

The Education of A Backwoods Hoosier¹

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Education is a theme which is on almost everybody's tongue. Enormous sums are spent, in this country particularly, for educational purposes. Not only are tuition fees of great magnitude extracted from students in many colleges and universities, but vast sums of the taxpayers' money are voted annually for the free education of our children. The educational problem has many angles, and a story of how one person became educated is probably typical of many millions.

First of all the question is pertinent, "What is education?" We may get one answer to this question from the philological background. The English word "education" is an Anglicized Latin word, in fact a Latin verb. It is derived from the word *educō*, the original and primal meaning of which is "I lead out." Its secondary meaning is, to care for a child in all of his various activities, physical, mental and moral. There are as many different definitions and ideas of education as there are of people who ever think upon this subject at all. The most general notion is to prepare a child for his activities in after-life. As we study the curricula of our free schools and see what efforts are made to fill our children with learning, we begin to surmise that modern education is not leading out, but filling in. The things that are poured into our children's minds from the ages of six to twenty-two, when they finally emerge with a Bachelor's degree is something to excite wonder and admiration. The school becomes a filling station.

President A. Lawrence Lowell in the April number of the *Forum* has an interesting article on self-education in college. He stresses the point that the chief actor in implanting instruction, or in receiving it, is the student himself. Most of

¹ Address delivered to the Literary Society of Washington, April 14, 1928.

the money from the college endowments and students' fees, however, are spent on the salaries of the professors. The graduates of colleges have also ideas in regard to the proper purpose of education, as well as the professors and president. President Lowell tells of different points of view of education held by an alumnus of Princeton at the time Woodrow Wilson was president of that institution. Wilson remarked that the side shows, namely, football, baseball, tennis and track events, overshadowed the main tent; whereas an alumnus at the same time is said to have complained that President Wilson had turned the "dear old college into a damned educational institution."

After all, my observation has led me to believe that the student himself is the main factor in his own education, no matter what kind of education it is. If the student is not educating himself, he fails to get the real benefit from the flood of learning poured into his mind by his teachers and professors.

There are two great factors in the history of every human being. The first and most important is known as heredity. One's heredity is determined once for all in the fertilization of the germ plasm. Some persons are born with an education. They are descendants of a long line of educated fathers and mothers. Henry Adams complained that he did not get much benefit from his studies at Harvard. The trouble was that he was educated before he was born and had everything from heredity that the environment of Harvard could give him. The other factor in the making of the character and the career of the human being is environment. While heredity is instantaneous and incapable of any change from that moment, environment is a continuing influence, beginning before birth and continuing until we draw our last breath. Professor Minot, a student of heredity and environment, told me once that a baby learned more in its first year of life on earth than the entire amount of knowledge he acquired from one year until he lived to be eighty. At first this statement seemed incredible to me, but when he went on to explain what a child learned during its first year of life, I began to see clearly that he was right. He said at birth a child is absolutely void of anything but an instinct to take his own food. He has no intelligence, no judgment, no power of self-support; a mere colloidal mass. At the end of the year he can laugh, say a few

words, take notice of everything around him, usually able to walk and to display a wonderful amount of intelligence on many different things. It is through environment that our education is accomplished. In the first years of our life, up to perhaps twenty-two or more, we depend upon our parents for the proper educational environment. From the time, however, that we begin to reason, which is at an indefinite age, to which some of us never really attain, unless we collaborate with our parents, all their efforts for leading us out are doomed to failure. How important, then, it is that those features of our environment which impede rather than promote education, should be removed!

President Lowell, in the paper which I have already cited, regrets that boys are not prepared for college at an earlier date than they are at present. He cites that the average of Harvard freshmen is about eighteen, whereas he thinks the average age of freshmen should be about sixteen. As college graduates usually follow some profession, they would be able then to begin their professional life at the age of twenty-four instead of at twenty-six, as the case is at present. Unfortunately President Lowell does not point out the way by means of which this desirable change could be secured. I think I am able to throw a little light on this matter. In the first place, the topics that are taught in our graded schools are entirely too many for real educational purposes. It would be a tremendous lightening of the burden on our children in the early years of their school activities if at least one thing which they are compelled to learn should be omitted. We all admire our system of decimal coinage which makes matters involving money so simple that the dullest boy can quickly learn to count money. If we had simplified our other measures of quantity, length and weight, as we have done in the case of our currency, it would be easy to deliver sixteen year old boys to our colleges without any difficulty whatever. How unfortunate it was that our fathers, in breaking away from the British coinage, did not complete the transit to a system of weights and measures of a decimal character equally as simple and easily learned as our money system. The failure to do this has cost millions of years of worry and despair to our school children.

Not only is our money system decimalized, but the weights of some of our coins are in the decimal system. For instance

a nickle weighs just five grams, a silver half dollar fifty grams, a silver quarter twenty-five grams, and a silver ten cent piece 2.5 grams. Without changing in any way the value of gold in our gold coinage, and with very little change in the alloy, every one of our gold pieces would have a definite decimal weight. The silver dollar, unfortunately, does not weigh twice as much as the silver half dollar, but without changing the quantity therein, it would be easily adjusted thereto. A slight change in the value of our pound would make it exactly 500 grams. A slight change in the volume of our quart would make it exactly one liter. A slight change in the length of our yard stick would make it exactly one meter. These few changes which Congress could order in a day, would abolish our present barbarous system of weights and measures. The Bureau of Standards has issued a volume containing all the weights and measures of the different states and municipalities, making in all a volume of 700 pages of fine print.

Two important events occurred in 1844. The first of these, in order of time, was the sending of the first telegraphic message. I am of the opinion that our college graduates in those days had acquired very considerably more Greek than they possess at the present time. The word telegraph is composed of two Greek words meaning, "writing at a distance." When William Cullen Bryant wrote his beautiful ode on "death" he also understood Greek when he named it *Thanatopsis*. When, however, at the present day, we discover vision at a distance we fail to understand how to express that fact properly in Greek. We do not call it "telopsis," or "teloptky." We call it that mongrel word, "television," half Greek and half Latin. How unfortunate it would have been if telegraphy had been discovered in 1814. The battle of New Orleans was fought after peace had been made with England. The telegraph would have carried the news, the battle would not have been fought, Jackson would not have been President, and January 8 would never have been a day for Democratic love feasts.

From my own particular point of view the second important event, chronologically, in 1844, was my advent upon this planet. Perhaps from one point of view I may be congratulated on arriving on this planet at the very moment of the renaissance in invention and discovery of all kinds. Very little discovery and few inventions of a startling character had featured the century from 1744 to 1844. The array of as-

tonishing things in the eighty-four years is so prodigious as to make it impossible even to catalogue them. It is not necessary to enumerate them all, nor even any considerable part of them. To have lived while all these things have been discovered is the highest privilege that I can think of.

In 1844, in the last year of John Tyler's administration, the facilities of public instruction in the backwoods of Indiana were extremely meager. The conditions had not improved very much when I reached the school age of six in 1850. Soon after that, however, the legislature of the state of Indiana inaugurated some highly interesting educational activities.

Through the courtesy of Mr. Louis J. Bailey, Director of the Indiana State Library, I have been able to get the particulars of one of these most important engines of education. In 1852 the legislature enacted a law entitled, "School Tax for Libraries."² The money to be used for this purpose was raised as follows:

There shall be assessed, collected and paid as the State and county revenues are assessed, collected, and paid: *First*. On the list of property taxable for State purposes, the sum of one-quarter of one mill on each one dollar. *Second*. and There shall be paid by every person liable to pay a poll tax for State purposes, the sum of twenty-five cents: *Provided*, That said tax shall continue for two years only.

These moneys were to be expended for the purpose of purchasing township school libraries under the direction of the State Board of Education, but no sectarian work could be admitted into such libraries. These libraries were divided into units of 100 or more books, and they were sent to each township in the state having a sufficient population to receive one of the libraries. It remained there for a limited time only, under the care of the township trustee. These books were then moved to the next township and a new set of books brought in. Usually each township had two sets of books every year.

These libraries afforded opportunity to the boys and girls and the grown people of the state of Indiana to read carefully selected works of history, literature, science and philosophy, and thus engendered a love of knowledge among our people which would otherwise have been impossible to secure.

I sometimes think that these peripatetic libraries did more

² *The Revised Statutes of the State of Indiana passed at the Thirty-Sixth session of the General Assembly*, Vol. I, p.456 (Indianapolis, 1852).

to develop the many eminent writers, professors, teachers, historians, and politicians, for which the state subsequently became so renowned, than any other educational force.

By one boy, particularly, these opportunities to read good books were thoroughly enjoyed. The histories, the literary works, and the scientific volumes which I had the privilege of reading in my early years, I now value as one of the most important of the educational facilities which I enjoyed.

While the larger cities and towns of Indiana had free public schools in the decade from 1850 to 1860, the outlying country districts were not thus blessed. What facilities we did have were known as subscription schools. A group of parents interested in having a school, after selecting a teacher, would go about among the people in the neighborhood and get the number of pupils from each home which would be sent to this school. The tuition fees were moderate, the pay of the teacher small, and the general conditions of the schools were very much like those portrayed by Edward Eggleston in *The Hoosier Schoolmaster*.

I was well acquainted with the Hoosier dialect of southern Indiana long before *The Hoosier Schoolmaster* was published, which fact enabled me to read it with entire ease and understanding. Edward Eggleston was born near the Ohio river in southern Indiana. I made the acquaintance of Edward Eggleston when I came to Washington in 1883. He was a member of the Cosmos Club at that time. A few years later he returned to Madison, Indiana, in Jefferson county, near his birthplace, and there spent the remainder of his days.

These subscription schools were not held every year, and none of the schoolhouses in which they were held was near my own home. Most of them were held during the winter months and often swollen streams and impassable roads made it impossible for children to go a mile and a half or two miles to school. The usual duration of these schools was about three months, and with the frequent interruptions, above described, the full value of the school term was not always received. One factor, however, in this interrupted scheme of study, to which I have just alluded, was the use of McGuffey's *Readers* from the first to the fifth inclusive, according to the grade of the pupil. McGuffey had a distinct talent for selecting appropriate themes for his *Readers*. They reflected the kind of education that learned men appreciated in those

days. There was a touch of the bombastic and oratorical in the selections, which probably would not be found in the readers of today. The stories, however, carried a great message to the boys and girls of southern Indiana. McGuffey was a professor at Miami University, situated near Cincinnati, just a few miles beyond the Indiana line. Later he became professor at the University of Virginia. Just lately there has been a great revival among the McGuffeyites, especially in Indiana and Ohio, who claimed him so long as one of their most distinguished citizens. McGuffey Clubs have been formed and a McGuffey magazine, *The McGuffeyite*, has been established at Indianapolis by those old pupils of his whom he so greatly entertained and instructed in their youth. The same publishing firm that printed McGuffey's *Readers* also printed Ray's *Arithmetic*, which was a co-worker with McGuffey's *Readers* in the instruction I received in my early days.

The backwoods Hoosier had no systematic grade training as the boy of the present day has. The pupils were grouped into classes more on account of age than from any other factor, so that there were perhaps five classes reading in McGuffey's *Readers*, extending from those just entering school to those who were just leaving the school. The school buildings were all one-room schools, with rude benches along the side, and a stove in the middle of the room. The teacher was usually the janitor, although sometimes she appointed some of the older and larger boys for this purpose. The fuel was always wood, cut and hauled by the patrons of the school.

When I was nine years of age an important event happened in the subscription schools, near the village of Kent, a mile and a half distant from my home. We secured as our teacher a graduate of Antioch College, taught by the great Horace Mann himself. Her name was Susanna Way. She was a Quaker, from near Richmond, Indiana. My older sister, later Dr. Elizabeth Corbett, had spent a year at Antioch College and had made the acquaintance of Miss Way, and through the efforts of my sister she was induced to come into the community and undertake this school. It was for a longer period than most of the subscription schools, lasting fully six months. It was my good fortune to read McGuffey's *Fifth Reader* and to study Ray's *Third Part of Arithmetic* under this wonderful teacher.

After this experience, I attended only two additional school

terms, one with John Brazelton as a teacher, in my twelfth or thirteenth year, lasting about six months, and one in my seventeenth year, lasting about an equal time.

Although there was a paucity of learning in schools in the backwoods, there were other means of education which I consider far more important, and of which I had the benefit. My father was one of the original abolitionists, as they were called. He did not believe in human slavery. Both my paternal and my maternal ancestors (the Maxwells), who lived in Kentucky after the Revolutionary War, having warrants for the entry of land (at that time in Virginia), left Kentucky, the Maxwells in 1809, and the Wileys in 1816, and moved to Jefferson county, Indiana, near the Ohio river, in order to get away from slavery. My father subscribed to the *National Era*, a free-soil paper, published at that time in Washington, District of Columbia. During the early fifties Harriet Beecher Stowe published *Uncle Tom's Cabin* as a serial in the *National Era*. We had only one mail a week, namely on Friday. Someone usually went to the village for the mail, but whoever it was had strict orders from my father not to open the pages of the *National Era* until the day's work on the farm was done, the evening meal completed, and the family had gathered around the fireside for the opening of the mail. My father did the reading, and there was more than rapt attention given to the story of Uncle Tom. Alternately we were laughing at the witticisms of Topsy, and the next moment weeping at the cruelty of Legree. This was education of the lasting sort, and was fully imbibed by all members of the family.

My father, although a man of limited means, nevertheless was a subscriber to the *Atlantic Monthly* because of its pronounced anti-slavery attitude. It was there I learned of Harvard College and of the great literary lights of Cambridge, James Russell Lowell, Henry Wadsworth Longfellow, Oliver Wendell Holmes, Edward Everett Hale, and other worthies. It was with keen delight that I read their articles. Never for a moment did I harbor the least expectation that I should become a student at such a renowned institution.

Finally the Civil War came on. I was in my sixteenth year when Lincoln was elected President, and in my seventeenth year the war broke out. My father was too old to become a soldier, and I was too young. However, we both joined a company of Indiana militia. We were mustered in as a cavalry

regiment. The Ohio river was looked upon as the deadline between the North and the South. It so happened that that part of Kentucky immediately across the Ohio river was a hot bed of secessionists. When Lincoln was a candidate for the presidency in 1860, he received only six votes in the whole of Trimble county. Those who had been friends prior to the war became enemies, and there was no commerce between the two banks of the river. We were made a company of cavalry particularly because the services which we were to render the state were largely of a patrol character along the Ohio river.

In 1863 I had reached an age, being then in my nineteenth year, which was critical in the choice of my profession. On both sides of my family those who led a so-called professional life chose, generally, the profession of medicine. My ambition was to become a physician. I was deeply impressed with the fact that a successful physician should be an educated man. On the ninth of April of 1863 at noon I announced to my father that I had chosen medicine as my profession and that I was tired of dirt farming. I further announced my determination, with his permission, to enter Hanover College, which was only about five miles distant from our farm, and situated on the Ohio river. Father made no objection, nor did he offer any assistance. He simply said, "It is all right, son; go ahead with your plan."

Dressed in plain homespun, grown, spun, woven, and tailored on the farm, wearing rough cowhide shoes, made by the village shoemaker, and with no baggage but my ambition, I started across fields and through valleys to Hanover. It was about two o'clock in the afternoon when the spires of the church and the college came into view. I did not know a soul in the village or in the college. My heart failed me as the village came into view. I sat down under a beautiful maple tree, which was just coming into leaf. I became two persons and entered into an earnest discussion with myself. First the farm boy spoke. These were the sentiments he uttered:

All the education you have had has fitted you solely for being a farm boy. You have the reputation of being the best plow boy in the vicinity. You have also mastered the difficult problem of dropping corn [as it was done in those days by hand]; though you have never studied physics you have learned practically that, in dropping corn, you should not aim at the exact place where the rows cross each other, but drop the corn apparently two inches before this point is reached. Experience has taught you that

being in motion, corn thus dropped will fall correctly in the center of the row. Why not turn back home and continue the work for which your training has fitted you?

This was the substance of the argument of the farm boy. Next spoke the expectant physician. This is the tenor of his argument:

I hope to be a doctor. To that end I need a lot of education before my medical studies begin. Latin, especially, is the language of the physician. I know nothing of it now. Should I turn back home and become a farm boy again I shall never know anything about it. If I abandon my present purpose of going to Hanover College it will be the end of my training. I know I shall be a spectacle among the well-groomed and highly cultured professors and students of Hanover. I know my garb will excite the risibilities of the ladies in the village, and probably of the students. I do not know how to address a professor or a college president. I shall be subjected to all kinds of indignities by reason of my clothes and my lack of culture.

When both sides had spoken, a vote was called for. Both the farm boy and the future physician voted to go ahead and not turn my back on a college career.

I had read in the township library about Caesar crossing the Rubicon and Napoleon scaling the Alps. I decided that the Ohio river was my Rubicon and the high hills adjoining it on which Hanover College was built were my Alps. I did not expect either to cross the Rubicon or to scale the Alps, but I did determine to have them near at hand.

When I entered the village I felt completely lost. As I walked along on this warm April day, I saw, through an open window, a young boy studying. I went up to the window and accosted him. I said: "I want to enter Hanover College. How shall I do it?" The boy was at once interested in what I said. He replied: "You must call on Dr. [James] Wood, the president." To me this was a terrible ordeal. I hesitated. He appreciated my embarrassment. Putting down his books, he said, "I will go with you."

That boy was Samuel Wilson Elliot. He was also preparing to enter the freshman class in September. We became classmates. At the end of the sophomore year he left Hanover and finished his academic studies at Washington and Jefferson. He became a useful Presbyterian minister. I never saw him again until the summer of 1912, when I was stumping Indiana advocating the candidacy of Woodrow Wilson for the

presidency. I spoke at Lafayette in the evening. Mr. Charles B. Phelps, a friend of my Purdue days, had invited the citizens of Lafayette to meet me at his house after the speech. There I met once more the boy who first welcomed me to Hanover.

I had not been two minutes in Dr. Wood's presence until all my fear of professors, presidents and college students vanished. I felt completely at home. President Wood asked me a few questions as to what I had studied. I told him I had finished Algebra, Ray's *Third Part of Arithmetic*, had read Ancient History, understood the principles of English grammar, and could speak, with some effort, the English language, although naturally I used the Hoosier dialect. Dr. Wood told me I could not enter college, but that they maintained a preparatory school which I could enter. With all my doubts thus removed, I walked back home, reaching there in time for the evening meal.

Meanwhile I had engaged a room in which to live. I had before this received from a cousin a tuition script issued to David Harvey Maxwell, a brother of my grandfather at the time Hanover was started in 1827. My father had no money to pay my board, so I decided to keep bachelor's hall. The next day my father hitched up the two-horse wagon, loaded a few articles of furniture, an abandoned cooking stove, a bedstead with its accoutrements, some firewood, and drove me to Hanover, where I installed a simple housekeeping, doing my own cooking and dish-washing. There I remained for four years and three months. During the three months training in the preparatory school I acquired a sufficient amount of Latin and Greek to enter the freshman class in the autumn of 1863. I was now fully launched on my collegiate career. In June, 1867, I became the proud possessor of a diploma, authorizing me to enter the community of scholars and educated men as a full-fledged Bachelor of Arts.

Every Saturday morning during the school year I got up early, walked home for breakfast, and did a full day's work upon the farm, for which my father paid me one dollar, the amount of the weekly room rent for my bachelor quarters. During each vacation I worked on the farm and received from my father a small sum of money with which to buy my clothing and the necessary books. My father and mother were both present at my graduation. After the exercises we drove

home in our farm wagon and the next day I entered the harvest field and continued to work on the farm for my father during the summer months.

I owe a great deal of my training to Hanover. It occurred at the most trying time for any college, especially those on the border line of the Confederacy. Therefore, the principal clientele of Hanover College was from the South. This contingent was entirely eliminated. Nevertheless, Hanover College never closed its doors during the whole course of the Civil War. The latter part of my freshman year and nearly the whole of my sophomore year were occupied by my service in Sherman's army and the physical breakdown resulting therefrom. Although a good part of my sophomore year I was an invalid at home, I managed by private study to keep abreast of my classes and by the end of the sophomore year was again in residence. To Mr. Henry Thompson, my tutor in Latin and Greek; to Dr. James Wood, the President of the College; to Professor J. B. Garritt, my professor in Greek; to Professor S. Harrison Thompson, my professor in mathematics; and to Dr. John W. Scott, my professor in the sciences, I owe the greater part of the debt which I shall never be able to repay to Hanover College. These teachers, who insisted upon thoroughness rather than multiplicity of studies, and the fundamental ground work that I received in mathematics, in the natural sciences and in Latin and Greek languages have been an un-failing help to me in all my career.

The question was now how to raise the funds for my professional training. At this time there was only one avenue open, namely to teach in some public school. Late in 1867 through the intervention of a trustee of Hanover College, by a letter informing me that there was a vacancy in the public schools of Crown Point, Indiana, the county seat of Lake county, bordering on Lake Michigan and near Chicago, I made preparations immediately to leave home and apply in person for this position. My father gave me a small sum of money and his own silver watch. These were the sole assets which I had. When I reached Crown Point my money was all spent except a fifty cent "shin plaster." Silver currency was unknown at that time. There was only the scrip of the Civil War. I applied as soon as I arrived, to the county superintendent of schools, Mr. W. W. Cheshire. He received me in a very friendly way, but my heart failed me when he said, "I

am sorry, but the position in the schools in this town, for which you came to apply, has already been filled." Here I was, a youth of twenty-three, 250 miles from home, with only a fifty cent piece of paper money and my father's silver watch as assets. Mr. Cheshire observed my embarrassment. I told him that I could do only one thing. I would walk into the country and see if I could not hire myself to some farmer to help with the autumn harvest, as I had only fifty cents and had had no breakfast. Meanwhile, Mr. Cheshire had asked me a great many questions in regard to my training. I found being a pretty good Latin and Greek scholar in this region was a poor basis for making a living. He had inquired, however, in regard to modern languages. I had at Hanover, not in the college, but in collaboration with one of my classmates, J. C. Burt, acquired a speaking knowledge of German, and this seemed to please Mr. Cheshire very much. He said, "At Lowell, ten miles south of here, on the banks of the Kankakee, they are building a new schoolhouse with four rooms. This schoolhouse will not be finished until about the middle of November. I am a candidate for clerk of this county at the approaching October election. There is one township in this county, settled almost exclusively by German Catholics who all vote the Democratic ticket. I am a candidate on the Republican ticket. I shall be very glad to take you to my own home if you will go with me to canvass the voters in this township. They do not speak English, but I am sure they will be glad to have some one come to them who can speak German. I will go with you, but I don't want you to ask any one of these farmers to vote for me, as they all vote the other ticket. I want to call on every farmer in the township. It may take two or three weeks. I do not need to go to any other township in the county because they are all overwhelmingly Republican." I gladly accepted his offer, and I enjoyed talking to these farmers, and they were glad to have some one who spoke German to them. I asked them about the crops they grew, the difficulties they had, if any, in tilling the soil. I told them I was a farmer's boy, had always worked on the farm, and I manifested a deep sympathy with their problems and their labors. If it was at meal time they always invited us to eat with them, so that I still held my fifty cents in scrip in my pocket. When the votes were counted it so happened that Mr. Cheshire who had never said a word or asked me to say a word

about his being a candidate for county clerk, carried this township by an overwhelming vote. Later I received the appointment of principal of the Lowell school. The public funds lasted for about six months, then a subscription school was provided for, for an additional three months. I received sixty dollars a month from the public moneys, and a little less than that from the subscription school. At the end, after having paid all my expenses, and having bought my first tailor-made suit, I was the proud possessor of one hundred dollars. The first use of this enormous wealth was a visit to the city of Chicago to see Mr. A. S. Peck, a classmate of mine at Hanover, who was studying for the Presbyterian ministry in the theological seminary in Chicago.

During the winter at Lowell, I "read medicine," as the saying is, with the local doctor, and made great progress in my medical studies. Soon after that I received notice of my appointment to teach the lower classes in Latin in what is now Butler College, Indiana. I began my career as a Latin teacher in September, 1868, and immediately entered as a student at the first session of the Medical College established by the State University of Indiana at Bloomington, in Indianapolis that autumn. I attended the first session, and for three years all the sessions of this institution while teaching Latin every morning up until one o'clock, and doing my medical work thereafter.

In the fourth year of my medical work I taught in the Indianapolis High School, at a considerably increased salary over the eight hundred dollars per annum which I received from Butler College. In 1872 I received my diploma as a Doctor of Medicine, and then deemed myself ready for my professional career.

But fate was unwilling that my ambition should be fulfilled. My teacher of chemistry in the medical school was Ryland T. Brown, state geologist and chemist of Indiana, and professor of natural science in what is now Butler College. In 1872 Dr. Brown was appointed chemist to the United States Department of Agriculture in Washington, and resigned his professorship in Butler and the Medical School to accept this new position. A short time thereafter I was greatly surprised and somewhat embarrassed at receiving from the trustees of the Indiana Medical College a communication appointing me to be professor of chemistry in the college from

which I had just graduated. It so happened that, because of the chemical training I got in Hanover and in the Medical School, Dr. Brown had honored me with an appointment as assistant to him in the preparation of his lectures. For some reason he considered me the best student in chemistry in the Medical School. Naturally I felt honored by the action of the Board of Trustees. I felt, however, that my training in chemistry, although it had lasted about six years altogether, was wholly inadequate to qualify me as a professor thereof. My training had been entirely from the book and the lecture. I had never worked as a chemist at the desk, I had never made an analysis of any product. I replied to this invitation, accepting it on one condition, namely that I should have a year's leave of absence before my services began. To this the trustees assented, by securing a temporary professor of chemistry, who perhaps knew less about it than I, if such a thing could be.

Then I remembered the *Atlantic Monthly* that I had read when a boy between the fifties and sixties and how I had thought that Harvard College was so far beyond me that I had never aspired to think of being a student there. The urge now came to me, "Why not go to Harvard for the year's leave of absence?" No sooner resolved upon than done. In going to Harvard I went by way of Washington, with the idea of calling on my old professor, Dr. Brown, and seeing the capital of my country. When I reached Washington I visited the galleries of the House and the Senate. It was my great good fortune while in the Senate to hear the voice of Charles Sumner, whom I had learned to love and revere as an opponent of slavery. As a result of his denunciation of slavery he had been attacked by Representative Brooks of South Carolina who beat his head into a jelly with a cane, from which Sumner never entirely recovered. I do not remember on what he spoke. It was a matter of no importance, but the fact that I had heard and seen him was of great importance to me.

At the beginning of my trip to the East I went through Cincinnati. This was the year in which Horace Greeley was nominated for President by the Democratic party. When I reached Cincinnati I found Greeley was to be in that city that day. My father had been a great admirer of Horace Greeley and a reader of the *New York Tribune*, because Greeley had been one of the fiercest opponents of human slavery. As a candidate of a pro-slavery party it seemed to

me he was very much out of place. Nevertheless, I determined to stay over for the day, and was rewarded by seeing him pass in a carriage through the crowded streets, bowing his salutations to the right and left to the applauding crowd, his long white hair waving and flowing in the breeze. My impression is, although I never asked my father directly in regard to it, that Greeley did not get my father's vote for President.

I wish that I could express to you my sensations when I reached Cambridge, and paid my half year's fee to enter Harvard post graduate course in chemistry and allied branches. I felt that I was at last in a new world, that I was becoming a part of those traditions which I had gained of Harvard in my youth. I was soon freed from any unfavorable conception of Harvard professors and Harvard students. I found them all quite human instead of half divine. I did not give my whole time to lectures and work in the laboratories of Harvard College, but from five to eight hours a day I attended lectures and worked in the laboratories of qualitative and quantitative analyses. I also took the course in mineralogy as a branch of chemistry. Attracted by the great fame of Agassiz I took his course also in biology. Fortunately, two of the professors who taught me at Harvard are still in the land of the living, Dr. Charles E. Munroe, and Dr. Charles Loring Jackson.

In entering Harvard I had no intention of applying for a degree. I only wanted to learn the principles and practice of chemical analyses, both qualitative and quantitative. I was very much surprised therefore, when my teacher of quantitative analysis, Dr. Charles E. Monroe, about six weeks before commencement called me into conference and startled me with the following question: "Why don't you apply for a degree?" I replied, "I did not come here for the purpose of getting a degree. Moreover, under the rules it is too late to apply now. The rules say, all applications for a degree must be made at the time of entry into the graduate school." To which Munroe replied, "I know that, but I have talked with Professor Cooke in regard to this matter. He tells me that if you will make application he believes the faculty will waive the rule and admit you to an examination for a degree." Soon after that Professor Cooke called me into his office and told me of the conversation Monroe had with him on the matter. He appeared to be quite favorable also to the plan. To me the idea

of having a degree from Harvard was a new thrill, and it was not long until I yielded to the temptation. Had I known, however, the kind of examination that I was to go through I might have recoiled even from making the attempt. Evidently Munroe had acquainted the faculty with the stories about my proficiency in Latin, Greek and Mathematics, for I soon learned that I was to be examined in none of these branches; it was understood that it was not necessary and that credit for these studies would be given me. Happily, I passed all the examinations prior to the final one and before the commencement arrived I also passed in my final examination. The proudest day of my life was when I attended the commencement exercises and when my name was called, I marched up to the platform and was handed my diploma by President Eliot, the "boy president" of Harvard University. I believe that six weeks is the record for any one who ever received an examination degree from Harvard University.

I have already alluded to the fact that when one gets a degree from a college, he has only qualified himself to continue as long as he lives his educational activities. For four years after I left Harvard I was quite satisfied with the three diplomas I had already received. But I was not satisfied to continue as a professor of chemistry. The year after I left Harvard, Purdue University was opened and, much to my surprise, I was called to the first professorship of chemistry in that institution. I was present on the opening day in September, 1874. I arranged to keep both my professorships, that is, in the Medical School, and at Purdue. For four years, not having abandoned the idea entirely of becoming a physician, I held both places. The proximity of Lafayette and Indianapolis, and the rapid transit between the two places, about an hour and a half by rail, made this possible. Finally in 1878 it seemed as if I must abandon my idea of becoming a physician. Following the general trend at that period, I felt that my success as a professor of chemistry should be completed with some instruction in a German university. Again I applied for leave of absence from both my posts, and was accorded the privilege. I did not know to which university I should go, but I rather favored Heidelberg on account of the eminence of Bunsen then in the prime of his career. Stopping at Paris to attend the exposition of 1878 I met an American chemist, Edward J. Hallock, who had been a year in Berlin, studying with

Hoffman, equally as famous as Bunsen. He persuaded me to go to Berlin. I arrived in Berlin a little late in the autumn. I found that all the desks in Hoffmann's laboratory were occupied, so I found no place to work. My friend was sympathetic with me in this and said that the chemist of the Imperial Board of Health, Dr. Sell, often gave to the overflow from Hoffmann's laboratory an opportunity to work in his own laboratory. The Imperial Board of Health laboratory was not far from Hoffmann's. My friend took me to Dr. Sell, introduced me to him, and he seemed quite anxious to give me a working desk in his laboratory. This incident produced a profound impression upon me, and entirely altered my career. Dr. Sell put me to work examining adulterations of food under the German law. There was nothing I ever undertook that filled me with such enthusiasm as this. Moreover, the first job he gave me was the study of the methods of detecting and estimating adulterations in sugars and syrups.

In my new environment I lost all desire to become a practicing physician. When I returned to the United States I was full of enthusiasm in regard to adulteration of foods and drugs. I had a friend in Lafayette, Dr. Vinnedge, who was a member of the Indiana State Board of Health. I asked him if the Indiana Board of Health would not take up the subject, and especially the adulteration of sugars and syrups in the state. I proposed that if they would give me fifty dollars to buy samples, I would do the chemical work in the laboratory of Purdue University myself and report the result to the Board of Health. The next year, 1881, the Indiana State Board of Health published my first paper on the adulteration of sugars and syrups. This work two years later resulted in Commissioner Loring offering me the position of chief chemist of the Department of Agriculture, the very office which Ryland T. Brown occupied after he resigned his position of chemist in the Medical College. It is rather surprising that two of the dominant factors in the shaping of my career consisted in following Dr. Ryland T. Brown on two separate occasions.