions be formed;

5. That certain much needed improvements in undergraduate and postgraduate medical instruction be made with emphasis especially upon the social aspects of medical practice.

In the principal *minority report* it was recommended:

1. That government competition in the practice of medicine be discontinued and governmental activities be definitely restricted to certain special fields enumerated;

2. That government care of the indigent be expanded so as ultimately to relieve the medical profession of the burden;

3. That the recommendation of the majority report regarding the functions of each state and local community be approved;

4. That united attempts be made to restore the general practitioner to the central place in medical practice;

5. That the corporate practice of medicine financed through intermediary agencies be vigorously and persistently opposed;

6. That methods that can rightly be fitted into our present institutions and agencies without interfering with the fundamentals of medical practice be given careful trial;

7. That state or county medical societies develop plans for medical care.

The report of the Committee led to an animated discussion, much of it favorable and a good deal of it unfavorable. Those who opposed the findings and recommendations of the Committee based their objections mainly upon its tendency to a socialization of medicine, and the interference with the personal relationship of physician and patient. Plans of voluntary health insurance and of compulsory health insurance were also much discussed; and the dangers of a bureaucratic control of medical practice in which the medical profession would not be dominant was much feared. Some critics went so far as to say that "a million dollars had been wasted" in the work of this Committee and that "the results were puerile."

Despite the very cautious recommendations contained in the majority report with its suggestions of tentative trial of various methods before adopting them, some of the officials of the American Medical Association took a rather strong position in opposition to the Committee's recommendations, for besides their disapproval of some of them, they had the feeling that the initiative in medical reforms should be taken by the American Medical Association itself rather than by outsiders. I, myself, have always felt strongly that the organized profession should take the lead in the institution of medical reforms and that the American Medical Association should be foresighted

enough to detect those needs and to make adequate provision for meeting them before being compelled to do so by outside pressure. It should not be forgotten that half of the Committee on the Costs of Medical Care were medical men. During the past ten years, the discussion of health insurance, hospital insurance, and socialized medicine has been continued. I think that the discussion is doing much good and that the American Medical Association itself is much more alive today to the need of giving serious thought to the problems concerned than it was a decade ago. I have always had the fear that too tardy recognition and action on the part of the organized profession might lead to sudden and unwise legislation that would be harmful both to the profession and to the public. Evolution in this domain seems to me to be preferable to revolution. I believe that we can from now on safely rely upon the American Medical Association to lead the way to what is best for us all in the matters above referred to.

Chapter XIII. ADVISORY BOARDS AND COMMITTEES

ANYONE WHO HAS ATTENDED many board or committee meetings must know how much depends upon the chairman for the efficiency and speed with which its activities are conducted. Members are sure to suffer when discussions are unnecessarily prolonged, when matters wholly irrelevant to the topic under consideration are permitted to be introduced, or when a presiding officer of arbitrary tendencies makes decisions without giving opportunity for adequate presentation of the arguments of both sides of a controversial subject. A chairman should be alert, courteous, and understanding but resolute. He should be well versed in the usages of deliberative assemblies, should see to it that the latter are observed, and should exhibit sound judgment both in cutting short needless discussion on the one hand and in prolonging debate when the occasion warrants it on the other. He should possess "the flair that can pierce irrelevance and reach the core of the essential facts." By promptness and decisiveness exercised in a civil manner, a chairman can do much to expedite the transaction of the business of a committee or board. It has been my good or bad fortune to have been selected as chairman of a number of boards, and by the experience gained through the years I learned many salutary lessons, one of them being that there are some persons who are incapable of seeing that there may be

two sides to a question, and, another, that the conservation of the time of other busy people is a virtue not to be disregarded. One learns to value and admire certain members of a board of which one is chairman—especially those members who know how to surmount difficulties in negotiation.

Among the advisory boards of which I have held the chairmanship, are the Medical Board of the Johns Hopkins Hospital (made up of the heads of departments in the Hospital and the Director), the council of the Medical and Chirurgical Faculty of Maryland, the National Committee for Mental Hygiene (of which I was president for nine years), the Board of Scientific Directors of the Wistar Institute of Anatomy in Philadelphia, the Advisory Board of the Federal Industrial Institution for Women (Alderson, West Virginia) and the Medical Council of the United States Veterans Bureau (since 1929 when I succeeded Dr. Ray Lyman Wilbur, who resigned to enter President Hoover's Cabinet). Contact with the members of these several boards has afforded a rich experience and led to the formation of many friendships that I prize highly. I would, however, advise my friends who are younger than I am to avoid membership in too many boards and committees. This is difficult, I know, especially when success of any kind comes to one. But too many meetings are very fatiguing. As I have grown older I have declined new memberships in boards, for they encroach too much upon energy and leisure. I desire a more tranquil autumn.

Prison reform interested me much after Governor Albert C. Ritchie appointed me in 1923 a member of the Maryland State Board of Welfare. Mr. Emory L. Coblentz was the first Director of Welfare; later on Mr. Stuart L. Janney became Di-

rector. Among the members of the Board were Mrs. Frank R. Kent, Mrs. William J. Brown, Dr. Frederick Vinup, Mr. John T. Daily, Mr. William L. Rawls, and Dr. Charles Austrian. This board had control of penal affairs at the state penitentiary and at the Maryland House of Correction, and for many years it was allowed to function entirely independently of any political considerations. When, later on, another Governor displaced Stuart Janney and the opinion of the members of the Board concerning an important appointment at the House of Correction was ignored for purely political reasons, Elizabeth Kent and I resigned in protest.

In 1925, Governor Ritchie appointed me a delegate to represent the state of Maryland at the Fifty-fifth Annual Congress of the American Prison Association, held in Jackson, Mississippi.

In 1926, President Coolidge issued the Commission that made me a member of the Advisory Board of the Federal Industrial Institution for Women at Alderson, West Virginia, the Assistant Attorney General, Mrs. Willebrandt, having urged me to accept membership as she believed that I could be of service especially in making decisions regarding matters of scientific and medical policy and in helping the superintendent to make "the institution *right* from the start." The problem of proper detention facilities for the women convicted in the Federal courts had for many years been one of the most harassing with which the Department of Justice had had to deal. But after Congress passed an Enabling Act in 1924, following petitions from some 14,000 women's clubs throughout the country, the establishment of a suitable institution for the housing and training of five hundred of such prisoners, to be called the Fed-

eral Institution for Women, became possible. The citizens of Alderson, West Virginia (in the heart of the Alleghenies), petitioned the Government to place the new institution there and offered to donate over 200 acres of property (known as the Rose Farm) as a site; this offer was accepted. More land (the Nash Farm of 300 acres) was purchased to provide altogether a farm of some 500 acres to be brought under cultivation and for the growing of livestock.

The idea behind the whole project was to rehabilitate the women sent to the institution by (1) industrial training; (2) development of self-control and of a sense of responsibility for the welfare of the group by institutional organizations of various sorts through which the women would learn the necessity of team-play and of co-operative living in a community; and (3) ethical and religious training.

In 1925, the Superintendent, Dr. Mary B. Harris, (a student of the humanities, a doctor of philosophy, and an able teacher) had been appointed. She had much to do with the planning of the institution, and with the co-operation of Miss Julia K. Jaffray, Mrs. Alvin E. Dodd (Catherine Filene), consulting with the Architect's Division of the Treasury Department, she drew up a comprehensive building program, which, on submission to Attorney General Sargent and Assistant Attorney General Mrs. Mabel Walker Willebrandt, was approved. A fine group of fireproof two-story brick buildings soon came into being, erected on the cottage plan so as to permit of classification and enlargement as needed.

The Enabling Act of 1924 had provided that "four citizens of the United States of prominence and distinction . . . appointed by the President . . . and serving without compensa-

tion should constitute, together with the Attorney General of the United States, the Superintendent of Prisons of the Department of Justice, and the Superintendent of the United States Industrial Institution for Women, a board of advisers of said industrial institution."

The first Advisory Board (appointed by President Coolidge) consisted of:

The Honorable John G. Sargent, Attorney General;

Mrs. Mabel Walker Willebrandt, Assistant Attorney General;

Captain Albert H. Conner, Superintendent of Prisons;

Dr. Mary B. Harris, Superintendent of the Federal Industrial Institution for Women;

all *ex-officio*, and the following:

Dr. Lewellys F. Barker, Baltimore, Chairman;

Miss Julia K. Jaffray, New York City;

Mrs. Alvin Dodd, Washington, D. C.

Mr. George P. Levey, Ludlow, Vermont.

As Chairman of the Board, I was asked to preside at the formal opening of the Institution on November 24, 1928, a little over two years after ground had been broken for the first building. A symbolic key was presented by the Attorney General to the Superintendent, Dr. Harris. The main address was made by Mrs. Willebrandt, who had labored long and arduously to secure the new institution in which less stress was to be laid upon the traditional ideas of retribution, punishment, and deterrence and more stress upon the newer conceptions of causes of personal and social difficulties and upon the discipline, education, and training that will rehabilitate, develop the power of self-control, restore self-respect, promise later economic secu-

rity, and fit for living in freedom. Speeches of felicitation were made by the Governor of West Virginia, H. M. Gore, the Governor of Virginia, H. F. Byrd, and by representatives of the Federal Government and of various organizations interested in the establishment of the Institution. To these addresses suitable responses were made by Miss Jaffray, for the Advisory Board, and by Mr. Conner, for the Department of Justice.

The institution under the superintendency of Dr. Harris has been a great success as an experiment in re-education. Dr. Harris was unusually prepared for the work by personality and previous education. She was a classical scholar and had become interested in a research on Roman coins but had abandoned that study when urged by Dr. Katharine B. Davis, Commissioner of Correction in New York City, to take the superintendency of the Reformatory for Women of New Jersey and also of the New Jersey State Home for Girls. No small part of her success at Alderson lay in the careful individual study made of each case, just as a single person is studied in a medical clinic or in a psychiatric institute. Moreover, each inmate was restudied at regular intervals, and careful records of behavior and progress were kept. Many of those sent to the institution (about half) were drug addicts, the background of which is never the same in any two cases; the only rational approach to the problems is through individualization of physical and mental study and treatment. Dr. Harris took pains to occupy each person fully with work and recreation, did her best to create an approximately normal atmosphere and to furnish healthy topics for thought and conversation. Special programs of current events were arranged for weekly. Clubs and choirs were organized; outdoor sports and movies found a place in the program. An

Inmate Council and Inmate Committees have carried much responsibility for the maintenance of good order, safety, and sanitation throughout the institution and have done much to promote morals. One girl wrote her family soon after her arrival: "It seems we are to be *informed* as well as *reformed*." Another, according to Dr. Harris, remarked; "This is the goin'est place I was ever in." The results have been very gratifying. Of paroled cases, only a very small percentage (44 of 1,088 persons) have become violators of parole, and they are not permitted to return to the institution.

After serving on the Board at Alderson for eight years, I had to resign from it owing to pressure of other duties. In presenting my resignation to the Department of Justice I congratulated Mr. Sanford Bates (who had succeeded Mr. Conner as the Superintendent of Prisons) upon the excellent work that had been done by the unique organization at Alderson. I wrote him: "I have been much impressed with the ethical transformation of a large proportion of those who have entered the Institution. Had I not seen the change for the better in these women myself I could scarcely have believed that such results could have been attained. The spirit of the place is admirable."

Dr. Harris, who has written a most interesting volume *I Knew Them in Prison* (1936), continued in service at Alderson for fifteen years. On her retirement in 1941, she was succeeded by Miss Helen Hironimus, who had worked with Miss Harris at Alderson for over twelve years and had also served for a time as Warden of the new Federal Institution for Women at Dallas, Texas.

The Board of Scientific Directors of the Wistar Institute of Anatomy, organized in 1905, included some of the ablest repre-

sentatives of anatomical science. Among its members were Dr. Simon H. Gage, Dr. Franklin P. Mall, Dr. E. G. Conklin, Dr. Charles S. Minot, Dr. George A. Piersol, Dr. J. P. McMurrich, Dr. Henry H. Donaldson, Dr. G. Carl Huber, and Dr. George S. Huntington. The Executive Director of the Institute was Dr. M. J. Greenman. The laboratories of the Institute were devoted mainly to research in neurology under the direction of Dr. Donaldson. Dr. Helen King also conducted special investigations. The philanthropist, General Isaac J. Wistar, had endowed the Institute and its museum. For some reason or other General Wistar took a fancy to me personally and requested that I be made Chairman of the Board, though I was the youngest member. After some years, the Institute acquired the Effingham Morris Biological Farm (about forty miles outside Philadelphia), which gave greatly increased facilities for biological work. The Board worked in harmony over a long period of years, and it was with deep regret that in later life, owing to the necessity for "taking in sail" I felt that I must resign my membership.

Chapter XIV. LECTURESHIPS; MEMBERSHIPS; HONORS

In 1929 the University of California established a Visiting Lectureship in its Medical School and through the courtesy of the Dean, Dr. Langley Porter, I was chosen as the first lecturer. For four weeks during November and December of that year I became an active member of the medical faculty of the University of California, taking part in ward rounds, pathological conferences and journal clubs, giving amphitheater clinics, speaking before local medical societies, and sharing in the life of the community generally. President Campbell of the University welcomed us. Through the courtesy of the Professor of Medicine, Dr. William J. Kerr, and members of his staff, all the facilities of the clinic were placed at my disposal, and everything possible was done to make my stay enjoyable. Professor Kerr assigned his secretary to help me. Dr. Porter asked Miss Terry to help us "keep our social engagements straight." The clinics given and the conferences held were thought to be valuable enough to merit wider distribution, and they were later published in a special volume of the *Medical Clinics of North America* (1930, vol. xiv, No. 1). Anyone who cares to examine closely some of these clinics will find that they treat the subjects dealt with fairly thoroughly despite the great pressure under which they were prepared.

I doubt if I ever spent a more hectic month in my life than

during this Visiting Lectureship in San Francisco. A clinic had to be prepared each day, which meant a study of the records, an examination of the patient, and a survey of the most recent medical literature on the subject. After the clinic was given it had to be dictated for publication. A note in my diary indicates that I filled eighteen ediphone tubes with dictation on one day alone. Some extra clinics were given including one at Stanford Hospital (at the invitation of Dr. Arthur L. Bloomfield), and one at the Alameda County Medical Society in Oakland (arranged by Dr. Stewart Irwin). Addresses, formal and informal, had to be made; one of these was at the San Francisco Medical Society, another at the Pacific Interurban Clinical Club (of which I was made the first honorary member), and another at the William Watt Kerr Club. I visited the Hooper Institute with Karl Meyer and saw the excellent work going on there. My wife was with me, and lunches, teas, and dinners were given for us almost daily during our stay. Professor and Mrs. Kerr gave a large reception in our honor. Old friends like Dr. Langley Porter, Dr. Herbert Moffitt, Dr. Emmet Rixford, Mr. Sam Blythe, and Mr. George Cooke entertained us. One of the university regents, Mr. W. H. Crocker and his wife (whose maternal grandfather was a Barker) gave a delightful luncheon party for us and showed us over their estate; they have a fine collection of art treasures. Many of my former students and assistants are active in San Francisco, and they vied with one another to make our stay pleasant. Among them I recall Lisser, Hinman, Evans, Wolfsohn, Kruse, Irwin, Gilcreest, Callander, Richter, Reichert, Rhodes. Several of them entertained us at dinner while we were in San Francisco. Lisser's dinner at the Family Club was especially enjoyable. At

the Sea Food Grill we made the acquaintance of abalone steak and coo coo clams.

How I got through that hyperactive month without some kind of a breakdown I can now scarcely understand, especially as I had lost a goodly amount of my savings in the stock market smash of that year. But I managed to keep remarkably well.

Dr. Henry A. Christian, Hershey Professor of Medicine in Harvard Medical School and Physician-in-Chief to the Peter Bent Brigham Hospital in Boston had the happy idea of selecting a number of internists from different parts of the United States and Canada as well as four European internists to act as Physicians-in-Chief *pro tempore* to his hospital for one week. Over a period of years one internist each year thus served, and I was fortunate enough in 1931 to be among the number. Others who had been chosen included Dr. William S. Thayer, Sir Thomas Lewis, Dr. A. W. Hewlett, Dr. Frank Billings, Dr. Warfield T. Longcope, Dr. H. R. M. Landis, Dr. Thomas McCrae, Dr. R. T. Woodyatt, Dr. Lewis A. Conner, Dr. J. B. Herrick, Dr. W. DeB. MacNider, Dr. S. W. Lambert, Dr. David Riesman, Sir Humphrey Rolleston, Bart., Dr. Duncan Graham, Dr. James S. McLester, Dr. C. P. Howard, Dr. C. A. Elliott, Dr. A. Stengel, Dr. A. H. Gordon, Dr. J. E. Paullin, Lord Horder, Dr. O. H. P. Pepper, Dr. H. C. Jacobaeus, and Dr. F. G. Blake. In April, 1929, Dr. Christian invited the whole group of Physicians-in-Chief *pro tempore* who were still living to be his guests for three days in Boston and to hold clinics and conferences while there, and a goodly proportion of them accepted. On the last evening of our stay Dr. and Mrs. Christian entertained at a large dinner given in honor of the group.

Among other special lectureships to which I was invited were (1) The Porter Lectureship in Medicine, (2) The Jerome Cochrane Lectureship, (3) a Lectureship at the Scripps Clinic at La Jolla, California, of which Dr. J. W. Sherrill is Research Director, (4) the Hamilton (Ontario) Clinical Meeting (1916), (5) a series of lectures at the Pacific Northwest Medical Association (1925), (6) a week of lectures at Lima, Ohio (1933, and weekly clinics at the Hospital of the University of Maryland for several years on invitation of Professor M. C. Pincoffs.

Recently I was asked by my friend, Dr. Hugh H. Trout, to address a medical meeting at Roanoke, Virginia. On the way down by train I had my evening meal in the dining car, but on attempting to leave the car, I found my left knee firmly adherent to the under surface of the table. Forcibly extricating it, I found that it had been attached by a huge wad of chewing gum. The waiter tried to remove the gum with hot coffee, but of course unsuccessfully. The conductor, seeing my predicament, stopped the train at a way-station, bought a bottle of Energine at a near-by drugstore, and succeeded in removing most of the gum. Some young college girl had evidently "parked" her gum beneath the table.

Besides membership in the Baltimore City Medical Society, the Medical and Chirurgical Faculty of Maryland, and the several medical societies of the Johns Hopkins Hospital I have been a member of many general and special associations including the American Medical Association (vice-president in 1917), the Association of American Physicians (president in 1913), the American College of Physicians, the Pan-American Medical Association, the American Neurological Association (presi-

dent in 1916), The Society of the New York Hospital (Honorary Member, 1921), the Kansas City Clinical Society (Honorary Member, 1926), the Interstate Post Graduate Medical Association (president in 1928), the Association for the Study of Internal Secretions (president in 1928), the Association of New York and New England Railroad Surgeons (Honorary Member, 1929), the American Association for the Advancement of Science, the American Society for the Control of Cancer, the American Association for the Prevention of Goiter, the Southern Medical Association (president in 1919), the Author's League of the American Health League, the Charaka Club (medical history) of New York, the Pacific Coast Interurban Clinical Club (First Honorary Member) and the Interurban Clinical Club of the East.

The Fifteenth International Congress on Hygiene and Demography was held in Washington, D. C., in 1912. Mayor Preston of Baltimore appointed me as the official delegate from our city.

The American College of Physicians and Surgeons has been one of the most distinguished medical and surgical groups in the United States since it was organized in 1887. At the thirteenth triennial session held in Washington in 1925, over a thousand physicians were in attendance. A symposium on the ductless glands was the most interesting feature. Excellent papers were read by Dr. J. J. Abel, Dr. C. G. Stockard, and Dr. Walter B. Cannon. Dr. Harvey Cushing discussed the subject from the surgical point of view, and I was assigned the task of discussion from the standpoint of the internist. Dr. W. J. Mayo in the *Bulletin* of the Mayo Clinic paid a high tribute to all who participated.

I have also been made an honorary member of several American and European medical societies including the Budapest Royal Society of Physicians, the Medico-Chirurgical Society of Edinburgh, the *Gesellschaft für innere Medizin und Kinderheilkunde* of Vienna, the Association of Physicians of Great Britain and Ireland, and the Swedish Medical Society.

An International Congress of Medicine was formerly held at intervals. With friends I had the pleasure of attending the sixteenth at Budapest (1908) and the seventeenth at London (1913). En route to Budapest we found many American doctors and their wives on the steamer going over, met many more of them at afternoon teas at the Oslers' in Norham Gardens, Oxford, ran across others in London hotels (Savoy, Lanham, Garland's, Brown's), shared a joint with a Philadelphia ophthalmologist at Simpson's in the Strand, and found a Boston orthopedist in the stall next to us at Wyndham's, where we saw *The Best People*. After crossing the channel we began to discover medical acquaintances from other lands as we went through Paris, Bad Gastein, and other places. In order to avoid the crowd we planned to reach Vienna some days before the Budapest Congress began but found that we were not early enough, for the hotels in Vienna we knew about were already overfilled. Finally at 1:00 A.M. we gratefully agreed to take a "Royal Suite" in one hotel, the only apartment vacant, at a price per night that I scarcely dared to record in my traveling expense account. Such an expenditure, together with the tips that went to the *Oberkellner*, the *Tischkellner*, the *Zimmermädchen*, the *Hausdiener*, the *Lift*, the *Concierge*, and the *Gepäckträger* made inroads upon my letter of credit. We therefore went to the opera only once in Vienna and decided to sub-

stitute a few free clinics at the *Allgemeine Krankenhaus* for the expensive delights of the *Apollo Theater* or *Venedig im Wien*. On reaching Budapest we found that the meetings of the Congress were well attended and they proved to be most interesting. Members and their wives were generously entertained; I recall with especial pleasure the kindness of Professor Korànyi, and his wife.

The International Congress at London (1913) was even more interesting. Sir Thomas Barlow was the President of the Congress, and Dr. W. P. Herringham was its secretary. At the General Sessions we heard an address in medicine by Professor Chauffard of Paris, one in pathology by Geheimrat Professor Paul Ehrlich of Frankfort, one in public health by the Rt. Hon. John Burns, M.P., one in surgery by Professor Harvey Cushing of Harvard, and one on heredity by W. Bateson, F.R.S. I have kept the program of the Congress and on looking over the titles of the papers read at the Sectional meetings, I still marvel at the wealth of material that was presented and at the large number of very distinguished scientists there aggregated. Among American contributors were G. Carl Huber, H. Dakin, G. W. Crile, Yandell Henderson, Otto Folin, Theodore Janeway, George Dock, Rudolf Matas, Simon Flexner, R. W. Lovett, W. S. Baer, S. J. Meltzer, H. Koplik, W. G. Spiller, Adolf Meyer, J. A. Fordyce, T. C. Gilchrist, Hugh H. Young, G. E. Brewer, C. J. Blake, W. C. Gorgas, C. F. Stokes, F. F. Russell, F. G. Novy, and Fielding H. Garrison. Sir William Osler was President of the Section on Medicine, in which I shared with Professor Friedrich von Müller of Munich the honor of reporting on the "Differentiation of the Diseases included under Chronic Arthritis." If I mention

that among the non-American contributors were included Wilhelm His, Thomas Lewis, C. N. Ariens-Kappers, E. A. Schäfer, E. Gley, Baron v. Korànyi, F. Kraus, C. S. Sherrington, Paul Ehrlich,* E. Abderhalden, O. Hertwig, F. G. Hopkins, A. E. Garrod, G. S. Woodhead, Sir Lauder Brunton, Hans Meyer, H. Vaquez, K. F. von Wenckebach, G. Banti, F. Widal, Karl von Noorden, Sir W. W. Cheynne, R. Bastianelli, Freiherr von Eiselsberg, F. Sauerbruch, Robert Jones, G. F. Still, J. Babinski, H. Oppenheim, Sir David Ferrier, F. W. Mott, Sir James Crichton Browne, Karl Jung, P. Janet, K. Bonhöffer, P. G. Unna, Sir St. Clair Thomson, Arthur Newsholme, Sir Ronald Ross, Sir David Bruce, S. Kitasato, C. Eijkman, B. Nocht, A. Laveran, C. Levaditi, Norman Moore, K. Sudhoff, and D'Arcy Power, any medical reader will recognize many of the greatest names in the medicine of our time and will envy those who were able to attend the Congress. The entertainment extended to visitors was lavish. My wife and I attended dinners given by Sir David and Lady Ferrier, the A. E. Garrods, the W. Hale Whites, a *conversazione* at Lord and Lady Strathcona's, and an "at home" at the Waldorf Astors. I was included also in a governmental dinner given by Earl Beauchamp, a dinner given by Sir Thomas Barlow, the President of the Congress, and a dinner given by the Honorary Medical and Surgical Staff of the National Hospital for the Paralyzed and Epileptic (Queen's Square). Altogether, the London International Congress provided us with memories of lifelong permanence.

After the Congress we took our two children (Halsey, then

* In August, 1941, Ehrlich's widow, at the age of seventy-seven, arrived in the United States, a refugee from Nazi persecution of the Jews!

aged 6, and Margaret, aged 4) and their governess to the island of Aran for a month's holiday. We stayed at a small hotel at Blackwaterfoot and enjoyed very much walking about the island.

Another memorable meeting was that of the International Congress of Arts and Sciences held in connection with the Universal Exposition of 1904 in St. Louis, after which a Commemorative Diploma and a Commemorative Medal were conferred upon me by the Louisiana Purchase Exposition Company in recognition of my interest and co-operation in the Congress.

Meetings of the Pan-American Medical Association have afforded excellent opportunity for contact with some of the leading medical men of Central and South America. One of these meetings was held in Havana, Cuba, in 1929 and I recall that Dr. W. J. Mayo, Dr. H. W. Orr, and I were asked to respond to one of the addresses of welcome, one of us speaking in French, another in Spanish and the third in German. Though I have read much German, I speak it rather indifferently; however, the German-speaking members of the audience seemed to understand what I said. Besides Havana, we visited several other Cuban cities on this trip. As I was leaving Havana on January 8th for Key West, Dr. Fernandez came to the boat and gave me the decoration "Order Carlos Findlay."

In the following year (1930), the Pan-American Medical Association met in Panama at the Gorgas Institute, where I read a paper "On Medical Co-operation between Latin-America and Saxon-America." At Panama, as house guests of Colonel and Mrs. Siler, we inspected the work going on in the hospital and research laboratories, and enjoyed meeting Pres-

ident Arosamenas. The F. R. Kents were with my wife and me on this trip and added greatly to our pleasure.

On our return to New York on the S.S. *Ebro* we called at Havana, where we were met by Dr. Fernandez and went in his car to see two large sanitariums. The meeting of the same association at Rio de Janeiro in another year was a most interesting occasion; the papers read at the scientific sessions were memorable. We lived on the steamer in dock in full view of the beautiful bay and its environs. The Brazilians were most hospitable to us and our Society felt that we should entertain in turn. Accordingly, we invited the Brazilian members and their friends to an afternoon reception on the steamer. We were surprised and pleased at the very large number of people who came. But by the time half of them had arrived, all the refreshments that had been provided had been consumed and we were embarrassed that the later arrivals found nothing left to eat!

On the way to Rio our steamer had called at a Venezuelan port, and many of us took the delightful drive up the mountain to the capital. After the meeting at Rio, our party went still farther south for a short stay at San Paulo.

While I was on this trip to South America, an attempt was made to play a flim-flam game upon my secretary, Miss Blanche Humpton. One morning she found a cablegram in the office mailbox apparently dispatched by me from Rio de Janeiro. It informed her that a small shipment in care of "Mr. Coe" would be turned over to her in New York and told her to give Mr. Coe $465 and to follow his instructions. Miss Humpton's suspicions were aroused, first by the length of the message in view of cable rates, and further by the wording,

which did not sound like my style, so she decided to let the matter rest temporarily. It was not long, however, before a long-distance call from New York came in. "Mr. Coe" asked her to meet him at a certain dock there and to pick up the package. Miss Humpton told him that she would be unable to go to New York, whereupon he suggested a rendezvous in Philadelphia, but Miss Humpton informed him that she could not leave Baltimore. By this time the credit of "Mr. Coe" with the telephone company was evidently exhausted temporarily, for he said that the operator was going to disconnect the line and, promising to call back later, he hung up. Miss Humpton's suspicions, now thoroughly aroused, led her to check on the cablegram and she found that no such message had been handled by the telegraph company. The editor of the *Evening Sun* had a little fun in commenting on the incident. It said that a misogynist in another column had been shooting arrows at Baltimore's young womanhood for he had said: "Why is it that school teachers and nurses are flat tires? The former are more so, but physicians' secretaries are a close second." To this the editor remarked "Oh, yeah?" and referred to the account of Miss Blanche Humpton and the cablegram she had received purporting to be from Dr. Barker. The definition of a "flat tire" would, he said, have to be subjected to considerable revision!

Several honorary degrees have been conferred upon me, including Hon. M. D., University of Toronto (1905), LL.D., Queens University, Kingston, Ontario (1908), LL.D., McGill University, Montreal (1911), and LL.D., University of Glasgow, Scotland, (1930) along with Ernest Rutherford. Though I was delighted to receive such honors, I have always

felt that they came to me less as a recognition of personal merit than as a tribute to the great institution in which I was privileged to work. Indeed, when I think of how far short I have come of any very great accomplishments considering the unusual opportunities that have been afforded me, I cannot help being oppressed with a feeling of deep unworthiness. Let no one accuse me of mock humility! To but few is it given, even if they have great good fortune "to fill to the full the measure of their gifts and their ambitions."

Among American fraternities I belong to Zeta Psi, Nu Sigma Nu, Phi Beta Kappa, and Alpha Omega Alpha. The Pithotomy Club (nicknamed the "medical gridiron club") draws its membership entirely from students of the Johns Hopkins Medical School. Most of us who taught in the school have at one time or another been "laid upon the gridiron" in order that club members might enjoy our discomfiture! When it came to be my turn, Dr. Stanhope Bayne-Jones impersonated me and gave a clinic in which he made use of a great many long words and a very complex terminology as I had the reputation for loving sesquipedalian words; all through the clinic he was twirling in the air a penknife at the end of his watch chain—one of my habitual gestures!

The fiftieth anniversary of a wedding is called "golden," and some of my friends decided that June 5, 1940, should be celebrated as a "Golden Letter Day" in my life since it marked the fiftieth anniversary of my graduation from the Medical School at the University of Toronto in 1890. The celebration took the form of a dinner at the Baltimore Country Club. The affair was arranged for and the friends selected by Professor Warfield T. Longcope and Dr. Hal Thomas. They decided

most wisely to invite only a small but very intimate group of about fifty persons rather than to arrange for a large banquet of several hundred people. Only two persons from outside Baltimore (Dr. Simon Flexner and Dr. Rufus Cole) were asked to attend.

After dinner several complimentary and congratulatory talks were made, my old friend, Dr. J. M. T. Finney, Professor Emeritus of Surgery, acting as toastmaster. Among the speakers were President Isaiah Bowman, Professor William H. Howell, Dr. Simon Flexner, Dr. Rufus Cole, Dr. Winford H. Smith, Mr. Frank R. Kent, Professor Maurice C. Pincoffs, and Professor Warfield T. Longcope. One of the trustees at the end of the evening was good enough to give me a bottle of his 103-year-old Madeira—an especially delightful and characteristic Baltimore touch!

Mr. Theodore Marburg honored me at another dinner, given at his house, to which he invited his fellow trustees, and many members of the faculty, as well as a group of especial friends. This, too, was a delightful occasion.

Chapter XV. PRIVATE PRACTICE

When, in 1914, I had felt compelled to decline the appointment to a full-time chair, some of my friends wondered whether the change in my position would prejudice my further success in private practice. I knew, of course, that the prestige of the professorship had undoubtedly been an important influence in making me sought after as a consultant. Would physicians stop sending me patients or calling me in consultation in the new circumstances? I remember that my good friend, Dr. William D. Booker, the pediatrician, came to me in real distress when he heard of my decision to decline the full-time professorship, for he feared greatly that my private practice would not only cease to grow but might even be seriously diminished in amount. Time alone could give the answer, but I felt that the risk had to be run.

Instead of diminishing, however, the tide of private consultation work ran strong and steadily increased. By 1919, my income from practice had become almost five times as great as in 1913. The medical men of Baltimore and Washington have through the years shown their confidence and friendship by inviting me to see patients in consultation with them. I was called upon also to make many long-distance trips to see patients suffering from serious illnesses or presenting peculiarly difficult diagnostic problems. More important still, physicians

in many states have sent patients to me in Baltimore for diagnostic study and in some cases for treatment in hospitals or in nursing homes (Miss Mairs', Miss Gaddis', Mrs. Crum's, Miss Tyree's, and others). Since the panic of 1929, income from practice has of course been less than in the prosperous years. Our largest Federal income tax was in 1924.

In the practical work I was most fortunate in securing able associates. For a time I was helped by Dr. Maurice C. Pincoffs (who later became Professor of Medicine at the University of Maryland) and by Dr. Sydney R. Miller and Dr. Walter A. Baetjer (who later engaged as partners in private practice for themselves). Dr. Ernest S. Cross, and Dr. Thomas P. Sprunt have been my senior associates for many years. They have been thorough and conscientious in their work and unfalteringly loyal. Dr. Cross is of New England puritan stock with a dignity that led his classmates to nickname him "the deacon," but he is kindly and gentle, he has known how to win the confidence of patients, and has been especially helpful in the treatment of those suffering from functional nervous disorders. Dr. Sprunt, of Scotch Presbyterian stock, has been more interested in the diagnosis and treatment of organic disease. In 1925 he and I published a volume on *Degenerative Diseases*. Dr. Mary A. Hodge has had charge of our clinical laboratory work for many years and has been ably assisted by Miss Emma Kuehn. For a time Dr. Norman B. Cole was an assistant, though later on he entered practice for himself in Baltimore. While he was with me we wrote a small volume entitled *Blood Pressure; Cause, Effect, and Remedy* (1924). Dr. Henry M. Thomas, Jr., Dr. John T. King, Dr. A. D. Atkinson, Dr. H. C. Brownley, and Dr. Shelton Watkins were also assistants for a period. Dr.

John H. Trescher joined our office force in 1926. In 1931 he and I published a small volume on backache. Despite the fact that he is somewhat handicapped by partial deafness, Dr. Trescher has the faculty in an unusual degree of making his patients devoted to him personally.

In the X-ray work at our office we had the help of Miss Kate Terry (now Mrs. T. P. Sprunt), Miss Janet Howell (now Mrs. Admont H. Clark), Miss Nannie Moore Smith (now Mrs. Stanhope Bayne-Jones), Miss Agnes Hoge, Miss F. L. Dolby, and Mrs. E. J. Clark.

In addition to our general diagnostic and therapeutic work, we have had a large clientele of patients who needed rest, isolation, and upbuilding cures in hospitals or nursing homes. Many of these patients were markedly undernourished, and it was gratifying to find how many of them were greatly benefited by compelling a rapid gain in weight. In recent years, we have made extensive use of injections of protamine zinc insulin twenty minutes before breakfast and twenty minutes before the evening meal in patients who were emaciated. With the aid of these injections it is not uncommon to achieve a gain of from three to six pounds per week until the patients have attained to ideal weight for their height.

Many of our patients who have learned how much stress we lay upon the prevention of disease return at regular intervals for a "health check-up" and for advice as to any indications for alteration in activities in order to conserve their health. If more people would follow this rule and would report annually to their attendant physicians, much disease could be avoided or if any pathological condition began to develop it could be detected in its incipiency and appropriate measures could be insti-

tuted to cure it or to delay its progress. It goes without saying that it is much better to discover abnormalities of function early than to neglect too long symptoms that may be important. I recall one interesting example of this in a young woman who was brought to me many years ago because of certain urinary symptoms. We found sugar in the urine and a blood sugar that was above normal. It was just at the time of the discovery of insulin and by a judicious use of this hormone together with suitable dietetic-hygienic treatment she has enjoyed good health ever since. I was particularly pleased to be invited by President Falconer of the University of Toronto to attend the dinner given to Professors Banting and Macleod on November 26, 1923, in recognition of the award to them of the Nobel Prize. I spoke briefly at the banquet as a representative of the graduates of the University of Toronto in the United States. Preventive work gives great satisfaction to the medical practitioner who is proud to belong to what Lord Bryce once called "the only profession that labours incessantly to destroy the reason for its own existence."

I have been called to California to see a patient, and on several occasions long-distance calls took me to Texas. Still another call took me to Bar Harbor, Maine, from Cashiers, North Carolina, where I was having a holiday. The patient was a wealthy woman, and the family spared no expense in expediting the trip of 1,331 miles. One New York paper (September 9, 1912) described the "dash" by wagon, motor, three special trains, and motor boat! Most of these long trips had to be made by train and were fatiguing. Airplane travel was not then possible, or I could have saved much time and energy by flying.

I was called on one occasion to Wyoming to see a very ill

woman. The fee for such a long trip had to be rather large, of course, but I was ordered to go. On arrival I was met by the husband, whose appearance was such that I feared there must have been some misunderstanding about the expense involved and decided that in all probability he would have difficulty in paying even my railroad expenses. But appearances are deceitful, for he promptly made payment in full! Unfortunately the patient was suffering from incurable malignant disease, and her husband had to be satisfied with feeling that he had at least made an especial effort to save her.

A number of representatives of foreign governments have from time to time appeared at my office for medical consultation. Several cabinet officers, senators, and congressmen of the United States have consulted us at different times. In our files of records are contained, too, the names of many members of the United States diplomatic service who were our patients at one time or another.

For some years I have regularly visited the Diagnostic Centre of the Veterans Bureau in Washington for the examination of puzzling cases among the veterans, having been made a consultant there by the director, Dr. Lewis G. Beardsley and Dr. Charles M. Griffith, the chief medical officer of the Bureau. This diagnostic center is the court of last resort for decisions regarding the nature of obscure diseases among veterans from all parts of the country, many of them neuropsychiatric cases. My study of cases there has made me feel that greater care than formerly should be exercised in the weeding out of neuropathic and psychopathic personalities among draftees before they enter the Army.

A consulting physician is always appreciative when members

of his own profession turn to him for medical advice; among our case records of private consultations are those of hundreds of doctors and of members of doctors' families.

Physicians are always glad, too, to try to be of help to clergymen who are ill. The late Cardinal Gibbons had a delightful sense of humor. On one occasion when I saw him professionally with his medical attendant, Dr. Charles O'Donovan, I told a story that was somewhat off color, whereupon the doctor jokingly upbraided me, intimating that in the hereafter I might be duly punished for telling such a tale to the great Catholic prelate. Cardinal Gibbons immediately raised his arm and said, "Doctor Barker, I hereby give you plenary absolution."

Several distinguished writers and many important leaders in industry and finance have come to us at one time or another for a check-up of their physical condition. One financier developed pneumonia when he and I were on vacation at a club in the South. Although it was before the days of sulfapyridine, he fortunately made a good recovery. He wished to pay me liberally for seeing him through the attack, but as we were fellow members of the club, I did not wish to make any charge. His son told me, however, that his father would not be happy unless I accepted something and suggested that his father should make my wife a present of the best automobile that could be brought at the time. As it would have seemed ungracious to decline this offer, my wife became the owner of the best motor car we have ever had.

Many patients are very appreciative of medical care and besides paying the bills for professional attention desire to do something more to show their gratitude. Thus every doctor's office becomes familiar with what is known as the "G.P."

("grateful patient"). Many of the presents received are small, but they are always valued by the recipient as tokens of generous feeling. Other gifts may be more substantial, and of both sorts we have had our full share. Every autumn we receive baskets of apples from Virginia and crates of oranges and grapefruit from the South. One Texan sends occasionally a can of honey, another a large package of nuts; a New Englander may send a gallon of Vermont maple syrup. Polar bear rugs, Navajo blankets, radios, electric clocks, engravings, books, and antiques of various sorts have arrived. One gift that I appreciated much was a complete set (21 volumes) of the great Oxford English Dictionary (valued at $460.00); it occupies the shelves just behind my writing table at home, easily accessible for reference. A patient in a Western city discovered many years ago that I was married on October 29th and since she found this out my wife and I have received from her each year a large bouquet of beautiful flowers on our wedding anniversary. As a gesture of gratitude for our care of a member of his family, a member of the U. S. Shipping Board arranged for Dr. Sprunt and myself to make a sea voyage on the trial trip of the S. S. *Leviathan.*

One incident in connection with medical practice was so amusing that it seems worth recording. A telegram came from a distant state, asking me to meet a certain train at the Pennsylvania Station in Baltimore with two ambulances for two very ill patients who wished to enter the Johns Hopkins Hospital. As the Hospital had only one ambulance, my secretary, Miss Humpton, arranged with one of the city undertakers to meet the train with a second ambulance that he owned. The man who accompanied the patients had evidently expected me

personally to meet the train, for on arrival he approached the most imposing looking person he could see near one of the ambulances and said, "Are you Dr. Barker?" To his surprise the answer he received was, "No, but I am Dr. Barker's representative. Here's my card." It read: "Brooks, the Undertaker."

At one time I saw much of the McLean and Walsh families in Washington, and was called in consultation whenever any member of either of these families was seriously ill. On one of my visits, Mrs. Edward B. McLean (Evalyn Walsh), told me of the effort she was making to restore the kidnaped Lindbergh child to its distressed parents through the intermediation of a man called Gaston B. Means. When she told me of the details I said to her, "Evalyn, I fear that that man's story is a hoax." But, generous and altruistic as she was, Mrs. McLean went so far as to hand over $100,000 for ransom and $4,000 more for "expense money" to Mr. Means. The negotiations dragged on without result until Means told her that some $33,000 more would be necessary to get the child back alive. By this time Mrs. McLean felt convinced that she was being duped and demanded the return of her money. Of course she never got it, and as everyone now knows the child was no longer living. Mrs. McLean has recorded the story in her interesting volume *Father Struck It Rich*. Means was truly an amazing man as can be seen by reading the history of his frauds in J. Edgar Hoover's *Persons in Hiding* (1938). As a result of the activities of the Federal Board of Investigation, he was finally convicted and sentenced to the penitentiary for a term of fifteen years imprisonment. The crime of Gaston B. Means was all the more dastardly in that he had been, for a time, a law enforcement officer himself.

At the time when talking movies had begun to be made, two industrialists who had been my patients invited me to visit their plant where they had made a talkie movie of a brief address that I gave on "Early Days at the Johns Hopkins Hospital." The film is preserved in the Welch Medical Library as a historical document.

On reviewing my list of patients, I would scarcely be human if I did not admit to a lively feeling of gratification that so many people of interest and importance should have placed their confidence in the diagnostic and therapeutic services of our group, though I must hope that the experience has not unduly inflated my ego. The writing of an autobiography is after all a very egocentric activity; it encourages one to put one's best foot forward and tempts one to reveal one's self to the point of "self-exhibition." Vanity is a personal quality from which few of us are entirely free. However, one of my best friends, on learning that I was writing these memoirs, urged me not to let "any infernal nonsense of modesty" deter me from the telling of the full story! But I fear that "the first person singular" has appeared all too often in these pages, and that the desire to make a good impression must have been very obvious.

But each of us also has his discouraged moments. A medical practitioner sometimes wonders how much good he really does. He will scarcely, however, accede to the statements banteringly made by Benjamin Franklin to Dr. John Fothergill when he wrote him:

> Do you please yourself with the fancy that you are doing good? You are mistaken. Half the lives you save are not worth saving, as being useless, and almost the other half ought not to be saved, as being mischievous. Does your conscience never hint to you the impiety of being

in constant warfare against the plans of Providence? Disease was intended as the punishment of intemperance, sloth and other vices; and the example of that punishment was intended to promote and strengthen the opposite virtues. But here you step in officiously with your art, disappoint those wise intentions of Nature, and make men safe in their excesses!

That letter is all the more amusing when it is recalled that Fothergill was Franklin's physician when he was ill in London!

The title chosen for this autobiography reminds me that as Disraeli said: "Time is the Great Physician" and that those of us who practice medicine do well as Dr. Osler so often did to prescribe "time in divided doses." By that I mean that it is Nature that is mainly responsible for cures; we can assist Nature but we should take care not to hinder her. I am not, however, a therapeutic nihilist. On the contrary I am now, more than ever, a therapeutic optimist, and I am especially grateful to have lived through a period when tremendous advances have been made in pharmaeotherapy, hydrotherapy, and other forms of physical therapy, surgical therapy and psychotherapy. Still greater triumphs lie ahead!

Just why one person should be successful in practice and another with apparently equal or superior ability should fail is not easy to explain. Doubtless certain personal qualities that are hard to analyze are responsible. In this connection I was interested in a letter I received recently from a practitioner who attributed the success of our group to one particular quality. He had come to Baltimore to observe us at work and decided, after staying for some time, that "thoroughness" in work (the making of a comprehensive diagnostic study in every case) was the secret. Certainly without this quality failure would be prob-

able. It is to a large extent responsible for the inspiring of confidence.

Plato in his *Charmides* (Jowett translation) said, "the reason why the cure of many diseases is unknown to the physicians of Hellas is because they are ignorant of the whole, which ought to be studied also; for the part can never be well unless the whole is well." A large proportion of the mistakes in diagnosis made by physicians is due to failure to take into account all the environmental, social, and psychological factors that may play a part in the origin of illness. Some twenty years ago a businessman from a northern city applied to me for diagnostic study on the recommendation of a relative of a banker in New York who had had similar symptoms and had been relieved by treatment in Baltimore. We studied him carefully, concluded that his main difficulties were due to malnutrition and a functional nervous disorder, and persuaded him to enter the Hospital, where in the course of a few weeks he made a good recovery. Ever since he has reappeared at my office regularly twice a year for a check-up and has remained well. When he visited me in November, 1941, I asked him to tell me of his reasons for confidence in me as a physician. He said: "Before I came to you, I had been sent to five or six specialists for examination, and each of them reported that my main difficulty lay in his particular domain. This experience perplexed me much and, more or less in desperation, I came to you. You examined me yourself and had reports from several specialists also. But then you studied the findings as a whole and gave me your opinion as to diagnosis and suitable treatment. I was impressed with your careful method of study and your evident confidence in the conclusions you had reached. At the same time you were

cautious and said that the best doctors sometimes make mistakes, that you yourself had been in error more than once, but that you were sure you made fewer mistakes than in earlier life. Your frankness won me. I took your advice and am glad that I did. Moreover, your periodic check-ups compel me to live hygienically."

Another quality that would seem to be very desirable in a practitioner is ability in what Dr. J. C. Whitehorn describes as "the technique of interviewing"; he should have the capacity to establish early and easily a positive affective rapport with each patient. By his character and conduct the best physician wins the intimate confidence of his clients. The failure to develop a satisfactory interpersonal relationship was emphasized in the old rhyme:

> The reason why I cannot tell,
> But this I know,
> I know full well,
> I do not like thee, Dr. Fell.

Though Dr. Fell was a clergyman, there are medical men who excite similar antipathies. And I am of the opinion that to make patients like him, a doctor must himself have a real liking for people; he must be interested in *them* as well as in their *diseases*. Moreover, one who loves humanity will always be a shrewder judge of character than one who does not. It is to the *whole* of the patient—physical, psychical, and ethical—that the physician should be prepared to give advice. There can be no doubt that, at least in many families, the physician to a large extent now occupies the place that formerly belonged to the clergyman as an adviser in all the serious affairs of life.

If my life has taught me anything, it is that most human

beings are more than half decent, that every human personality possesses a certain dignity, if for no other reason than that life is tragic and that all are born in travail and must suffer pain. The cynic who sees in people only what is contemptible and overlooks their virtues and their heroisms can never be a good physician. On the other hand, men (like Osler) who are always looking for the best qualities in those with whom they come in contact are the ones suffering people will be likely to turn to in time of need. It is they who more than others will be able "to strengthen the feeble knees and to sustain the fainting heart."

Again, to have known illness and some misfortune himself may make a man a better physician. In this connection there is an interesting passage in the *Aeneid* of Virgil: "*Non ignora mali miseris succurrere disco.*" (Not ignorant myself of ill, I have learned to succor the unfortunate.)

A highly esteemed friend of many years' standing has told me that she feels sure that much of any success that I have had, not only in medical practice but in general, has been due to certain personal qualities. Having heard that I was writing an autobiography she sent word to me that she would be disappointed if a picture of my own personality did not stand out in the foreground. I valued her opinion highly and arranged to talk the matter over with her. I have always found self-estimation difficult and am by nature somewhat distrustful of it. As I understood "personality" it meant the appearance of the whole self in every phase of a man's life, the regulation of the particular functions of life by his ideals, the rising to a certain extent above his nature by the use of his will to educate himself and to discipline or even to suppress some of his nat-

ural impulses in order not to be the slave of present stimuli or momentary desires, this habit becoming second nature. I asked this friend how I could reveal my "personality" except by telling the story of my life as it appeared to me with its motives, its hopes, its experiences, its failures, and its accomplishments, since this was bound to make evident many of the qualities of my mind and character, as well as some of the ideals by which I had been actuated. I told her, too, that in a chapter entitled "By Way of Recreation" I intended to recount many non-medical activities and that perhaps these would indicate that not much that is human is entirely foreign to me. Moreover, I continued, I intended to quote some comments by Dr. Welch and Dr. Thayer that have a bearing upon my personality as they saw it, and I wondered if this were not better than to write directly of it myself. I recalled the statement of Dr. Joseph Collins that "it is given to only one man in a million to be really self-revelatory." Moreover, I had the feeling that personality was a very complex matter, that each person was in reality a congeries of personalities; even Plato spoke of two horses, a white one that pulls up and a black one that drags down! I think it is often very difficult to discover the hidden unity of a given personality and to decide upon the qualities upon which this unity depends.

As I had heard criticisms of several recent medical biographies because they had failed to reveal adequately the elusive thing that we call "personality," I told my friend that I was desirous, if possible, in writing my life history, to remove any legitimate ground for such criticism and that I would be most grateful to her if she would give me any data that occurred to her that I could make use of for this purpose. On further con-

versation, I admitted to her that several patients had told me that I had won their confidence at my first interview with them because of "some expression in my eyes."

At this my friend was much amused and said that she agreed that one of the qualities of my personality that she had had in mind was immediately related to my "way of looking at people." Soon after we had become acquainted, years ago, she had remarked to her husband, "Dr. Barker reminds me of the clever detective in a story I have just read," to which her husband rejoined a little sharply, "Don't say that of Barker; he is a close friend of mine." Strangely enough the husband had to admit to her rather shamefacedly a few days later that at a dinner he had attended one of the professors at Johns Hopkins had said to another, "Did you notice how Barker looks at people; he reminds me of Sherlock Holmes." My friend explained to her husband that her comment was not meant to be disparaging; her idea was that I looked at people objectively without any preconceived idea about them, gaining my opinion of what they were like from them rather than bringing a ready-made opinion to them. She thought that I looked at people as though I were in a receptive, not in an aggressive mood, and that my appearance of "searching for clues" was what suggested a detective to her. She told me also of a remark made by a foreign authoress who happened to be at tea one afternoon when one of my colleagues and I were present. After we had gone, the foreigner said to my friend that she liked my colleague better than she did me, for "Dr. Barker looked at me sidewise, and I got the impression that he did not think well of me." If she affected me in the way that she thought she did, it was, as it turned out, the way she had affected several others,

though I am sorry that the impression I formed of her was recognizable. My friend maintains, however, that I have always impressed her as trying to see the best in people rather than the worst; and she believes that the "objective" approach that she described, the tendency to look for clues, represents my general attitude toward life.

It has often been said that a man engaged in private practice can be greatly helped or markedly hindered by his wife, and the truth of this comment has been strongly verified by my own experience. I have the Anglo-Saxon reluctance to speak of close personal relationships and I know, too, that when we feel emotion our powers of discrimination are likely to be faulty. But I must pay a tribute to my wife. At the time of our marriage my wife and I agreed that in all household matters she should have a free hand as I should in all professional matters. Time has shown us that this was an excellent arrangement. Reared in an atmosphere of refinement and good taste, my wife inherited from her mother's side (the Haines family) many of her personal traits, and, from her father's side (the Halsey family), good judgment in financial matters. She saw to it that our living expenses were always kept well within our means and that our mode of life was altered from time to time to conform to our changing circumstances. It was she who was largely responsible for the maintenance of "a happy order within the inner circle of the hearth." Her servants have always adored her, first because she told them precisely what she wanted done and how it should be done and then trusted them to do it, and, again, because of her constant consideration of their personal welfare and her sympathy with them in times of trouble. She has always taken great pride in her house and its furnishings; disorder and disarray as well as dirt are anathema in her sight.

LILIAN HALSEY BARKER

(From the portrait painted by Tade Styka, 1923)

As my medical practice increased, it was on my wife's advice that we purchased a new residence at 1035 North Calvert Street to make room for offices for myself and my assistants and for our growing family. And, later on, when the professional activities had increased to a degree that made it necessary to have the whole of this house for the medical work, she gave her support to the planning and building of a new home at 208 Stratford Road in Guilford, where we have lived comfortably since 1917. Luckily, too, she was socially minded, knew how to form close friendships and how to maintain desirable contacts with the community. She has always enjoyed the society of other people more than I did and, because of this, I went out at times when I would much rather have remained at home; I could, if I had been left to myself, easily have become too much of a recluse. Though a model of gentleness and unselfishness, combining genial kindliness with the performance of duty, my wife has shown unusual strength of personality, never fearing to express her own opinions and attitudes and supporting vigorously the causes in which she believes, even going as far as to nullify my vote on occasion at a Presidential election. If she has aggressive tendencies, she has kept them hidden or they have found vicarious expression in her love of football games, and of prize fights listened to over the radio, or the bull fight that we witnessed in Spain! In times of sorrow and bereavement she has shown the capacity to meet painful events with serenity and patience. The permanent invalidism of our eldest boy, John Hewetson, the so-called "thymus death" in babyhood of a son named after me in 1912, and the still-birth of a beautiful girl in 1917, were trials not easy to bear, but she met them bravely. She has had compensations, however, in our other children. Our son, William Halsey Barker, has made a

good start in a promising medical career. He is happily married to Mary Lee Randol, and they have four fine children (Elizabeth Randol, Lewellys F. Barker III, and the twin boys William Halsey and Randol Lee) that give their parents and their grandparents great joy. Our daughter, Margaret Taylor Barker, after two years at Bryn Mawr college, became interested in the stage and has played many roles including that of Henrietta in the *Barretts of Wimpole Street* (with Katharine Cornell), important parts in *Men in White*, *The House of Connelly* and other plays (with the Group Theatre) and the role of the secretary in one of the companies that presented *The Man Who Came to Dinner*. At the time of writing she is enthusiastically active in the American Women's Voluntary Services in New York City, pending resumption of acting later when suitable opportunity offers.

My wife has always kept in close touch by correspondence or occasional visits with her brothers and sisters (R. T. H. Halsey, of New Haven, Mrs. Stewart Paton, of St. James, New York, Rosalie Halsey, of Princeton, and Dr. J. T. Halsey, of New Orleans) as well as with my relatives—my sister Grace, living in New York, and the daughters of my brother Will, Mrs. Ted O'Dell of Toronto and Mrs. Harry Wrong of Niagara Falls, Ontario.

As far as I am concerned, she has spoiled me by letting me have my own way in most things, except that I am urged to go to the barber more often than I like and that I dare not appear in public in a suit not recently pressed, in a shirt the cuffs of which are not immaculate, or in a waistcoat with spots on it. Though these restrictions might be considered irksome, they are probably "good for my soul" and have certainly not been inimical to success in private practice. Now and then she sug-

gests that I should buy a new suit of clothes; though I sometimes feel that I would rather spend the money on books, we always compromise by my visiting my tailor! During my busiest years when I was going at high speed from early morning to late at night, trying closely to organize every minute, I must have been, despite genuinely affectionate reciprocal attachments, an unpraiseworthy type of husband and father, for I gave but little time to family relationships. Most wives would have complained bitterly of such personal neglect, but my seeming dereliction was met with sympathetic understanding rather than with protest, and my wife shouldered willingly many of the responsibilities that her husband might well have been expected to carry, doing all in her power to lighten my burdens and to promote my health and welfare. More than once, when I had been working too hard in my study, she has appeared with my hat and cane and urged me to take a walk in the open air. Since I reached the age of seventy she insists upon my having breakfast in bed and reading the morning paper before rising, a practice that I have enjoined upon many of my older patients to their great advantage. In later life, too, we have slept in separate bedrooms in order that each may, according to desire, read, listen to the radio, or turn out the light and sleep.

Luckily, my wife was endowed with the capacity for great independence of activity. She drives her own car and has gone her own way despite the limitations of marital companionship. I have never known anyone who spent fewer idle moments. From morning to night she has been ceaselessly busy at work of some kind, profitable either to her household or to the community in which she has lived. Blessings on her!

Chapter XVI. NOT ALL MONEY IS FILTHY LUCRE

IN A COUNTRY where private capitalism is still the prevalent economic system, it behooves every man, unless he has inherited wealth, to make a living for himself and his family and to make adequate provision for old age or for his earlier retirement because of ill health or other reasons. If he have children, it will also be his desire to see to it that they get as good a start, or better, in life than he had himself, and in addition he will want to pass on to his widow and his children and to his favored philanthropies at the time of his death whatever savings he may have been able to accumulate.

Several of my friends have asked me to say something about the attainment of economic security by physicians, since they have the feeling that the experience of an older man may be of some help to younger physicians when they come to consider what to do with their income when this begins to exceed running expenses.

As a young man I had to live practically from hand to mouth and, even during the first ten years after graduation in medicine because of my ambition to rise in the profession by means of prolonged postgraduate studies and teaching that yielded only a small income, the matter of accumulation of a financial surplus scarcely arose. As I write these lines in later life, I realize that the relative poverty of my youth was a blessing rather

than an evil. Though there are marked exceptions (like John D. Rockefeller, Jr., and Edsel Ford), inherited wealth all too often leads to laziness and moral decay. Strength, as H. G. Wells has said, is the outcome of need; security sets a premium on feebleness. Owing to my straitened circumstances, I could not allow myself to consider marriage until I was over thirty-five years of age, whereas the optimal age for marriage for man is believed to be about the twenty-eighth year. In my case the enforced delay proved to be fortunate, for it now seems to me certain that my late marriage was a happier one than any that I could have entered into at an earlier period of my life.

Mr. Henry P. Davison, the New York banker, once asked me how I began in life and I told him "in the back shop of a drugstore." He was much amused and said that he himself had begun as a peddler of jewelry and that once when he entered a saloon with a box of trinkets for sale he was unceremoniously compelled to fly out through the door! Many of the more successful men I have known have told me of the hard sledding they had in youth, but most of them felt that their experiences had been salutary.

I cannot help but feel that at least some of the young people in America at the present time are too "soft," and that they would be better off if they had had to "rough it" as in the old pioneer days. A friend of mine wrote me recently that one young man who had been drafted for military training complained of the hardship of the situation in which he found himself. He had driven down to her place in the country in his own motor, had his own private airplane, and desired a special telephone extension placed at his bedside. When his visit was over

he telephoned to town for his valet to come out to pack his bag for him!

As Bernard De Voto has said "a great many of the young have expected the world to be easier for them than it could intelligently be expected to be." And it is true that "anyone is unreasonable who expects more from life and the world than life and the world have to give." Instead of realizing that there is a difference between wish and fact, that the struggle for existence may be expected to be hard, that training and discipline are desirable for everyone, some young people seem to think that society owes them much more than they get, and a few of them react by developing grievances. The world has never been and never will be a utopia. It is doubtless better for our "souls" and for the development of character that we are compelled to live under conditions that are not ideal and that we must learn to face reality in a practical way and not succumb to "wishful thinking." Let the "soft" young man of today read John Masefield's *In the Mill* and learn of his struggles in his youth as an operative in a carpet mill in Yonkers and there "first set his foot on the path to literature." Let the self-pitying young woman read Agnes Morley Cleaveland's personal history of her life in New Mexico *No Life for a Lady;* they didn't raise crybabies there!

But I do not believe that the majority of our young people are "soft." Democracy ought not to soften morale; it should have the contrary effect. Our young men who are called upon again to enter a war will, I feel sure, give as good an account of themselves as did the young men who went to France in the last war.

At the time of my marriage (at the age of thirty-six) my sal-

ary as a professor together with a small yearly income that my wife received from her father's estate sufficed for our needs. But we both wanted to have children, and I was faced also with the problem of making provision for a family in case of my unexpected death. Though I already had some insurance on my life, it was obviously necessary to be insured for a much larger amount. When I married I took out another policy at once, with the intention of adding later on still other policies when I could afford to do so. My wife and I appreciated fully the importance of living well within our means in order gradually to "save for a rainy day." It was not until I was over forty and began to have a larger income from consultation practice that it became possible to increase the amount of life insurance adequately. One of the best things I ever did was to insure my life then in a mutual life insurance company in several twenty-payment endowment policies. When these policies were fully paid up at the end of twenty years the cash surrender value amounted to more than the face value and I assigned the policies to a reliable trust company for the benefit of my family.

When my income exceeded the cost of my insurance premiums and our living expenses, the question of investments for the conservation of savings arose, and I had to decide whether to be satisfied with the relatively small return that savings bank deposits promised or to try to invest in securities that would yield larger returns. I decided upon the latter course but was sensible enough to seek reliable financial counsel, for I had heard that it is not given to many to become successful as investors and that doctors and clergymen have been notoriously "easy marks" when they have entered the markets for securities, often buying worthless mining stocks or other securities of

doubtful value on "tips" received from well-intentioned but financially unwise friends. I found recently (among some old papers) worthless stock certificates for some two thousand shares of an oil and gas company in Arizona that my parents had purchased on bad advice.

One of the most important things to decide is the *plan* that is to be adopted, and after this decision has been made it should be strongly adhered to. In making the decision, an investment counselor should be consulted. No provident man will adopt a plan that is based upon a hand-to-mouth policy; he should take long views.

An *efficient* investment counselor (either an individual or an incorporated service) will see to it that the *aims* of the private investor are decided upon before he makes investments. The personal circumstances and requirements must be closely examined in order to determine the proper objectives of an investment program. The age, the condition of health, and the life expectancy of the investor, the minimal cost of living, and the number of dependents should be given due consideration in order to arrive at a correct decision as to what the investment aims should be. The counselor will consider whether (1) security of principal, (2) income yield, or (3) possible enhancement of value should, in the circumstances, be the paramount aim of the client. As has often been pointed out, "safety, security of income, and possibilities for appreciation in value do not co-exist; they are incompatible" (T. M. Foristall). Advice will also be given as to the *types of securities* to be held (bonds, preferred stocks, or common stocks) at different times. It is only rarely that one's security list dare be allowed to remain stationary for a long time; a wise counselor will review his

client's portfolio at regular intervals for possible desirable changes. Constant and careful supervision is necessary in order that readjustments in holdings may be made in line with changing investment conditions and prospects. No matter how wise the original selection of the securities may have been, vigilant supervision is essential for the investor's protection.

There are times when investment conditions are far from normal and what may be unsuitable for holding under normal conditions may be very desirable for holding under extraordinary conditions. Thus there may be periods (especially when inflation is impending) when it is better to own real estate, commodities, sub-quality bonds, and some speculative preferred and common stocks than to have all one's funds in high quality bonds, though it is usually wise to have at least a portion of one's funds invested in United States Savings Bonds or some similar safe security. The proper *timing* of purchases and sales is therefore of very great importance for success or failure in investment.

Attention, too, must be paid by one's financial counselor to adequate *diversification* of holdings, for it is unwise to have too great a percentage of one's capital in any one or in a few securities (even in the most attractive corporate stocks of industries that show probabilities of growth) or solely in securities of one geographical region, since "concentration of risks violates a cardinal precept of prudent investment procedure." And yet the diversification of even balanced holdings dare not be too wide because of the difficulties of supervision of the affairs of a great variety of companies. In the selection of common stocks, companies that have alert progressive management and an ap-

preciation of the value of research in the development of new and better products should be chosen.

My advisers made it clear to me that professional men are, as a rule, unsuited to undertake personal supervision of their investments, for even if they have an interest in investment procedures, thy cannot, without neglect to their professional work, afford to give the time or to exercise the "eternal vigilance" that is necessary to be successful. I cannot therefore emphasize too strongly to my younger colleagues the importance of arranging with a good investment banker or with some other reliable investment counselor to take care of their savings and to advise them as to the investments they make. It is no easy matter, even for such expert counselors, to judge of the extent to which the market is either underpriced or overpriced at a given moment in relation to values. The old rule that when everyone is "bullish" it is time to sell and that when everyone is "bearish" it is time to buy had much to commend it but it is not infallible. Careful as I was to seek efficient counsel, I now and then received advice that, when followed, resulted in losses. But I am sure that had I attempted to manage my own security list independent of the advice of experienced investment counselors, I would have lost much more. The amount paid to my supervisors was, therefore, a good investment in itself.

In choosing an investment counselor, one should make sure that he is reliable and competent, for just as there are quack doctors and shyster lawyers so also there have been men who called themselves investment counselors who have been found guilty of fraud and plain thievery. One should make sure that the counselor he selects meets the rigid requirements that

would make him eligible for membership in the Investment Counsel Association of America. There are too many young persons today who are posing as investment counselors who have not had the training or the experience necessary to make them safe advisers. Such fly-by-night investment counselors should be avoided. The counselor selected should have had many years of experience and have proven his competence. The physician will do well to consult a reliable banker or trust officer regarding the merit of the counselor he thinks of selecting. Moreover, no counselor should be chosen who stipulates for a share of any profits that result from the transactions he advises. For many years I was helped by the advice (without charge) of James Shriver, William H. Boggs, and R. Gifford Miller, who were, successively, connected with one of the best banking institutions of Baltimore.

From this disquisition upon investments, one might think that I had become a wealthy man. This is not so at all. I have never had more than "moderate means," but I am better off financially, I believe, than I would have been had I followed any other course than the one outlined above. To my parents I have always been grateful that they taught me to avoid needless waste of life or of anything else. They inculcated thrift, feeling that everything valuable should be carefully husbanded.

In later life, and before the gift taxes became burdensome, I gave portions of my holdings of securities to my wife, my sister, my son, and daughter, but continued to have their investment accounts managed for them by an expert. In this way, my income taxes were reduced and the estate taxes will be less at the time of my death. Anyone has the right to arrange his af-

fairs so that his taxes shall be as low as possible. He is not to be criticized if he does not choose the pattern that will best pay the United States Treasury. I have always had my tax returns compiled for me by an expert public accountant; the only instruction I gave him was, in case of doubt about an item, to favor the Government rather than myself. Recently, in order to further decrease prospective estate taxes, I have, in each of two years, presented a single premium insurance policy (each costing less than $4,000) upon the life of my son to each of his four children. These policies were not subject to any gift tax. The accumulating dividends upon these policies as estimated by the insurance company will in the course of fifteen or twenty years reach considerable amounts, and provision is made in each policy for the payment of certain sums to the beneficiaries if needed for educational purposes when they reach college age. To attempt to reduce one's liability to taxation is, as I have said, natural and is not unpatriotic. The United States Supreme Court has ruled that "the legal right of a taxpayer to decrease the amount of what otherwise would be his taxes, or altogether avoid them by means which the law permits, cannot be doubted."

The plans for attaining to economic security and for conserving savings that may be wise in a given generation may be wholly unsuitable for adoption fifty years later. No one is wise enough to foresee the distant future. Even regarding conditions during the next decade or two there is much doubt and anxiety. The economic theories of some of the politicians of this country have been the cause of grave concern to many investors who are fearful of a drift toward either socialism or state capitalism. Moreover, the huge expenditures of the Defense Pro-

gram are likely to be followed either by an enormous increase in taxation or by inflation later on.

How the serious mistakes that were made in this country toward the end of the last boom period (1927-1929) and again during the years that followed the subsequent panic could probably have been avoided has been ably discussed by the economist, Carl Snyder, in his interesting volume, *Capitalism: The Creator*, (1940). Doubtless those who are now responsible for the guidance of American fiscal affairs are studying Snyder's retrospective analysis, and we must hope that they may profit by it. I should be sorry to see the United States under a regime of state capitalism like that of Stalin's Russia or of National Socialism like that of Hitler's Germany. There may be a better kind of economic system than a reasonably controlled private capitalism, but thus far no one seems to have discovered it. Young people of the coming period will, of course, have to find their own way of solving their personal financial problems. How they should do it will depend upon the conditions that exist in the coming period. All that we oldsters can do is to tell our younger friends of the principles by which we have been guided and the modes of practice we have followed during the period through which we have lived.

Though medical practitioners should be able to make a living and to save moderately for a rainy day, they do not, and should not, expect to become rich through practice. A doctor is unfortunate if he develops the malady known as the "itching palm." Medicine is a profession, not a trade, and any tendency to "commercialism of the profession," is rightly frowned upon. My colleague, Dr. Thayer, put it well in one of his addresses (1908) when he said, speaking of the medical practitioner and

his fees: "He will often, with a large proportion of his patients, perhaps, be obliged to accept less than the value of his services. But that he should speculate on the wealth of the rich, that he should demand exceptional recompense from the millionaire because of his wealth, is to make medicine a trade, is to bring distrust and suspicion and discredit on his profession, is to put a serious obstacle in the way of all the reforms which we, as physicians and sanitarians, hope to accomplish."

The financial rewards of successful surgical practice are usually much larger than those of the practice of internal medicine, but the general practitioner or the consulting internist, after achieving a reputation for ability in diagnosis and treatment, should not fare badly. I early made up my mind that in connection with my own private practice and that of the group in which I work there should never be any justifiable ground for criticism regarding professional fees. After deciding upon what should be regarded as a fair fee under normal conditions, I made two rules: (1) that no more than these regular normal fees should ever be charged, no matter how wealthy a patient might be, and (2) that in no case should the full normal fee be collected when the amount was found to be any hardship to the patient. Having made these rules, I turned over the matter of fees entirely to my bookkeepers (first Miss Josephine Shriver and later Miss Carolyn Coudon) who carried all the responsibility of collections. The results of this policy were gratifying. It was very rare that any complaint was registered, though, as every practitioner knows, there will be an occasional haggler over fees charged, no matter how fair and moderate they may be. When such instances came to my attention, I favored adjustments that were satisfactory to the malcontent even if un-

fair to myself, for a dissatisfied client will too often mean ultimately a greater loss to the practitioner than the reduction in the amount of the bill.

When we undertook the making of complete comprehensive group diagnostic studies, the history taking, general physical examination, laboratory and X-ray examinations being made at my office, while examinations in certain special domains (ophthalmology, laryngology, psychiatry, gynecology, urology, orthopedics, neurosurgery, electrocardiography, etc.) were made at the offices of selected specialists in the city, I was able to arrange with those who collaborated in the work that a single "blanket fee" should be collected for the whole study. Each one who participated in the examinations informed my bookkeeper what his normal charge for his services in the particular case would be. If the total amount proved to be no hardship for the patient, it was collected by my bookkeeper and each participant received from her his full fee. Very often, however, the total regular cost exceeded the amount that the patient in his circumstances should pay, in which case only a portion of it entirely compatible with the patient's means was collected; if this portion was half the amount or only one-tenth of the amount of the ordinary total charges, each participant (including my office) received correspondingly one-half or one-tenth of his regular fee. This method too has proven to be very satisfactory since in obscure cases in which an extensive diagnostic study is unavoidable to make the complete diagnosis clear, it can be carried out satisfactorily and without financial hardship to any patient. It is the duty of physicians to see to it that patients shall receive the medical attention that they need irrespective of their means.

Chapter XVII. BY WAY OF RECREATION

OWING TO THE FACT that I have been engaged in university teaching most of my life, I early formed the habit of taking a three months' vacation away from home each summer and kept this up even after 1914, leaving my private practice in the care of my associates. This regular holiday has, I am sure, been conducive to health and to an increase of life expectancy. Moreover, it gave greater opportunity for medical writing, for it was my custom even when on vacation to spend two or three hours daily at my desk.

In the nineties, I had short summer vacations at Halifax, and at Chester, Nova Scotia. In the latter place, I enjoyed swimming, as well as fishing for mackerel. The bay at Chester is full of small and beautiful islands and the waters around them abound in fish. During one of these summers I had a delightful trip through the "Evangeline country"; Longfellow, it is said, never saw it, so I was interested in comparing his descriptions with what was actually there.

During Chicago days I spent two summers fishing at Trout Lake, Wisconsin. One day, while I was trolling with a spoon on a trout line, a big "muskie" (21½ pounds) struck seventy feet behind the boat and leaped several feet into the air. By playing him cautiously, it was possible to bring him to the side of the boat at the end of forty-five minutes, when my

guide, "Old Tom," shot him between the eyes. I had that fish stuffed and mounted!

Vacations with my friends, Dr. and Mrs. Stewart Paton, at North Haven, Maine, gave opportunity for canoeing, sailing, and sea bathing. My first attempts at sailing a small boat were rather ludicrous, for I followed such a devious course that my small craft was nicknamed the "Ataxia." On one occasion, Dr. Paton allowed me to steer his sloop into the landing dock, but I did not release the sheet in time and sailed directly onto the floating dock, landing high and dry!

After our marriage my wife and I spent the summers for many years at the Madawaska Club (Go Home Bay) on the eastern side of the Georgian Bay in Canada. We built a cottage on an island there and found the life of sailing, fishing, swimming, tennis, and picnicking very enjoyable. Many members of the Club were from the University of Toronto and were close friends. At Go Home Bay we entertained at one time or another many guests.

In the spring of 1912, while on a brief vacation, I wrote these "Free Associations of a College Professor on his April Visit to a West Massachusetts Resort."

The students have gone home for the Easter recess. I, Professor Telencephalon, have a whole week's vacation. How can I best secure a breath of fresh air and complete relaxation in the intervening days? My wife is always ready with a suggestion; Mrs. T. is a veritable Bunty at pulling the strings! "Why not go to the Berkshire Hills on your way to Boston and stay at Stockbridge or Lenox?" Lenox in April! The idea startled me, for I knew that autumn was the season in Lenox; it would never have occurred to me to explore it at the end of winter. As usual, my wife had her way, despite my protests against taking a vacation by myself. "Even a professor needs, now and then, a few days

separation from his wife and children," she said. I suppose I must have been getting crotchety lately.

It was arranged then that we spend the night in New York, in that big hotel that Arnold Bennett, peering out of his taxi-cab window, could not see the top of. After an early breakfast of cereal, eggs, and coffee—one dollar seventy for us two, inexcusable extravagance for college folk were it not that we were paying for experience as well as for breakfast—my wife went her way and I mine. My way led to the Grand Central Depot and, along it, my companion, a genial Irish porter from the big hotel, chatted entertainingly of Taft and Roosevelt as he relieved me of the burden of my rather heavy bag. No sooner started than he said to me, "What do you think of Roosevelt?" "He is creating quite a stir, isn't he?" I said feebly, and in the nonpartisan tone that becomes a college professor. "I don't like this third term business," he continued. "Many object to it," I said. "I like Taft"—he tested me. "I do, too," was my reply, palpably noncommittal. What chemical process is it, I wonder, in Irishmen's brains that makes them all instinctively politicians? Professor Starling would suspect that they are overloaded with some particular variety of those hormones that he is always talking about. Queer fellow Starling, interested in hormones! Why doesn't he study something worth while? Some of the things that I am working on, for example! Turning into the station these reflections met sudden check. If you were ever in Germany, you must, at some time or other, have seen a detachment of soldiers on the march. I can see them, and hear them, now, as I revive in memory a certain morning in Leipzig in 1895, in front of the Panorama restaurant. Tramp, tramp, tramp—every old Leipzig student will have similar memories. And, in the Grand Central Station at 8:30 A.M., I saw another army, twelve or fifteen abreast, quick step—tramp, tramp, tramp—the great army of commuters, a seemingly unending company, flowing into New York. Some would like to see a compulsory military service in America, to teach obedience and self-control, to counteract to some extent the lack of discipline and the absence of the feeling for authority said to characterize young America. Here at any rate is one section of the population that subjects itself to rigorous training. Glimpse the faces of this commuting army as I have just done, and the chastening effect will not

escape you. Those eager, earnest, serious faces—somewhat too eager, somewhat too serious—haunt me now and will haunt me!

The Lenoxward journey is not exciting. Urban sensations give place gradually to rural. As landmarks, Stamford, South Norwalk, and Brookfield Junction call for a passing glance, registering progress and diverting attention for single moments only from my book. Of course I have a book. A railway journey without a book would be, for me, a lost opportunity, and to be pleasurable, the book dare not be too "light." Not that I do not enjoy "light" books; a good detective story, the "Broad Highway," or the "Garden of Resurrection," to which you may be superior, give me joy, though not in the train. In me, the jogging of the brain molecules creates an appetite for heavier meat. A man with shaking palsy acquires, I am told, an unusual steadiness when seated in a *fauteuil trépidant;* so I, lover of the light in literature, can, on a railway journey, scan Alfred Sidgwick's *The Application of Logic* or Paulsen's *Ethics*. One thing is comforting—I do not have to have Polybius, at least not in the original Greek.

From New Milford on, the scenery grows ever more interesting. We pass Canaan and, leaving Connecticut, enter Western Massachusetts, soon reaching Great Barrington, in the Berkshire Hills. Ascending the swift-winding Housatonic, we pass through Stockbridge and Lee and are at Lenox. At least we are at Lenox station, for Lenox is two miles and a half west on the ridge. Forgetting for the moment that I am not in London or Munich, I ask for a cab; in those cities professors may drive in cabs. My interlocutor quickly disillusions me: "You'd better take the little trolley up the hill for a nickel. They'll charge you two-fifty in a cab."

The two large hotels are closed, but I am most comfortably lodged in the "Grey Cottage" in a room with a bow window, flooded with light from the south. Overhead, Lenox is perfect today. Banks of clouds hang lazily in mid-air with brilliant blue between. Underfoot, it suffers from the three inches of snow that fell yesterday, and the streets and earthwalks are a bog. The snow is melting rapidly though there is still a white carpet beneath the trees and along the northern edges of the woods.

The shopkeeper from whom I bought a pair of rubbers either never walks in Lenox and is ignorant of the roads, or he advised a route to

make his customer glad of his purchase. "Go straight out West Street toward Bald Head," he said, "and you will find a road to the right that will bring you back into the village." His statement proved correct. Two hours of mud-wading! It was good exercise and, in reality, rewarding, though the sort of exercise one would never have taken had one not become committed to it unawares. This is probably the muddiest road in Lenox. After a mile or two on the West road you turn to the right along the "undermountain" road; skirting the edges of the fields when the bog deepens, the energetic walker can make his way through. The crisp mountain air more than compensates for the discomfort beneath, and does not Müller's *My System*, faithfully twisted through on all those dark winter mornings, guarantee immunity from sore muscles tomorrow. *Scap, scap, splash.* The sounds produced as I sink into the slush are but little susceptible to onomatopoeic reproduction. One would need the tone sense of that remarkable book in which the songs of birds are written on a musical staff adequately to represent them.

But how the mind becomes clarified as the walk proceeds! Suddenly one is surprised to find one's self turning a tune—the first in months. And I notice that this spontaneity coincides with down-grade portions of the road; to disappear on ascent. I have been in this delicious mountain air only a couple of hours, and I am subtly changed. What, I wonder, has happened? I must ask my Gallophile colleague in the medical faculty, Professor Lien.* You must sometime have noticed him in a Pullman for his consultation practice keeps him much upon the road. You can scarcely fail to recognize him, for he is constantly recreating the illusion of those happy days he spent as a graduate student in the Latin Quarter. His Parisian tile with its flat brim and the flower in his buttonhole, *Gil Blas* spread out before him, will sufficiently characterize him—you recall him, I am sure. Lien knows all that is known about the blood. He told me the other day that when a man goes up in a balloon, the number of red corpuscles rapidly increases in the blood, and a whole crowd of young nucleated cells rushes out of the bone marrow into the circulating stream. I suspect that that is what is happening to me as I walk in the rarefied hill air. Lucky for me that Lien is not here, for in his enthusiasm he would be pricking my ear, making blood

* Evidently a reference to my colleague, Dr. W. S. Thayer.

smears, then rushing off to his microscope to look for "nucleated red cells"! I am sure he would explain my euphoria on the ground of a spurt of the blood-making organs. He would probably diagnose it a "haemopoietic upthrust" for, like all of us professors, he loves big words.

Midway on the undermountain road, near the swan pond, the road is a little drier. Up to now, I've had the highway to myself, but, unexpectedly, for a quarter of a mile, the road is enlivened. Four *Backfisch*, evidently here also for the Easter vacation, are, bareheaded, chatting gleefully, spending a half-hour in the open. They diverge from the muddy road, strike out across the open field toward the hollow underneath the Aspinwall—a quartette of virginity—lithe, loquacious, frolicsome, fresh, innocent, inexperienced human embodiments, unwittingly expressing the impulses of the spring.

The great houses at Lenox must be almost completely hidden in the leafy summer. Even at this period, when the bare branches minimize privacy, the settings of the buildings, and their dissemination, prevent obtrusiveness. One gets the impression of multiple focuses of rural enjoyment rather than of a community life. In these motoring days, however, the distances are, I presume, annihilated, and in the season I suspect that the nodal units are more or less welded into a collective whole.

As I trudge along I wonder what kind of life the occupants of these great country places lead. I picture to myself what goes on at a house party on one of these estates, for I, an impecunious professor, have never been, and can scarcely expect to be, invited to visit at Lenox. But it amuses me to speculate on the happenings in these houses, and I can enjoy them as "Prue and I" enjoyed New York. However, have I not read John Galsworthy's *A Country House* as a spur to my imagination? Do its people, I wonder, really rest when they come to Lenox, or are they compelled, by habit, artificially to complicate an existence that they would fain keep simple? Do they here live as they would really desire to live, or is the lengthened chain of convention felt also among these hills, draggingly irksome? I like to think that here the weight of custom may grow lighter, that in this air and in these fields and woods a millionaire may more nearly live the life of normality than is possible for him in town amid the din and bustle of men. It may be that rich women, too, eschewing maid and motor, may, on occasion, in the shelter of these woods, walk as nature intended they should walk, listen

to birds, watch small wild animals at work and play, and smell the scents of the woods, of the wild flowers, and of the odorous earth. That Lenox, in September, must have more to it than golf, tennis, and bridge, motor trips and teas, and the gossip of Newport and Fifth Avenue, my April walk compels me to believe, and to hope. A portion, at least, of what Lenox could be, Lenox surely is.

It is now growing dusk. I have rounded the north end of the valley between ridge and mountain, passed the house which guards it on the left and on the right its great barn and the "cascade" of red sheds that flank it. At a distance in the direction of Stockbridge bowl, one of the great residences stands out with unusual conspicuousness, pillared in front, a sort of guardian at the south. The huge Aspinwall towers high above and behind me on the ridge. A gradual ascent, past thickening houses and a series of oil street lamps and I am back again in the town.

The rosy-cheeked maid at the "Cottage" has brought me tea. Discriminating people these, for it is delicate and fragrant Oolong and not that evil, astringent, brown-complexioned decoction that so often arrives when ingenuously and, by accident, I order the beverage. Comfortably sipped, after two hours walk in the open, how a cup of Oolong accelerates, in the brain box, the flow of one's ideas! The half-hour after tea, as the smoke curls up from a Melachrino, is the time for reverie; I have yielded unreservedly, in my upstair apartment, to a fit of musing. I suddenly recall the time of work and the method of the author of *From a College Window*. Hence this casual scribbling.

On my return to Baltimore, I submitted this sketch to my sister-in-law, Miss Rosalie V. Halsey, for her criticism, as I knew that she had a keen sense of literary values. To my surprise she gave it her general approval and even suggested that after some furbishing up it might be made acceptable for publication in the "contributor's column" of one of the monthly magazines. She made some interesting comments, praising the easy manner in which I digressed, and felt that it was realistic rather than idealistic with regard to Lenox—not a fault but "just unexpected" from me. She asked whether I had actually

read Galsworthy's *Country House*, for if I had she did not see how it could have been a spur to my imagination as to what goes on in Lenox. She thought that *The House with Green Shutters* would have been better for giving an impetus to imagination, even though it had no bearing on the matter dealt with.

Later on, after our children were grown, we spent several delightful summers at Pontresina in the Swiss Engadine, where we stayed at the Hotel Kronenhof owned by the Gredig family. This place under the Bernina Alps was also visited by many pleasant British people, among them the Lord Chief Justice of England (Lord Hewart of Bury), the Bishop of Hereford (Lisle Carr) and Mrs. Carr, Sir Robert Philip and Lady Philip of Edinburgh, Dr. and Mrs. Levington Spry, of Cornwall, and Dr. A. E. Hurst, of London. Those of us who were older were content with long walks, moderate climbing (Piz Languard and the Morteratsch Glacier), and drives about San Moritz or up to the Maloja Pass, but the younger members of our party ascended the higher peaks, including Piz Bernina, Piz Roseg, and Piz Palu. The village of Pontresina lies at an altitude of some 8,000 feet, and the climate in the summer is cool and bracing.

The art of conversation seems to me to have fallen off much in recent years; though it can give great pleasure, too many people seem to be unwilling to make any effort to sustain it. After-dinner conversation at the Kronenhof, though usually in the lighter vein, was always interesting and often informative. We listened to Lord Hewart with especial attention because of his great wisdom. It was he who some years ago published *The New Despotism*, a treatise that deals with the dan-

gers of bureaucratic tyranny that may result from the great extension of administrative law. Here in the United States in recent years, many of our citizens have felt serious concern with regard to newly created administrative agencies that in reality legislate, execute the laws they make, and pass judgment upon their own acts. Thinking people have been shocked by what they regard as the "un-judicial exercise of quasi-judicial powers" by boards that neither fully understand their tasks nor exhibit a full sense of responsibility in the performance of them. I feel sure that Lord Hewart would have viewed this situation as a striking example of what he described and decried in his treatise.

In 1929, despite the situation in Wall Street that year, we planned and carried out an extensive motor trip in Europe, taking our own car and chauffeur (McCormick). We sailed on June 1st from New York on the S. S. *Augustus,* and after landing at Genoa motored to Nice, Avignon, Carcasonne, Barcelona, and Madrid. After a few days sightseeing there (including a bull fight) we motored on to Burgos and San Sebastian, my wife picking up some very nice Spanish samplers on the way. The trip was continued through Biarritz, Bordeaux, Mont Dore, and Vichy to Paris. We spent a week there and then motored through Germany (Baden Baden, Wiesbaden, Halle, Leipzig, Nuremberg, and Munich), where we looked up many acquaintances. We then made Berchtesgaden our headquarters for two weeks, enjoying walks and drives in the surrounding country. (We had not heard of Adolf Hitler then.) From mid-August to early September we made our customary stay at Pontresina, then motoring for a fortnight in Italy (Milan, Genoa, Pisa, Florence, Orvieto, Rome, and

Naples) to sail back to New York on September 21st. It was a truly "grand tour" and seems scarcely credible in view of what was happening to invested savings that year!

In the summer of 1930, after I went to Glasgow to receive an honorary degree, my wife and I sailed on the steamer *Stella Polaris* for Iceland where we attended the ceremonies connected with the thousandth anniversary of the Icelandic parliament at Reykjavik. Formerly the roofs of the cottages of the Icelanders were covered with turf and flowers; some of these old roofs still remained and were very picturesque in comparison with the ugly roofs of corrugated iron by which they were being replaced. Later we sailed to the North Cape and down along the Norwegian coast to land at Newcastle. After a short stay in London and in Paris we went to Rotterdam, where we were joined by Frank and Elizabeth Kent for a motor trip to Pontresina, by way of Cleve, Wiesbaden, Heidelberg, Rothenberg, Nuremberg, Munich, and Oberammergau. At Pontresina we found my sister Grace and Dr. and Mrs. Stewart Paton and their daughter Evelyn.

I could still climb but more slowly than formerly; it took me one and a half hours to climb Alp Languard. On September sixteenth, my sixty-third birthday, I celebrated by helping my relatives imbibe some Dry Monopole. After a pleasant trip in Italy we sailed back to New York on the S.S. *Biancamano* at the end of September. Wall Street had the jitters so badly that I was advised to sell a large part of my securities. We were glad that we had had a good summer but wondered whether we could ever afford to have another.

Before going to Pontresina in 1931, my wife and I arranged to join one of the *Intourist* parties for a twenty-five day trip

through Soviet Russia. We flew 800 miles from Berlin to Moscow (our first airplane experience) and had an excellent opportunity of observing medical, social, and other conditions in the Soviet Republics. Several of our friends were doubtful whether we would be permitted to see or hear anything except what was shown us by official guides and interpreters, especially as neither of us knew the Russian language. But as we understood German and some French we found it possible to visit a number of university professors and to be entertained by some of them without being accompanied by any guide or interpreter and without any noticeable surveillance by the much dreaded Soviet police. Medicine is a kind of freemasonry, and medical men of all nationalities are likely to converse with one another quite freely. My wife and I found that the Russian physicians and scientists were willing to discuss conditions with entire frankness. Many of them were not members of the Communist party; some of them had been strongly opposed to the Revolution but had, after its victory, adapted themselves as well as they could to the new regime. We obtained, I believe, a very fair impression of the medical and scientific situation as it existed, especially in Moscow, Leningrad, and Odessa.

On entering Russia, one could not help but be impressed with the backward state of development of the country. The streets looked drab, the pavements were primitive, the shop windows were largely empty, and long queues of people stood in the streets in front of the co-operative stores, each with a food rations book. Only a few horses and carriages were to be seen and almost no automobiles except for a few belonging to officials and to the tourist agency. The Russians with whom we talked found it hard to believe that there were more than

twenty-six million privately owned automobiles in use in the United States!

The people we saw on the streets looked as though they all belonged to one class (as theoretically they do); there was a striking absence of class distinction in the way of dress or bearing. In the hotels and restaurants we were waited upon by men with rolled-up sleeves and turned in shirts or by men in blouses. The table linen was far from being as spotless as we expect it to be in America.

The "equality of the sexes" was quickly called to our attention. Women (married and single) all work as men do; the married women leave their younger children in the factory crèches when they go to their jobs. To illustrate further the equality of the sexes I may cite an interesting personal experience in Moscow. One day I was seated in a streetcar when a young woman entered it. As every seat was already occupied, I rose and offered her mine, but she declined to accept it. My companion, who knew Russia well, told me that I had "insulted" this young woman for she was strong and well and therefore my "equal." If she had been very old and feeble, or obviously ill, the matter would have been different! I learned later that a woman who is pregnant carries a "pregnancy card," and if she enters a streetcar in which no seat is available, she presents the card to the conductor, who either has a seat vacated for her or arranges for her to stand in one corner of the platform where she can support her back.

The change brought about by the revolution in medical conditions in Russia interested me greatly. I had heard so much about it from Dr. W. H. Gantt (who had done research work in Pavlov's laboratory) that I was especially desirous to un-

derstand it better and to make personal observation of how the new plan worked. Before the Revolution, Russia had some excellent medical schools and hospitals, though there were far too few of them. A number of research institutions had been founded; indeed the original investigations carried on in them had made the names of Pavlov, Metschnikoff, Pirogoff, and Filatov world-famous. But in 1913 there were less than 13,000 physicians in the whole of Russia. The population of Russia was then 150,000,000! Moreover, the doctors practised almost entirely in the cities and larger towns; in some country districts there was only one physician to 30,000 or 40,000 people. Thus the peasant received but little medical attention, though there were some men and women (*feldschers* and *feldscheritzas*) who had received a little medical training and they took care of medical emergencies, were able to perform some minor operations, and had at least some skill in caring for the commoner diseases. The infant mortality rate had been higher than in any other civilized country (four times that of Norway). It was obviously necessary to change radically the medical conditions in the country. Accordingly, in 1918, the Soviet government decided to adopt a form of state medicine; all medical institutions and the practice of medicine were nationalized, thus becoming a function and responsibility of the state. It was exceedingly fortunate for the Soviet peoples that just at this time a man of great executive ability and wise in foresight, Dr. N. A. Semashko, was available as Commissar of Health. He believed that medicine in Russia should, in the circumstances, be socialized, that medical aid should be made accessible to all citizens, that the medical personnel should be properly qualified, and that great emphasis should be placed upon the pre-

vention of disease. He planned to make all physicians, nurses, pharmacists, and *feldschers* civil servants; all hospitals, sanitoriums, and drugstores were to become state institutions. He desired as soon as possible to introduce measures for reducing the incidence of tuberculosis, venereal disease, and contagious diseases of all kinds; and he started a wide-spread campaign of instruction of the masses in the methods of maintaining positive health. Semashko soon gained the respect and loyal cooperation of a large proportion of the physicians of the country in carrying out his plans. In order to supply quickly a greatly increased number of practising physicians, the system of medical education had to be markedly altered. The amount of theoretical instruction had to be reduced for the time being; the courses in the medical schools were made eminently practical. Each medical faculty was divided into three parts: (1) a curative-prophylactic faculty for training internists, surgeons, and dentists; (2) a hygienic-prophylactic faculty for training public health officials, epidemiologists, and dietitians; and (3) a faculty for maternal and child welfare in which obstetricians and pediatricians were trained. This set-up made it necessary for each medical student to specialize almost from the beginning of his course; on graduation he was therefore a specialist rather than a general practitioner with an all-around training. Women students outnumbered the men in the medical schools. Each student while in training had to visit factories to study the sanitary conditions in them, had to examine the conditions under which pupils work in the public schools, and was required also to inspect the overcrowded homes of the masses in order to see the hygienic defects of the ordinary lives of the workers and peasants. The social service point of view and a

knowledge of methods of preventing disease were thus early inculcated. It was very interesting to observe at first hand the methods of a thorough-going state medicine as planned by Semashko. Though even at the time of our visit the number of physicians was still far too small, there were then 37,500 instead of the earlier 13,000, and it was expected that by 1933 there would be some 82,000 practitioners. Private practice had not yet been entirely abolished, but every physician was required to work six hours daily for the state, after which he might treat private patients for pay if he were asked to do so. It seemed probable that it would not be long before private practice would disappear entirely and that then all medical care would be paid for by the state.

Efforts at educating the masses in health matters included public lectures, newspaper articles, radio talks, moving pictures, colored medical posters, health museums, and traveling medical exhibits. Through all of these, the people were taught the causes of disease, the ways of avoiding the causes, and the habits of life best suited for the maintenance of positive health.

There are no illegitimate children in Russia, for every child born, whether in or out of wedlock is legitimized, the handicap of "illegitimacy" being considered to be unfair to any child. A woman who is pregnant but does not desire the child may up to two and a half months of pregnancy have an abortion done legally and skillfully in a gynecological clinic. I saw two of these abortions done one morning in Leningrad; some ten to fifteen were performed in that clinic for "social reasons" every morning! Since our visit such legalized abortion has, I am told, been abolished.

Certain institutions had been organized for special health

purposes. Children that entered the public schools in a markedly undernourished condition were sent to "forest schools," where they lived for two or three months under better hygienic conditions, gaining weight and learning how to eat and how to live before they were returned to the ordinary schools. Besides the sanitariums for severe cases of tuberculosis, "day sanitariums" and "night sanitariums" were provided for persons predisposed to tuberculosis and for those with incipient tuberculosis but who could do part-time work. Many of the larger factories supplied one or more meals to their laborers during working hours, and here the factory diet kitchens prepared four or five different kinds of meals to meet the special needs of those who had gastric hyperacidity, suffered from chronic constipation, or exhibited either obesity or undernutrition.

In Moscow I talked with Professor Petrov, the head of the Society for Cultural Relations with Foreign Countries, with Dr. Oettinger, a representative of the Central Department of Health, and with the internist Professor Roman Luria. In Leningrad, I had an interview with the head of the Dietetic Institute there, and in Odessa I talked with Professor Buchstab, the head of the Heart Clinic, a man much interested in hydrotherapy and other forms of physical therapy. All these men seemed to be pleased with the great advances that had been made in the medical care of the people as a result of the reforms inaugurated by Semashko. Though conditions were still far from ideal, they were grateful for the substantial progress that had been made and hoped for still better things later on.

The institutes of medical research were being increased in number, and some of the important scientists of the old regime,

many of whom were not sympathetic with the Revolution, had been retained as heads, though in each institute in addition to the "scientific director" there was also a "Red director" who controlled the budgets and gave approval to the appointments made. One serious defect of these research institutes came to light when I heard that the investigators had been informed that the old slogan "science for science's sake" must be replaced by the slogan "science for practical application." Another defect lay in the doctrine that science was to be combined with political economy and with world history into a unitary viewpoint, that of "dialectical materialism."

The Soviet Republics are antireligious; Lenin's statement that "religion is the opiate of the people" is often cited. The beautiful Cathedral of the Redeemer that I photographed while we were in Moscow, has since our visit been torn down to make place for a Soviet "Palace of Labor." Many of the churches have been turned into antireligious museums or worker's clubs. A foreign scientist invited to lecture in Russia may give offense if he favors any doctrine that conflicts with dialectical materialism. I was told that Professor L. Aschoff, a distinguished German pathologist, was much criticized because of his vitalistic views in pathology; as one commentator said, "We do not want God smuggled into Russia in the form of vitalism." Moreover if a Soviet scientist is found to have religious leanings and to give expression to his convictions, he is likely, I was told, to be transferred to a post "in which he can do no harm."

After visiting Moscow, Leningrad, and Nijni-Novgorod, we had a four-day trip by boat down the Volga River to Stalingrad, spent a day in Rostov and a few days in Sochi on the

Black Sea, in the Crimea, and in Odessa, after which we returned to Europe by way of Poland and Vienna.

While in Sochi we had opportunity to observe the habits of the people as regards sea bathing. On one hot day we felt the desire for a dip in the sea and went down to the beach in our bathing suits, carrying bath towels with us. To our amazement we found that everyone went into the sea stark naked, though the part of the beach used by the men was separated by a fence of wire netting from that used by the women. We decided that we could not make ourselves conspicuous by wearing our bathing suits and had to find out how to get around the difficulty of the situation. Finally my wife went to the extreme end of the women's beach while I went to the other end of the men's beach and each of us enjoyed a sea bath *au naturel!*

While in Russia I took a large number of photographs (taking care to avoid interdicted objects like railway stations, fortresses, and the Red Army) and was permitted to take the films with me when I left the country; a number of these photographs were used to illustrate an article entitled "Medical and other conditions in Soviet Russia," published in *The Scientific Monthly* (1932, Vol. 35, pp. 5-33).

My wife and I were very glad that we made the trip, as it gave us a better understanding of the conditions of the Soviet Republics than we could possibly have gained by reading. Though some conditions have changed for the better in Russia since the Revolution, it was hard for us to believe that they could ever become really satisfactory to people who desire *liberty* as well as fraternity and equality before the law. Private capitalism as an economic system seemed to us still to be more desirable than either Communism that Lenin first attempted or

state capitalism which he later adopted as a "temporary expedient," and which Stalin has continued. The private practice of medicine works well in America and should be replaced by state medicine only in so far as private practice fails to meet public needs. We preferred to live in a country in which the rights and sanctity of the human individual are not entirely subordinate to the rights of the state. For us the ideals of a truly democratic society still made a greater appeal than any form of collectivism or totalitarianism. It may be that certain peoples will find themselves happiest under a regime of fascism, of communism, or of socialism, despite wholesale assassinations and wholly unjustifiable persecutions. But for the peoples of America, of China, and of the British Empire, a regime of liberal democracy will, we believe, continue to be the system of choice.

At the end of June, 1941, the Tass Agency wired me as follows:

Despatches from Moscow report leading Soviet scientists issued statement appealing scientists throughout world support Soviet Union against German attack, declaring fascism deadliest enemy science and culture. Would greatly appreciate statement about two hundred words from you for publication in press of Soviet Union, commenting on appeal of Soviet Scientists. Telegraph reply collect to telegraph agency of USSR, 50 Rockefeller Plaza, New York City.

I replied:

The majority of scientists in the United States would, I feel sure, be glad to see Hitler fail in his attack on Soviet Russia. The attempts of Hitler and his associates to secure racial dominance in the name of eugenics may be regarded as a travesty on science, for science should be international and non-political. The persecution of Jews, Catholics, and other races and creeds by the Nazis cannot be condoned by those of us who have the good of science and humanity at heart. We must welcome

the replacement of the old order that favored hereditary classes and caste dominance by the modern ideal in which the good of the individual as well as that of society is the end desired. We have a strong belief in the importance of industrial freedom with the minimum of social control by organized Society and we insist upon the promise of equal environmental opportunity for all.

During our last summer vacation in Europe, my wife and I spent a few weeks in Great Britain. At a little village in Wales, we found H. G. Wells staying at the inn and had the pleasure of playing bridge with him and one of his friends.

For a time we indulged in a winter holiday, either in Georgia or in Florida. Through the kindness of my friend Dr. Walter B. James of New York City, my wife and I were invited to become members of the Jekyl Island Club of Georgia. Having heard that there were several multi-millionaires in the club I felt that with our modest means we would be entirely out of place, but Walter James told me that we would be surprised to find how simple the life at the club was and that there was no better place to spend a month in winter. My wife and I did find the members very congenial, and we were especially pleased to note the absence of display of any sort. Those who went to Jekyl Island did so because they enjoyed the open-air life in winter, a game of golf, or a quiet place to read. Many of the acquaintances we made there gave us genuine pleasure. Among them were Mr. and Mrs. Robert DeForest, who gave the American Wing to the Metropolitan Museum—in which my wife's brother, Mr. R. T. H. Halsey, has always been deeply interested—and Mr. George Baker, the New York banker, who had been very generous in gifts to Harvard, and who presented Dartmouth College with a library in memory of his brother. Mr. Henry F. Fisher was at Jekyl Island with

his charming wife (Alice Agnew), who is a cousin of Dr. Stewart Paton.

One of the members at Jekyl proved to be a great friend of my wife's delightful Aunt Carrie Putnam. A few days after we became acquainted, this member, Helen Jenkins, asked my wife whether or not the Johns Hopkins Medical School owned a portrait of me. On receiving a reply in the negative, she promptly said, "I shall give one." Though of course greatly pleased, I felt that I should show a becoming modesty, and asked the would-be donor, "How do you know the School would care to have such a portrait?" She said, "I'll soon find out, for I'll wire my friend Frank Goodnow, the President of the Johns Hopkins University." Next day when we came in to lunch she waved a telegram from President Goodnow—"Delighted to have the portrait." It was painted by the distinguished artist Ellen Emmet Rand, of New York City, and now hangs in the Welch Library of our Medical School. Dr. Welch was asked in 1927 to present the portrait to the University. According to a stenographic report made by Miss Humpton, he spoke as follows:

I deem it a very great privilege to present on behalf of Mrs. Hartley Jenkins, the donor, this much prized portrait of Dr. Barker to this university.

Mrs. Jenkins has rendered many benefactions to educational institutions, and she has added another by this gift to the Johns Hopkins University. The portrait is by the well-known and accomplished artist, Mrs. Ellen Emmet Rand. Not having the privilege of closely examining the portrait yet, I cannot be sure that everything is in it that has been found in the portrait of Dr. Finney as described by Dr. Bloodgood, but it is delightful for the University to possess this portrait of the charming face of one who has served the University so well these many years. It is thirty-seven years since Dr. Barker received his medical degree from

the University of Toronto, and all but six have been spent in connection with this university. He came here the year following his graduation in medicine and, with the exception of five years in which he served in anatomy in the University of Chicago, his entire medical life has been passed here in Baltimore and in association with the Johns Hopkins University. The versatility which marks his professional career was early made out. He came first on Dr. Osler's staff as assistant resident. I was eager to secure him for the department of pathology and within a year he came as Fellow in Pathology, a position which he held for two years longer, then that as resident pathologist in the hospital, in fact until he left here to go to Chicago in 1894. Dr. Mall attracted him to the department of anatomy, where he identified himself with histology and especially with studies of the human nervous system. In connection with his work in this sphere his name will always be associated. In anatomy and in pathology, as well as in clinical medicine, he has held important chairs in this university. His earliest works, published within a single year, covered subjects in pathology, in anatomy, and in clinical medicine. I was interested on looking into the *Johns Hopkins Hospital Bulletin* to find that his first published work is that in association with Dr. Simon Flexner, now of the Rockefeller Institute, on an epidemic of cerebrospinal meningitis in Lonaconing, in Western Maryland. The results of that investigation are still very often quoted, and it constitutes an admirable study. Within the same year he made a very thorough anatomical-pathological-clinical study of a disease in an infant, a case of scleroderma. And then he made a notable observation in anatomy—inaugurating his work in this field—the demonstration of the presence of iron in the eosinophile leucocytes. I am not going to follow his contributions to medicine, but it seems to me a very brilliant record in preparation for his entry into clinical medicine. These three papers in these three different departments show the caliber of his mind and his versatility in his professional work. He is of course known to us and to the country and to the world essentially as a great clinician. He came here as the successor to Dr. Osler and, as is well-known, upon the strong recommendation of Dr. Osler. I recall so well Dr. Osler's prediction as to what the position of Dr. Barker was to be in this country in the field of medicine. Dr. Barker had always desired to enter this field. His work in anatomy and pathology was an admirable foundation for his

entry into clinical work. For eight years he conducted the medical clinic in succession to Dr. Osler, and there, as previously, he manifested those rare gifts as a teacher that are known to all.

In the change of policy in 1914 he withdrew from the chair of medicine, not in any way losing his influence in the university, because throughout the intervening years no one could have been a more loyal friend to the university than Dr. Barker. I think he made no mistake. He has made himself the leading consultant in Baltimore and a leader of medicine in the country. These qualities as teacher, as investigator, and as a great consultant all are associated with a remarkable personality. I think one never rises to important leadership without unusual personal qualities, and those qualities which have endeared him to his students, to his colleagues, and to his friends are inherent in his mind, his heart, and his character. He has remarkable gifts of assimilating knowledge and of expounding knowledge, remarkable gifts of critical estimation of the work that has been done by others, and he has a full and complete command of his field. He is really in my estimation unsurpassed as a great teacher. I am sure that it is a source of very great pride and joy to his friends and his colleagues that his portrait is to adorn the walls of the university for all time. It is the portrait of a great teacher, a great man, a great friend of the university, who has rendered it services that will never cease to be remembered.

The painter of this portrait, Mrs. Rand, was chosen to paint the official portrait of President Roosevelt in 1933-34 for the White House.

An interesting feature of life at the Jekyl Island Club was transportation by small "red bugs," small four-wheeled vehicles with gasoline motors. When the great financial depression set in in 1929, a number including ourselves thought it the part of wisdom to withdraw from membership, much as they regretted the necessity of doing so.

We spent two brief but pleasant winter vacations in Florida at the Mountain Lake Club (under the management of Mr. Thomas Ruth of Baltimore), to which we were invited by our

friends Dr. and Mrs. Robert T. Miller, Jr. The Clubhouse is beautifully situated in the interior of Florida, and many of the members own their own private houses surrounded by orange groves. But we no longer take vacations in the South, as we prefer to spend the winters in Baltimore and to be content with summer vacations in the North.

For a number of years I played golf at the Elkridge Club on Charles Street Avenue or at the Baltimore Country Club, but had to give it up because of weakness of the left hand due to atrophy resulting from the pressure of a cervical rib on a nerve. In 1917, through the kindness of my friends Dr. Lewis A. Conner and Dr. John Howland, I became a member of the Century Club of New York City and though it was only rarely that I could avail myself of the privileges of the Club, when I did so I was always sure to find there some interesting fellow Centurions.

In later years, we have spent our summer vacations at New London, New Hampshire, near Lake Sunapee, where my wife built two small houses (connected by a large hall), one for ourselves and the other for my son Halsey and his family. As this house is on Barrett Street, my wife called it "Wimpole" since our daughter had had a part in the play called *The Barretts of Wimpole Street*. One of my wife's relatives, Mrs. Bartram Woodruff (with her husband and children), makes her summer home on Lake Sunapee a few miles away.

We have found New London very satisfactory. The climate is pleasant, there is a golf course near by, a Yacht Club on the lake, and an excellent summer theater as well as a good lending library in the village. We can enjoy an occasional game of bridge with any one of a dozen families in the Sunapee dis-

trict. New London has a small but excellent hospital, and there are well-trained medical men in the town as well as many more in near-by Franklin and Concord. The summer homes of our friends President Isaiah Bowman, Dr. Winford Smith, Dr. Simon Flexner, and Dr. F. S. Eveleth lie within easy motoring distance. General Sladen and his family and Admiral and Mrs. Chandler are near neighbors in New London. Each summer my wife's brother, Mr. R. T. H. Halsey, with his wife and two daughters, spends a week or ten days with us. The girls enjoy horseback riding while their elders indulge in much contract bridge. There are trout in neighboring streams for those who like fly-fishing, and the lakes contain larger fish that can be caught with hellgrammites and night-crawlers as bait.

From the front of our dwelling we have a fine view of the Sunapee Mountains to the south and of Mount Ascutney to the west. Mount Kearsarge and Mount Cardigan are only a few miles away and are favorite places for midday picnics. Motor trips to the White Mountains to the north of us and to the Green Mountains to the west make pleasant outings. As we have grown older, we find ourselves better suited to a quiet village life in the New Hampshire uplands in the summer than to the more strenuous water life of the Georgian Bay or the stiff mountain climbing of the Engadine that we enjoyed when we were younger.

Though a member of the Maryland Club for several decades and one of the governors of the Club in 1932, I made but little use of it except for the occasional entertainment of out-of-town visitors at luncheon or dinner. I have also enjoyed a great many pleasant dinners given by other members of the Club. After my seventieth birthday, laying claim to the free-

dom that well befits the later part of life, I decided to visit the Club after office hours on two or three afternoons a week and to join others there in a game of contract bridge. Among the players I found several other Johns Hopkins men (including Professor J. B. Whitehead, Dr. T. R. Brown, Dr. Harvey B. Stone, and Dr. Walter Denny), and I became acquainted with twenty or more other bridge players, some of whom I would scarcely have met in any other way. Among the more constant of the "bridgers" were: R. Pagon, Wilmer Brinton, Julian Gittings, John L. Bailey, George M. Brady, W. Knapp, F. Smart, Allan Carter, Alfred Riggs, Dr. R. M. Chapman, Dr. F. Reid, Hardy Gieske, H. N. Bowen, Taggart Steele, William Randol, Col. Preston, Col. Milford, Dr. G. W. Mitchell, M. Dennis, Col. Pendleton, H. Boyce, S. Bruce, F. Gosnell, Gordon Hayes, R. Jones, F. Wood, M. Tilden, George Mister, Howard Adams, Walter Ruth, Ed. Smith, R. S. Mueller, and John S. McEldowney. The stakes played for were so small that no one could be hurt badly by his losses. The majority made use of the Vanderbilt club bid, though some preferred Culbertson bidding, and some "free-wheeling," or "catch as catch can." These men are all intimately acquainted. To one another they are Bob, Bill, Mac, Freddie, Julie, Harry, Duke, or Doc, and there is much good-humored banter during the games. One soon learned something of the psychology of each player and how to interpret certain peculiarities of the bidding and the responses. When one of the players bid, as he often did, "a couple" of something, his partner did well to bear in mind that the bidding hand might not be at all strong! When a certain other player doubled an adverse bid of one, I knew that he always meant a "business

double" and was not asking to be taken out, though any other player so doubling would expect the latter action. A knowledge of the working of the individual minds of the players is important at bridge. Among the onlookers at the games there was one ideal kibitzer, Mr. C. I. T. Gould, who, though he had an excellent knowledge of the game, never commented upon the mistakes that were made by the players he watched. There are, in my experience, but few kibitzers who possess such self-control.

As men grow older they need some form of recreation that will keep them in pleasurable contact with their fellows. I have advised many of my patients to learn to play bridge before they are too old, for I feel sorry for any man in later life who has not learned to enjoy the game. There are some, however, who do not have what is called "card sense"; to these I advise strongly indulgence in some other game (say chess, checkers, dominoes, or backgammon).

At the Maryland Club, too, during the winter, several men were invited by Mr. Summerfield Baldwin to meet in the library of the club for tea once a week and to hear some invited guest speak upon a topic of general interest and to discuss his remarks afterwards. All the men invited to attend were over seventy years of age, so I could not forbear nicknaming this discussion group "the Methuselah Club." Among those attending the meetings, besides Summerfield Baldwin, were W. W. Baldwin, W. J. Bliss, W. W. Cator, Chas. Ellicott, William M. Ellicott, Harry Fielding Reid, C. I. T. Gould, J. Howard, Theodore Marburg, C. G. Osburn, S. C. Rowland, W. T. Shackelford, and T. N. Strother. Occasional spelling bees at the Maryland Club gave pleasure and sometimes dis-

comfiture. I remember once going down on the word "vermilion," which I erroneously spelled with two l's.

Dinner parties are among the many good things that Baltimore has to offer to its residents and visitors. In the nineties, the dinners were elaborate; in recent years they have grown progressively more simple, though the "art of dining" is still warmly appreciated. My wife and I have had our full share of invitations to these functions and have given many dinners ourselves. Though some of the large banquets with after-dinner speeches are pleasant, I enjoy much more a small dinner of six or eight persons.

We are close enough to Washington to be included in some of the entertainments given there. My wife and I were at a luncheon at the White House in President Harding's time, and we also had the privilege of attending the White House dinner given by President and Mrs. Hoover in honor of Speaker Longworth. I enjoyed also a dinner given by the Canadian Club in honor of Mr. Victor Massey when he became Minister from Canada to the United States. Mr. and Mrs. Massey were close friends of the Oslers. Another Washington dinner that I enjoyed much was that of the Gridiron Club to which Mr. Essary of the *Sun* invited me on the night when President Hoover was "roasted" (April 13, 1929).

In later years I have had much enjoyment from listening to selected radio programs. During the winter of 1939, I was kept continuously in bed for nearly three months because of a very persistent purulent bronchitis that did not yield to any method of treatment (since then any return of bronchitis has been promptly checked by the use of one of the sulfonamide compounds). During the illness I had a good radio at my bed-

side and found it a great relief from the tedium. It was not long before I became acquainted with all the radio programs and learned what to avoid as well as what not to miss.

The radio might well be designated "the lazy man's newspaper" for the commentators on the principal chains give one excellent epitomes of what is going on in the world. Besides the news direct from foreign stations, especially interesting during war times, the best of the special news commentators are always interesting. "Information Please" is a weekly pleasure, steadily increasing my astonishment at the wealth of knowledge at the ends of the tongues of F. P. Adams, John Kieran, and Oscar Levant as educed by the chairman, the witty Clifton Fadiman. The "Cavalcade of America" and "Big Town" are two of my favorite programs on the radio and I try never to miss the comedy of Charlie McCarthy, Jack Benny, Fred Allen, and Fibber McGee and Mollie. Bob Hawk's quiz contest has been a real addition recently. On short wave I listen not only to the British Broadcasting Corporation but also to two programs emanating from "Lord Haw Haw" and "Paul Revere" in Germany—a study in contrasts.

When too tired to read and when the radio is not accessible, I avoid ennui by doing the cross-word puzzles of the daily papers. Most of these are rather too easy to be truly stimulating; but not those of the *London Daily Times* to which I subscribed for several years, especially because of the excellent cross-word puzzles devised by the Londoners. The puzzles of Ruth Brooks in the *Boston Herald* also merit special praise. Each week end my wife and I spend a couple of hours on the "Double Acrostic" that Elizabeth Kingsley supplies regularly to the *Saturday Review of Literature*. Some of her puzzles are

very ingeniously contrived, often demanding for their solution free access to the *Encyclopedia Britannica*, the *Oxford Dictionary*, a *Shakespeare Concordance*, a *Dictionary of Phrase and Fable*, Walsh's *International Encyclopedia of Prose, Poetical Quotations*, and the *World Almanac*. Even with the aid of all these, we sometimes find difficulties in solution, but the more difficulties we encounter the greater the pleasure in finally mastering them!

Reading has been a source of never ending pleasure to me. Compelled because of my professional work to read a vast amount of medical literature, it has been a relief during leisure hours to turn to the literary masterpieces of English and American authors. I count the man unfortunate who has not a living taste for good books. I must confess, however, that I find now and then a good detective story also enjoyable. In later life, I have reread many books that were favorites of mine earlier, in addition to newer publications. There is no part of adult life in which one can afford to neglect "communion with the master spirits of mankind." Shakespeare, more than any other author, interests me because of his amazing knowledge of the motives that underlie human behavior. He was well aware of many of those strange secrets of human nature into which the psychoanalysts of today are continually probing. I have read his sonnets and all of his plays over and over again, and each time with undiminished pleasure. I know of no other reading more likely to stimulate, open, and strengthen one's mind. I shall never forget the pleasure I got from reading A. C. Bradley's *Shakespearean Tragedy* and from rereading Hamlet, Othello, King Lear, and Macbeth afterwards.

Chapter XVIII. NO CHLOROFORM AT SIXTY

SINCE I AM NOW seventy-four years old I am naturally inclined to disagree with Dr. Osler's famous remark concerning the disposal of men over sixty. But I am not alone in this, for as a matter of fact, average life expectancy has increased rapidly in the United States during the last 150 years, as shown by the studies of statisticians (Dublin, Pearl, Wilson, and others). In 1800 it was only about thirty years; in 1900 the average duration of life had risen to about forty-five years; and by 1930 it had become fifty-nine and one-half years for males and sixty-two and one-half years for females. It has been estimated that before long average expectancy may approach seventy years.

Obviously, the proportion of older persons in the population has been rapidly increasing, whereas that of children has rapidly decreased. In 1930 there were some twelve million children under five years of age in the United States and about six and a half million persons over sixty-five years of age. By 1975 it is estimated that there will be some thirty millions over sixty (twenty-two millions of them over sixty-five). This great change has been due to the restriction of immigration, to a rapid decline in the birth rate, and to advances in curative and preventive medicine. New problems therefore confront not only the physicians but also the economists and statesmen of this country.

With this change in the population, it is not surprising that interest in longevity and in the general problems of old age should have steadily increased in recent years. Students of old age are known as "gerontologists," and the study of disease in old age is known as "geriatrics." As early as 1909, I. L. Nascher of New York City was writing about geriatrics, and in 1914 he published an important treatise on the subject. In 1922, E. Stanley Hall, the psychologist, wrote an interesting volume entitled *Senescence; the Last Half of Life;* Professor H. D. Rolleston in England in 1922 contributed a treatise entitled *Some Medical Aspects of Old Age;* and in 1930 the late Professor Warthin of Ann Arbor wrote a book entitled *Old Age; the Major Involution.* Since 1939 publications upon old age and its problems have been appearing in large numbers.

I became interested early in the subject and my interest has grown with the years. In 1933, I gave an address entitled "The Senile Patient." In 1939, at the request of Dr. E. V. Cowdry, I wrote an article entitled "Ageing from the Point of View of the Clinician" for the book he edited, *Problems of Ageing; Biological and Medical Aspects.* In the same year, the article "Old People: A Rising National Problem," by R. Helton, published in *Harper's Magazine,* attracted widespread attention, especially among economists, sociologists, and politicians. Several symposia upon old age and its disorders have recently been published, including those in the *Medical Clinics of North America,* the *Surgical Clinics of North America, Mental Hygiene,* and the *American Journal of Orthopsychiatry.*

In all these papers stress is laid upon the distinction between physiological (or natural) old age such as that of Adam in

Shakespeare's *As You Like It,* and pathological old age such as that of King Lear in Shakespeare's play of that name.

Natural old age refers to the involution of the human organism as a whole, which occurs after the fundamental biological functions of the body have been fulfilled. This is inescapable if one lives long enough, no matter how well-born the person is or how hygienically he has lived, for the human body is destined to decline in its functions as it grows old and must ultimately die.

Samuel Paget, the father of Sir James, seems to have been an excellent example of physiological old age. His son said of him that "he died at eighty-two, of that most rare of all the causes of death—mere old age. He had never once been ill, and in the time of his gradual decay nothing erred from its just proportion in the work of life; only there became gradually less of everything belonging to this life, and in due time everything slowly and coincidentally ceased."

In pathological old age, there is premature breakdown of one or more of the organs (or organ systems) as a result of bad inheritance, of harmful environmental influences, or of both combined. Chronic heart disease, Bright's disease of the kidneys, thickening of the arteries, senile dementia, and other senile psychoses are examples of the commoner disorders that accompany pathological aging. Nothing is more sad than to observe the wreck of human nature (especially if it has been powerful earlier) after mischief has been at work upon the brain. Samuel Johnson was, of course, utterly wrong in thinking that torpidity of mind in old age is always from want of use and a man's own fault.

In the spring of 1941, the Josiah L. Macy Foundation,

which had earlier financed the publication of the book edited by Dr. Cowdry, provided the funds for paying the expenses of a conference held at the National Institute of Health in Washington on "Mental Health in Late Maturity." At this conference a large group of leading neurologists, psychologists, and psychiatrists (selected by Dr. E. J. Stieglitz) participated in the discussions. At the dinner meeting of this conference I was asked to speak on "Psychotherapy in the Practice of Geriatrics," and President Carmichael of Tufts College made an address on "The Value of the Older Mind in National Defense." The published proceedings of this conference contain a wealth of valuable material for all who are interested in the problems of old age. A new volume, *Geriatrics* edited by Dr. Stieglitz, provides medical practitioners with the latest information bearing upon the diseases of old age. Such a publication is most timely since physicians from now on will have a relatively greater number of elderly patients as contrasted with the steadily diminishing number of children who will require treatment. The practice of geriatrics is therefore likely to become fully as important as the practice of pediatrics, and the prevention of disease in the old is likely to excite almost as much interest as prevention of disease in the young. The distinguished Harvard physiologist, W. B. Cannon in a recent paper in *Science* (1941, 94: 171-179) entitled "Problems Confronting Medical Investigators" has emphasized the need of research upon the disorders of senescence.

Sociologists, economists, and politicians are also finding new problems to solve as the average age of the population increases. The plight of older manual workers has become more serious with the advent of the machine age and large-scale production.

Many men of forty or fifty are displaced from their jobs and are compelled to enter the ranks of the unemployed because they cannot maintain the pace of modern speed-up processes. It seems a pity that, thus far, ways have not been found of utilizing the experience of these older persons who have had to give way to younger and more vigorous men. Another serious problem is presented by the men who suffer compulsory retirement from governmental and many lay organizations at a definite chronological age, irrespective of individual variations in capacity in later life. In some instances certain men may have to be retired because they cannot adapt themselves readily enough to new methods or to new work assignments. Some men are still more capable at seventy than are others at fifty. Such compulsory retirement of persons who are still functionally capable may be the cause of severe depression and discouragement. Nothing perhaps will make a man grow old more rapidly and more dangerously than the feeling that he has been permanently "laid on the shelf." Society must find out how to make use of the knowledge and the skills still possessed by these older people, not only for their own good but also for the good of the public at large, for it is socially very unwise to impair the morale of our older people.

Some effort has been made to lighten the burdens of the old by means of pensions and "old age security laws." But the provision of a little money for the retired man is not enough. Though economic security is desirable, the old person must be made to feel that he can still be socially useful and that he can continue to contribute something that is really valuable to the world in which he lives; otherwise we can scarcely expect him to be happy. If a man is made to feel that no one needs him,

he can scarcely fail to be unhappy. He does not like to think that the world has done with him before he has done with the world! Politicians already have been warned with regard to the dangers threatened by a dissatisfied aging population. Attempts to pass laws legitimatizing the "Townsend Plan" and the "Thirty Dollars Every Thursday Movement" have been made in California and in Ohio. Fortunately these attempts failed, for had they been successful these states would have been driven into bankruptcy.

The gravity of these old age problems must obviously be recognized; they should be attacked by scientific methods, and national measures to solve them should be devised and instituted. Unless the American people have the foresight and the will to do this in the near future serious political repercussions may be expected, for elderly voters are becoming so numerous that they will soon be in a position to put enormous pressures upon Congress and upon state legislatures.

Notwithstanding all the difficulties above mentioned and despite the gradual failure of powers in later life, physiological or natural old age is not entirely devoid of compensations. In pathological old age the "debit side" of the ledger certainly greatly exceeds the "credit side," but the debit-credit balance in physiological old age will be found to be less disheartening if it be critically examined. Eric Knight in one of his novels gives the answer of an elderly woman to the question, "Do you mind getting along? Does it worry you?" "Lord love you, no," was her reply; "when you're young age seems just too awful, but the further you get along, the friendlier it seems."

It is true that the views of the general public have at all times been pessimistic rather than optimistic regarding even

normal old age. It may be that the descriptions of old age in the Bible (90th Psalm; Ecclesiastes) have done much to color the popular view and to disseminate deprecatory ideas of the senescent state. When younger people through their reading as well as through their personal observation come to think of old age as a time when the body begins to stoop and become decrepit, the eyesight fails, the teeth are lost, deafness develops, the hands tremble, energies flag, sexual desire and potency wane, slight irritations and inconveniences are felt as burdensome, conservatism and placidity replace venturesomeness and exultancy, and memory deficits tend to become obvious, it is but little wonder perhaps that youth and middle age should be doubtful of the value of life prolonged to the age of seventy or beyond it.

The Greeks, though they cherished some of their aged counselors, were inclined to regard most old people as useless or even harmful, since they asserted that the old become doubtful, suspicious, uncharitable, and selfish, their apparent increase of self-control being due merely to failing desires. In Rome, there was also much discussion of the natural infirmities of old age, though Cato gave advice as to how these could be mitigated and emphasized the pleasures still available to those who were advanced in years.

In English literature, the description by Anthony Trollope (in his novel *The Fixed Period*) of a hypothetical community in which people were compulsorily but painlessly put to death when they approached the age of seventy has been much quoted; it may have been this recommendation of euthanasia that Dr. Osler had in mind when, at the age of fifty-six on saying farewell to his American friends, he spoke of the "rela-

tive uselessness of persons over sixty." And was it not Ariel who said: "To grow old is more difficult than to die?"

Dr. A. S. Warthin, the Ann Arbor pathologist (who died at the age of sixty-seven) gave us a good working philosophy of old age as an antidote to "the modern futilities of life extension of the individual to extreme limits and of possible rejuvenation." He told us how to meet old age with courage and common sense and emphasized the compensations in septuagenarians and octogenarians due to the fact that the spiritual and mental qualities tend to be preserved longer than the other functions. He admitted, however, that the old person approaching his inevitable end with a normal rate of involution but still capable of intellectual pleasure should be regarded as fortunate if he were then blessed with a sudden release before the unhappy days of second childhood came upon him.

Another physician who looked at old age philosophically was Dr. R. Tait McKenzie, the sculptor. In earlier life he had been notably athletic, but he warned his fellow men against vain attempts to carry the pace of the twenties or forties into the seventies when breathlessness on exertion becomes a red light that dare not be passed. Instead of vigorous exercise in later life he advised resort to milder activities like gardening, walking, and swimming. Turkish baths with massage he also recommended for older people. McKenzie felt that when a man has reached the age of seventy he should have gained mental as well as physical poise and should be willing to accept the arm of youth "with grace if not with gratitude." The older person may feel a peculiar satisfaction in doing well and without undue effort many things that the young and untrained have to struggle with unsuccessfully, for to the aid of the

oldster comes the accumulated experience of an active life, the hidden ways of saving energy and of avoiding unnecessary movements, as well as the skills acquired through the years. A man of seventy may enjoy much that he scarcely appreciated at thirty. He appreciates especially contacts with fine minds and personalities, the grace that accompanies polished speaking and writing, and "the use of the inevitable adjective in verse or prose." In his own case McKenzie, on summing up the ledger of his life at seventy, felt that the balance was on the credit side, for the physical losses of age were balanced by flattering recollections of the fine animal he once had been and the loss of power of prolonged effort was offset by his reserves of accumulated knowledge and experience. With Audrey Brown he said to himself, "I shall grow old with autumn and not reluctantly."

The distinguished Zurich neurologist, C. von Monakow, who lived to be seventy-seven, shortly before his death wrote a "panegyric upon natural old age." He felt sure that in very late life there could still be an increase of intellectual acquisitions and a further growth in mental values and capacities. Even productive research may be fruitfully carried on very late in life, for the renowned internist B. Naunyn extended his contributions to the subject of gall stones when he was over eighty, and our own physiologist, Dr. William H. Howell, now an octogenarian, is still advancing our knowledge of the factors of blood coagulation.

My friend Stephen Leacock, Professor of Political Economy in Montreal and perhaps even better known as a humorist, wrote an interesting article entitled "This Business of Growing Old," which was published in the *New York Times Magazine*

at the time of his seventieth birthday. Looking back upon his own years he felt that the reality of life that we learn too late is in the living tissue of it from day to day, not in the expectation of better, nor in the fear of worse for these two things take the very essence out of life. "If only one could live each moment to the full, in a present intense with its own absorption!" There is, he said, some consolation in old age if one has something to pass on—the new life of children and of grandchildren, or, if not that, at least some recollection of good deeds, or of something done that may give one the hope to say *non omnis moriar* (I shall not altogether die). On the whole Leacock is, I fear, rather pessimistic about old age. When I wrote him asking his permission to quote from the article mentioned above, he kindly gave his consent but added: "About the only good thing you can say about old age is, it's better than being dead!"

Many persons would prefer to die rather than to have their lives unduly prolonged. In the summer of 1941, George Bernard Shaw on the eve of his eighty-fifth birthday is reported to have said, "I am trying to die, but I simply cannot do it." Whether he meant it or not, I do not know. But most people will do well to adopt the philosophy of a French writer:

Etre satisfait de son sort,
Quel qu'il soit ne s'en jamais plaindre,
Et regarder venir la mort
Sans la désirer ni la craindre.

Undoubtedly, the growing sense of isolation in old age is one of the hardest things to bear. It is the complaint I hear most often from aged persons. As a striking example of this I may mention the newspaper reports of the one hundred and

second birthday of Mrs. Marie Wappleman on March 23, 1940. She is quoted as saying, "I hope that this birthday may be my last one. I have lived too long. All my friends are gone and I feel alone."

Marriage after the age of seventy is but rarely advisable. Particularly to be condemned is the marriage of an old man to a young woman; December and May having but little in common, such a marriage is almost sure to end disastrously though I have seen occasional exceptions. Now and then an elderly widower may with advantage marry an elderly widow, both thus securing companionship that lessens the ennui of a lonely old age and avoiding living with relatives. I once practically *ordered* a bachelor of seventy-two to marry a spinster a good many years his junior. This was contrary to my ordinary procedure with patients, which is to give counsel rather than to order, to suggest rather than to command. The circumstances were however, so peculiar that they make an interesting story. The man had been in love with the woman for over thirty years and had asked her to marry him at least three times. Each time his offer was accepted, but immediately after each acceptance he became conscience-stricken because he recalled that as a young man he had "dandled" the young girl on his knee, and he broke off the engagement. The lady after the rupture of the third engagement went abroad, where she lived for many years. Meanwhile, the man had become very wealthy and had endowed several educational institutions. He interviewed me one day as to the advisability of again proposing marriage to the lady he had so long loved. I suggested that he bring her to see me. He did so on a Sunday and on talking to her alone, I found that she had always wished to marry the man and would

be glad to do so at once but she said, "It is impossible for him to bring himself to marry. Since his recent interview with you I see the same old signs developing in him. I do not believe that you, Dr. Barker, or anyone else could make him actually marry." I went to another part of the house and found out by telephoning a lawyer where a marriage license could be obtained on Sunday. I next telephoned Reverend Arthur Kinsolving and asked him if he could marry two people if I brought them to him as I felt that they should be married that day (I did not mention their ages). He said that if I felt the matter was urgent he would be glad to officiate. I then called a taxi and asked them to get into it. The gentleman looked surprised and asked what I meant. I said, "I am taking you into town to be married." He immediately expostulated, asserting that he must have time to make arrangements. I said to him, "I am sorry Mr.——. You have been making arrangements for thirty-five years without much success; I have made the arrangements today. Kindly enter the cab." We secured the license, and Mr. Kinsolving married them, his daughter and I acting as witnesses. They lived most happily together for more than six years before the husband's death. On the second anniversary of their marriage, the wife wrote me a grateful letter in which she said, "I do not suppose that any two persons were ever more indebted to a third than my husband and I are to you." Though capable of most important decisions in business matters, this man suffered from a queer psychasthenic quirk that made a decision to marry difficult. He had practically to be commanded to do the thing that he knew he ought to do.

That longevity is largely determined by heredity is now generally recognized by medical men. Dr. James S. McLester

put it well when he said, "the arc of the bullet is determined by the charge behind it before it leaves the muzzle." A young admirer of the late Professor William H. Welch (who lived to be well over eighty) was curious as to the explanation of his length of life that Dr. Welch would give. The conversation, as it was reported to me, is of some interest.

"Have you been especially careful about your diet?" he asked.

"No," said Dr. Welch, "I have always eaten whatever I liked; I have enjoyed good food and plenty of it."

"Have you exercised regularly and if so how?" he asked.

"No," was the answer, "I have walked some but not a great deal; I do take a Turkish bath and have massage occasionally."

"Have you been abstemious with regard to alcohol and tobacco?" was the next question, to which the reply was:

"I never became intoxicated from alcohol though I enjoy it in moderation. I smoke a good many cigars every day."

Evidently Dr. Welch had not steered entirely clear of what are ordinarily regarded as "the means of weakness and debility."

Finally came the question, "How do you explain your health and longevity?"

Dr. Welch replied, "I am inclined to attribute them to my wisdom in the selection of my ancestors."

Nevertheless, much can be done by the adoption of appropriate hygienic measures after middle life to promote longevity. Regular vacations (summer and winter), and temperance in diet and in the use of alcohol and tobacco are desirable. I have always preached moderation rather than asceticism. Physicians have found that people are more easily led than driven in

matters connected with the dietetic, physical, intellectual and even the spiritual limitations of the advancing years. Tactful suggestion is often more helpful than abitrary command.

In an address I made in 1940, I included some remarks upon my own personal experience with longevity. I myself, I said, have had the good fortune to have lived longer than the average man and, because of long-lived Canadian ancestors and a relatively favorable environment, have thus far escaped most of the infirmities and disabilities that all too often accompany longevity. I am reconciled to the fact that the duration of human life is definitely limited but shall be glad to continue to live as long as I can be professionally and socially useful, hoping however that when usefulness is over, release may come painlessly, and all the better if suddenly, without my being required to linger on for a long time as a burden to myself or to others. After seventy, one's reason tells one that the anticipation of many more years of life is not justifiable; one should count every year after one's seventieth as "velvet." This fact was obviously in the mind of the great German clinician Adolf Kussmaul, when, writing when he was nearly eighty, he closed his memoirs with the following lines:

Der abend verglüht und die Nacht bricht ein
Flimmernder Staub im Sonnenschein
Bald wirst du im Dunkel verschwunden sein.

An old man should know when the time has come "to lower sails and gather in his ropes."

I still have a great pleasure in unravelling the tangled skeins of intricate and difficult medical diagnostic problems in hospitals and in private practice and in planning comprehensive

therapeutic regimes suited to the management of multidimensional diagnostic findings. As I look back upon my life, I see no very great performances, but I have had much happiness in work, and I tried to make it of the best quality of which I was capable. As to ultimate philosophical considerations, I can truthfully say that I was more concerned with them in my youth than I have been during the approach to senescence. With the late Viscount Haldane, I think I have learned that it is on how to live, not on how to die, that one ought to concentrate. Samuel Johnson said: "The act of dying is not of importance; it lasts so short a time." I have been with many persons while they died; the majority of them had not been at all aware of the approach of death. I am grateful for having been privileged to live during a marvelous period of medical and scientific advances. One has only to read *The Development of the Sciences* in the volume produced by a group of professors at Yale in order to be deeply impressed by the progress in mathematics, astronomy, physics, chemistry, biology, geology, and medicine during the last fifty years. A medical man may be glad and thankful to have lived during these years and to have tried to do his part in furthering medical progress. It has been a joy to watch and to endeavor to participate in the conquest of a large number of the infectious diseases and the extension of preventive sanitary measures, to witness the extraordinary progress of our knowledge of nutrition, metabolism, and endocrinology during the fifty years that have elapsed since I graduated in medicine, to learn how to make use of the newer physical, chemical, biological, and psychological methods, and to observe the beneficial effects of penetrating the bodies of sick human beings with the magic bullets of salvarsan, sulfanilamide

and sulfadiazine. Within a few hours my chauffeur can bring me from the medical libraries of the city fifty books or articles in English, French, and German bearing upon any topic in which I am interested. The telephone, electric light, the automobile, the airplane, the X-ray, radium, the moving picture, the radio, electrical refrigeration in homes, air conditioning, synthetic textiles, the electron microscope, and television are all developments of the period through which I have lived. On flying to Oklahoma City and back recently, it seemed almost incredible that I could reach Chicago in less than four hours after leaving Washington and that I could be in Oklahoma City in six and one-half hours after leaving Chicago. It continues to astound me that I can sit before my radio in the evening and within fifteen minutes hear short talks about world conditions from London, Berlin, Paris, Moscow, Cairo, Rome, and Batavia. I am daily thankful that it has been my lot to live in the United States of America rather than in a country that is under a totalitarian government. As I bring this volume to a conclusion, in December 1941, Japan, Germany and Italy are waging war against us. We are compelled to fight them, for it would be better to die than to be enslaved by them. We must defend liberty and right and all that we hold sacred as men. Two days ago the young United States Army aviator, Colin P. Kelly, Jr., sacrificed his life deliberately on bombing successfully a great Japanese warship near the Philippine Islands. His tearless wife says: "I am proud of him; and Corkie [their one-year-old son] will be proud of him." But the eyes of some of her fellow Americans, including mine, are moistened.

I have greatly enjoyed reading *Gone With the Wind* and

have been deeply moved by *Grapes of Wrath.* I have my pet diversions of crossword puzzles and acrostics, as well as an occasional game of contract bridge. Even to the Lucullan pleasures I am not wholly indifferent, for I enjoy a mild cigar after each meal, a glass or two of good wine at a dinner party, and the oysters, terrapin, soft-shelled crabs, and fried chicken of Maryland! In addition to unusually happy marital and familial experiences, I have been blessed with loyal associates and a host of good friends and acquaintances who have added hugely to the joys of my life. With R. Tait McKenzie, I must admit that I have "had a good run" and that I should be willing to "call it a day"; and for my friends I can wish nothing better than that they may have as many happy memories as I have when they approach the sunset of their lives.

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INDEX

INDEX

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