RED AND WHITE,

ORGAN OF THE

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OF THE

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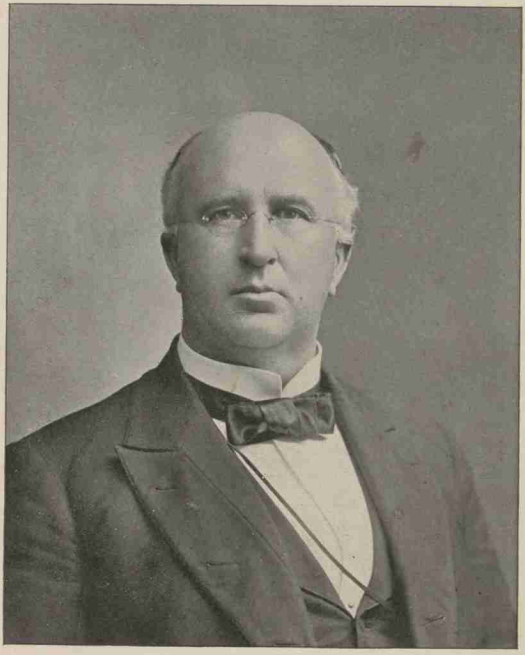


Geo T. Winston

HIDDEN LIFE.

BY WILLIAM ANDERSON SYME.

[An Oration Delivered on Commencement Day, June the 7th, 1899.]

In studying the hidden forms of life, the scientist must confront the questions, "What is life? How did and how does it originate?" With infinite patience, and with untiring research, the scientific investigator has sought in nature an answer to this question. In this quest he has found out some facts of prime importance:

First, he has found the form of life. All his investigations show that every form of life consists in part of cells of a soft, transparent, jelly-like substance known as protoplasm. Primarily, everything with life is composed of this substance. The fact that every living being, whether it be man endowed with heart, mind and soul, or whether it be the minutest spore revealed by the microscope, begins its existence in the same form is a truth without parallel among the marvelous phenomena of natural science. This initial form of existence, this collection of minute particles of structureless protoplasm has the power of developing, along lines laid down by the Creator, into a man or a mosquito, into a grand dame or a grasshopper, into an oak tree or a violet.

Second, the tireless investigator has found out the composition of this evolved protoplasm. All things having life can be resolved into the chemical elements—carbon, hydrogen, oxygen and nitrogen, and traces of other substances. This chemical identity of bodies apparently diametrically opposites is another of nature's miracles. It is almost disenchanting to remember that the beautiful maiden—coy, coquettish, fascinating—is after all made of exactly the same material as is the swart, disnatured toad, at sight of which she screams. It is hard to keep back a shudder when we reflect that the finely organized brain of a Macon or a Gladstone contains no ingredient not found in a

pig's or a mole's. It may, however, be a mournful satisfaction to the over-sensitive to know that the proportions of these omnipresent chemicals are very much more complex in organic bodies than in inorganic substances. Hence largely the difference between a stenographer and her lead pencil, between a beautiful baby and the rubber rattle on which it lovingly nibbles.

But the discovery of the form and composition of life leaves us still far away from an answer to the question, What is life? Of plant life we yet say, so far as science goes, "Whence cometh it?" Of man, we still ask with Arbuthnot:

> "Whence am I, whence produced, and for what end?
> Whence drew I being, to what period tend?
> Am I th' abandon'd orphan of blind chance,
> Dropp'd by wild atoms in disorder'd dance?
> Or, from an endless chain of causes wrought,
> And, of unthinking substance, born with thought?"

What science cannot answer as to origin or creation is answered by Divine Revelation, which assures us that all life, both animal and vegetable, is from the Holy Spirit, the Giver of Life.

These two kingdoms, closely similar, and at the same time divergent, possess so many characteristics in common that the two undoubtedly form one great group of beings. In fact, some of the lower forms of life have the characteristics of both animals and vegetables to so marked an extent that biologists are unable to say to which kingdom they belong. The more closely the life habits of living beings are studied, the more the differences fade away, and we are brought to the conclusion that life in the two kingdoms is one and the same thing.

Among the most interesting forms of life are the hosts of simple, yet recondite forms—the plants without the chlorophyll which enables vegetables to make their food. These are the destroyers and scavengers of nature. Botanists now arrange them into various classes, orders, and genera, according to their mode of development, but they are still spoken of under the convenient old name "fungi." These low forms, many of which exist as a single cell of living matter, invisible to the unaided eye, play

a very important part in the economy of nature. While plants with chlorophyll are organizers, fungi are consumers, acting on the whole to diminish, rather than to increase the total amount of organic material on earth.

These fungoid forms, lying on the border line between the animal and vegetable kingdoms, have, of late years, received a great deal of attention. This is particularly true of those which constitute the most minute forms of plant life, and yet the most numerous, which Botanists call the Schizomycetes, or splitting fungi. This order includes many forms known to science, as Bacteria, Bacilli, Micrococci, etc. All these are popularly called "germs" or "microbes." They are invisible, exept when millions of them are aggregated, and then they are seen as a mass merely, and not individually, but, visible or invisible, they are universally present. Some of these microbes despoil our food while it is growing, and keep us busy devising means for saving it during its harvest, storage and transportation. Weak and friendless as these little fellows are, they seem to have gotten the best of Uncle Sam during the recent war with Spain. Other forms of germs follow the food in its course through the body, and, fermenting it there, set free poisons that paralyze our tissues and produce disease and death. Many hundreds of species or kinds of germs have been discovered—these species differing from each other in size, shape and color. Like the species of higher organisms, each breeds true to its own characteristics.

The extreme minuteness of these omnipresent plants is one of their most wonderful characteristics. The parasitic bacteria which cause blight in our pear trees are so minute that 150 of them placed end to end would only make the thickness of an ordinary sheet of paper, and 1,500 would be required to make a circle around an ordinary printed period. The diameter of the germ which causes consumption is one one-hundred-and-twenty-five-thousandth (1-125,000) of an inch. Yeast plants, which are invisible to the naked eye, are giants compared with these.

The simplest microbes have the shape of a sphere or berry. Hence the term "micrococci" is applied to those which keep

this form. It has been calculated that a hundred thousand millions of micrococci, each one thousandth of a millimeter in diameter, weigh less than one grain. If the shape is that of a spindle, or very short rod, the microbe is designated as a "bacterium." The most usual shape is that of a cylindrical rod, often very slender and thread-like. These are known as "bacilli." Other forms are known and named according to their shapes.

Many of these ubiquitous bacteria are absolutely incapable of self-motion. They depend upon currents of water and air to distribute them from place to place, or if they are not in any particular hurry to attack some one, they ride about upon objects or organisms that are moved or have self-motion. In fact, these means of dispersion are at the service of all microbes, but there are forms possessing distinct organs of locomotion. These consist of one or more thread-like appendages, that whirl around and beat the fluid in which the germ is, propelling him rapidly from place to place. Where there is but one of these organs, it is situated at one end, and acts so as to draw the organism forward instead of pushing. These forms, like many army contractors, have a "pull." When there are two motile appendages, there is one at each end—one serves to push, and the other to draw the bacillus forward in one direction, or, like a trolley-car, the motion may be reversed. Still other forms have many organs of locomotion. The highest power of the microscope reveals no other organs except these thread-like appendages. The body consists of a single cell of protoplasm contained in a thin wall of cellulose, but it is now generally supposed that protoplasm consists of a mechanism whose parts are beyond our present microscopic vision.

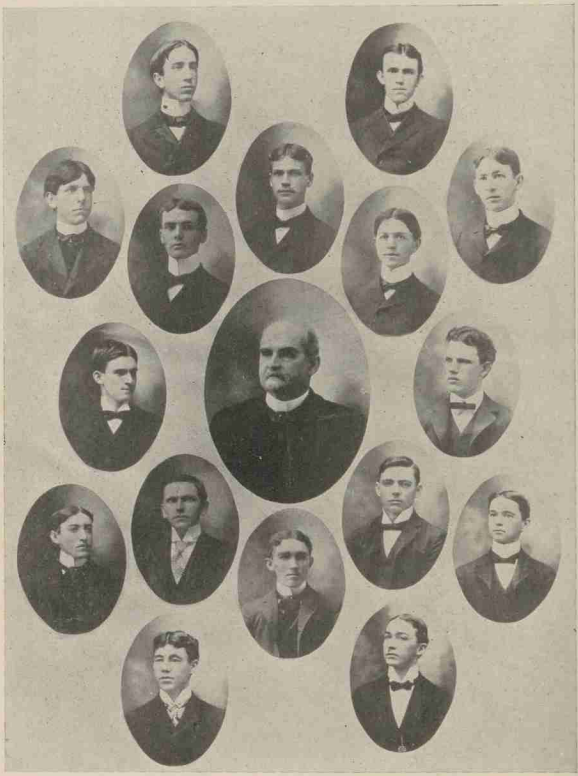
Germs multiply by a process of splitting, or self-division called "fission." Each germ splits up and makes two germs, thus always doubling the number. The rapidity of multiplication by this process is amazing. In laboratory experiments where germs are grown for the purpose of study, we find that if we start with a single germ, we can get a colony as large as a pin head in a day or two. This little mass will contain a countless host of living beings. If the germ doubles itself once every

hour, at the end of two days it will have enough descendants to furnish each human being, hungering and thirsting for germs, with two hundred apiece, each one of which may be capable of continuing the process. In nature, the rapidity of reproduction is retarded by so many unfavorable conditions that germs hardly ever multiply according to theory. Nevertheless, the earth, air, rivers, and ocean all swarm with this unseen host. They get into the atmosphere after the substances in which they have multiplied become dry and powdery. Currents of air lift up this dust, suspend it in the air, and waft it into every nook and crevice. A cubic yard of fresh country air contains from fifty to two hundred germs. In city streets we have from two thousand to three thousand to the yard. When we reflect that among these multitudes the number that is parasitic upon animal life is comparatively small, we have good reason to be thankful.

We hear so much about the evil that bacteria do that we are apt to feel a cold shiver at the bare mention of the name. But the truth is that many of them are, for a while at least, positively beneficial, many others harmless, and comparatively few are actively dangerous to animal life. One of the greatest discoveries, after the microscope had revealed the existence of germs, was the fact that all germs live by processes of fermentation. After bringing about chemical changes in food which render it unfit for our use, they assimilate and absorb it, and thus get energy for the activities of their life. Fermentation affects human life and human interests in more ways than would at the first glance seem possible. It is to this process that we must look for the cause of many of the diseases that afflict animals and human beings and destroy our crops. In war, ferment germs kill sixteen soldiers for every one killed directly by bullets. An increasing knowledge of germs is revolutionizing surgery and medicine. We have learned that it is germs that get into wounds and grow there, causing inflammation and gangrene; we have discovered how we become infected with the germs of various diseases, and, having found the true cause, we soon learned the value of antiseptics, germicides, disinfection, and quarantine. Nature is so crowded with germs that we can never hope to ex-

terminate them. When the knowledge of bacteriology becomes universal—and that day is not far distant—perhaps we shall be able to control the action of certain injurious species, or even exterminate them.

The study of bacteriology is entitled to a place of prime importance in the curriculum of every college not only because it affords an excellent training in patience, carefulness and observation, but because it introduces us to a new world of forces that intimately affect human welfare.



SENIOR CLASS.

THE MAKING OF ELIZABETHAN LITERATURE.

BY F. M. FOY.

[An Oration Delivered on Commencement Day, June 7th, 1896.]

The glory of a nation is found, not in its warlike prowess, not in its commercial or social triumphs, great as they may be, not in what it has done; but the true glory of any nation is found in what it has thought. As yards measure distance, so thought production measures national greatness. The Englishman is greater than the Bushman whom he dominates only because he has thought more. The architect who plans the Brooklyn bridge is only the thought evolution of the barbarian who throws a foot-log across a swollen stream. A Remenzi drawing witching music from a Cremona violin is only the thought ripened product of a savage rejoicing in the exquisite music drawn from the concussion of a deer string stretched across two sticks. A Turner changing a piece of expressionless canvass into an immortal thing of beauty is superior to an Aztec sketching a tree upon the sand only in that thought has elevated art's rude beginning.

The age, therefore, in a nation's life which has been most prolific of thought is the age most deserving of our attention and study. There we must look to find those hidden blooms that fruit in knowledge; there we must trace those delicate suggestions that grow into beautiful thought; there, in short, we must search for the mental bacteria whose growth makes brain tissue.

Beyond all question, the greatest age in our literature is the Elizabethan age—an age which not only inspired and enlightened our race, but that affected the life, intensified the thought, and breathed inspiration into the literature of other nations. An age that produced a man of whom Augustus Schlegel says: "Shakespeare forms such a singular exception to the whole history of dramatic art that we are compelled to assign a particular place to him. He owed very little to his predecessors, and had

the greatest influence upon his successors, but no one has ever learned from him his secret." An age that produced another man whom the almost unanimous voice of posterity calls the father of modern scientific research; an age that landed Spenser at Bristol with the Faerie Queene tucked under his arm; an age that sent Raleigh—poet, historian, chemist, soldier, orator, man of business—searching across the Atlantic for new realms of thought; an age the meanest poet of which would have been a gem serene in our age, is surely worthy of constant and careful attention.

Even our age, with its supersaturated self-esteem, is willing to admit that in grandeur of conception, in beauty of expression, in virility of energy, the Elizabethan age far surpasses ours. The greatness of that period is all the more remarkable when we recall that it came at a time when our vernacular had received no polish, when poetry was reduced almost to doggerel, when history found its highest expression in the dull annals of Fabyan or Hall.

It is true that Chaucer had, in the fourteenth century, broken the way for a great literature, and that Thomas More's Utopia and Roger Bacon's works had preceded the giants of the Virgin Queen's day, but with their passing away a silence that seemed destined to permanency had fallen upon England. Nor must it be forgotten that this literary outburst was not contemporaneous with the accession of the young queen. The first interests of this reign were political and commercial, and patriotic. The Cecils, Walsinghams, Leicesters, Drakes and Frobishers filled, at first, the public eye. Literature had to rise above these men, and from the day when the Armada, torn by English shell, beaten upon the rocks of the Scottish and Irish coast, took refuge in a dismantled and heart-broken state at Ferrol, the figures of warriors and statesmen were replaced by the grander figures of poets and philosophers.

That age was great, it knew not why, and asked not why; it simply rejoiced in its strength. Can we, now that the lapse of two hundred years has revealed the causes and sequences of that

day, tell why it was a great day? Can we discern as Sampson did of his own power whence that strength came?

The first reason, it would seem, why the literature of this epoch reached so rich a fruition was that it was a time of comparative freedom and comparative peace. Literature, though constantly following volcanic eras, is not a product of such eras. For centuries, progressive thought had been stifled by the icy hand of ecclesiastical uniformity. When some thought-inspired mind like Roger Bacon's threatened to break conventional bounds, it was restrained by the swaddling hands of the dominant hierarchy. With the accession of Elizabeth, however, thoughts and emotions were left untrammeled and fairly revelled in the new sense of freedom and of hope. The pent-up stream of thought found a fresh and racy vernacular awaiting it—a vocabulary unhackneyed, an idiom rich and strong, and moulds of thought unworn. A more happy coincidence never occurred. To add to this fortuitous conjunction, a period of peace followed the defeat of the Armada. The effect of this state of affairs is thus described by Arnold: "The peaceable and firmly settled state of the country under Elizabeth was largely instrumental in the rise of this literary greatness. Under the tyranny of Henry the Eighth, and again in the short reigns of Edward and Mary, nothing was settled or secure; no calculation for the future could be made with confidence; and those who had no fear for their lives and property were afraid to express a free opinion or act an open independent part. Doubt, suspense and mutual distrust paralyzed all spontaneous action." Arnold's picture is not overdrawn. The mind of the nation had been pauperized along with its body by the life of a charitable dependence it had led at the doors of a church and monastery.

But now religious and mental freedom had come after a long struggle, and with it came momentous results. The moral battles of a nation in pursuit of some tremendous object, like religious or political freedom, bring forth great crops, as fields are enriched on which mighty armies have contended. The fertilizing influence extends in every direction. Therefore it is not wonderful that the final rejection of political ecclesiasticism and

defeat of the great Armada brought about a literary harvest that included not only a Shakespeare, a Spenser, a Bacon and a host of lesser literary potentates, but also included a mind growth of every sort. Coincident with this freedom came a widening in human interest by the revelation of a new heaven and a new earth. Copernicus by demonstrating a solar unity, and Columbus and his successors by proving an earthly diversity, awakened the thought deeps of mankind. The recently liberated activity found vent in distant and dangerous expeditions. A chivalrous contempt for danger, and poetic longings for new adventures mingled with the baser attractions of these maritime wonderings. Brimfulness of life overflowed into expeditions against the Spaniards in Peru, and unravellings of the tangled rivers of Africa and trackings of wild bears among the ice-floes of Hudson's Bay. Families of the old aristocracy, instead of as hitherto sending their sons to become idle Knight-errants and soldiers of fortune, equipped them for commercial ventures in the new world. Romantic rumors of the wonders, wealth, opportunities in these new lands were told, believed and acted upon. Returning adventurers spoke and wrote of what they had seen or dreamed. The voyages of the Portugese threw open the older splendors of the East, and the story of India and China was told for the first time to Christendom by Maffei and Mendoza; Jenkenson, an English traveller, made his way to Bokhaven; English mariners penetrated among the Esquimaux, or, settling in Virginia, laid claim to lands that still are part of England's glory.

These things all fired the imagination, awakened intelligence, provoked study, inspired research, and the results found expression in various forms of literature.

Indeed, so active became the intellectual life that it sought corresponding activity of expression, and the literature of action—the drama, almost necessarily followed.

There are few events in literary history that are so startling as the sudden rise of the Elizabethan drama. The first public theater was not erected till about the middle of Elizabeth's reign, but, before its close there were eighteen in London alone. From

the time when the first regular comedy, Ralph Roister Doister, and the first tragedy, Ferrex and Porrex, were presented—the demand for such performances was unwearied. Those who could not see a world of adventure and romance in reality could feel its throbbings in the mimic reality on the stage. To supply this demand came a class of educated young dramatists of wild humor and irregular life. The newness of their emotions and of the circumstances that surrounded them made them despise the conventionalities of the older literatures, and consequently they produced what the world still pronounces masterpieces.

Another striking contribution to the growth of this period was the rise of the laity and its saturation with a new idea. Shortly before Elizabeth's day, laymen had by sheer personal courage and persistence beaten down the feudal system with its heart-crushing despotism and one-sidedness. Freed at this point, the Englishman still found himself fettered by ecclesiastical and inherited ideas that forbade a life of nature and natural worldly hopes and ideals. This barrier was also to be broken, and broken by the layman. Taine says: "The efforts of the lay society rejected theocracy, kept the state free, and presently discovered or rediscovered, one after another, the industries, sciences, and arts. There was no province of human intelligence and action which was not refreshed and fertilized by this universal effort. This was Europe's grand age, and the most notable epoch of human growth." "To this day," continues this great thinker, "we live from its sap,—we only carry on its pressure and efforts."

Just as this broadening of the lay horoscope occurred, the revival of letters brought acquaintance with the beauties of the hitherto buried classic literature. The new hopes were fed, the imagination kindled, fires of originality lighted, and the glorious day was come. Let it be our object to see that the love of business, of practical things, of money, of power does not drive from our minds the same love of beauty and human wholeheartedness that filled the army of Elizabethan writers.

REBELS.

BY MARK SQUIRES.

[An Oration Delivered at the Public Exercises of the Pullen Society, May the 12th, 1899.]

The ancient philosophy had for its aim the study of man in his relation to science; but modern philosophy would perform the reverse—study science, and then deduce the relation of man. Probably neither idea of philosophy is correct, but the modern is further away from the truth than the ancient. For inasmuch as man is the culmination of creation, it is well that he should not be placed in a false light by appearing subservient to science as the modern school would have him be, but rather that science be no higher than its creator's intention. The philosophy of man can be neither inductive nor deductive, for as man is the tool of providence in the revelation of science, it is not possible that the revelation may revert and shape the destiny of man. Nor is it possible for man's own mind to determine all things; for man himself is subject to things apart from his own individuality.

Much, it seems to me, of what is wrong in theory and perverse in action, may be attributed to this false opinion of man's place in the realm of nature.

One of our modern philosophers has shown us that we have a separate school of fanatics for each division of natural science. And it seems well that we occasionally brush away the sophistry of "modernity" and look at mankind in a true light; for by no process of reasoning can we conceive of the inanimate created—science, rising to a higher plane than its creator—man.

If we study human passions and human prejudices, awaken human sentiment, arouse to action the volcano of human love and emotion, kindle the fire of human hate, plunge deep into the whirlpool of intellectual life; in short—if we study mankind, we find many medleys and contradictions. Many things

are present in the individual to cause him almost to lose all identity with the creature created in God's own image. And many of these paradoxes of life are due to this Satanical position that modern science takes pleasure in having man to assume.

When the natural philosopher goes forth to study nature, he finds that the whole natural kingdom is subject to certain fixed unalterable laws. Not so with the moral philosopher, for the vast kindred body of mankind know but few laws, and these admit of many exceptions. The human mind is so intricate that it may not be fathomed; so complex that no two individuals are alike. This is indeed the problem of philosophy, the mysterious essence, past finding out. I hardly think it probable that we shall ever have a clear, succinct idea of the causes impelling men to action—they are likely to remain forever a mystery. But we can easily trace some remarkable emanations of man's nature.

Philosophers have long sought mysterious causes, that lead to some abnormal manifestations of human nature. Except, however, for a few gleams of checkered light, their work has been utter darkness, vain trifling, hollow mockery!

But why may not the nature of man be fathomed? We are yet but young, and civilization and further knowledge will make mankind a vast brotherhood, instead of radical egoists. This answer might be plausible enough were it not for the remarkable position that civilization now occupies—a tool of brain, and not an expression of man's inmost nature.

Yet, in the study of man, certain likenesses have been found, and certain dissimilarities likewise exist. Solomon based much of his reasoning upon the axiom that all men are the same. That is, that all men are not precisely alike, but that that which we call human nature is much the same in all mankind.

In what way, then, is this likeness of men made manifest? Colton says, that self interest is the motive for all our actions, both good and bad; or, in his own words: "I think it is much nearer the truth to say that all men have an interest in being good—than that all men are good from interest." But you say that dissimilarities exist. They do; but they are of degree not of kind.

No matter what we study we are obliged to analyze and classify. But in the study of man, and his classifications, our problem becomes very difficult, for we have nearly as many classes as we have individuals.

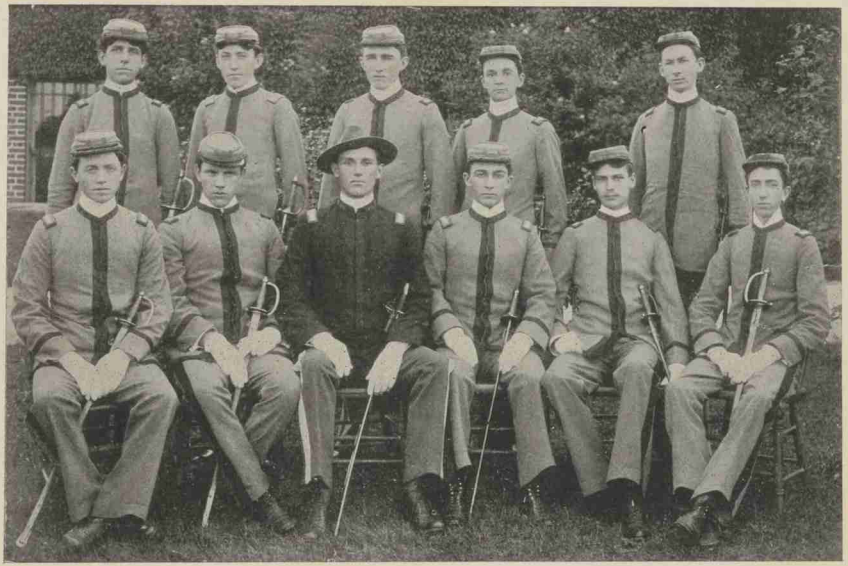
Some one has said that there are two classes of people in the world—politicians and honest people. At first the division seems ludicrous, but if you take this as a cunning synecdoche and the politician as a class representative, the division is not so ludicrous as it may seem.

For men's own good as individuals they are not alone, but are bound together by certain ties, and the greatest of these we call society. Society is a needful institution but some will not pay homage to society, but rather wish society to pay homage to them; in other words, rebels. So it seems that the most natural divisions of mankind would be, rebels and not rebels.

The chief tenet of society and of progress is, "Love thy neighbor as thyself." And as a reverberation of this command of Holy Writ, we have the creed of our body politic—that all men are free and equal.

I hold it as axiomatic that society, however crude it may be, is the only organized form of existence. "It is an impulse of nature for man to hold his fellows before his eyes. It is a principle probably first taught by the instinct of self-preservation. Man's impulse to solidarity proceeds solely from his gregarious nature, and although civilization has obscured this impulse, yet it has not been able to suppress it altogether." As a law of thought is that uniformity must exist in the minds of all who think correctly, so society is that uniform and only natural condition in which man can properly exist.

From this statement of opinion we may deduce our definition of him who for want of a better name we must call a rebel. A rebel is a hater of society, and therefore is an enemy to the interests of man. He who tends to promote the good of his kind is the true man and only he; and he who attempts to mar the happiness of that unit of society, that by the providence of God he may be associated with, is the rebel and only he.



CADET OFFICERS.

I hold that this is the only definition that can be made of a rebel, and it is one that admits of no exceptions. A man may be a rebel in the eyes of some, when he may be at heart endeavoring to increase the solidarity of man.

I would not be misunderstood — he is not always the rebel who is ordinarily deemed so. Generally the reverse is the case. He is the rebel who would try to break down the natural order of things to raise his own position. The name of rebel is often misapplied, yet if you accept the standard I have set, it will be found that the appellation can never be misunderstood. So often when others do not agree with us we call them rebels—

> "Rebellion! foul dishonoring word,
> Whose wrongful blight so long has stained
> The holiest cause that tongue or sword
> Of mortal ever lost or gained!
> How many a spirit born to bless
> Hath sunk beneath that withering name,
> Whom but a day's, an hour's success
> Had wafted to eternal fame!"

The rebel is not the same thing as a degenerate, for the degenerate may be born so; the rebel is self-created.

The rebel represents himself to be the friend of society to break down society; he makes himself a martyr to be adored by the populace; he invents some new "ism" to gratify his own erotic tendencies and to try to get others in his own company under the name of novelty. A rebel may be a degenerate, or *vice versa*, for the same outbreaks of science, the same throwing off of old forms, the same revolutions in doctrine and opinion, have tended to make for us rebels and degenerates, and to reap for us strife and discord.

The rebel does not need to be sought for—he is everywhere, and wherever you find one preaching his doctrine, there you find gathered a mighty concourse, seeking in what he has wrought as in oracles of the Pythia some new meaning to be divined and interpreted. The rebel is no exception to the natural rule whereby no person or thing is alone:—the fools are not dead yet.

But let us for a moment consider the manifestations of this rebellious tendency, that seeks to damn our country and to undermine our most sacred of institutions—society.

I have said that an application of our Saviour's command was the sure test for a rebel. Directly against this is the motto of the rebel who says, "Let my neighbors love me as I love myself." He rejoices when others are down that he may be elevated. He believes in cant, hypocrisy, and sham, and seizes upon the indulgence of others to further his own selfish ends.

The chief factor of civilization and the best index of a people is to be found in its literature. And in beginning to specialize and discuss the rebel from a practical point of view, the first thing we wish to notice is the rebel in literature. The experience of the past teaches us that the only literature that will live is that of reality, and that the only enemy of the pure and noble in literature is untruth. It is hardly necessary to say that the nineteenth century, from the unique position it holds in the annals of history, has or rather ought to have given more impulse to literature than any other age in the world's history. But instead of this what do we find? Is our literature one of truth and reality? It goes without saying that purity, truth and solidarity are three things as necessary for literature as for organized society. But it seems that our ideas of purity have changed since the advent of the modern so-called scientific novel. The writer may use rude billingsgate that we would not utter in our parlors. A book to succeed nowadays must contain something entirely modern, sensational or unreal. The liberty of the press we once held so sacred is degenerating to the level of unbridled license. According to modern dictates the life of a book depends in an exact ratio upon its unreality or portrayal of ideal conditions of society never to be realized. I hardly think a lie can live a long time, but during its life it may be possible for that lie to poison many minds; to cause many to lose faith in the real, and begin to love sham; to change the solidarity of reality into the rot of idealism. Progress wants truth; a book should have a good purpose, point a moral or adorn a tale.

That which tends to prey upon our feelings instead of our reason, that which would destroy standards without substituting something in their place, that which would elevate some eroticism or condone some wrong, or that leads man to distrust his fellows, puts a barrier between man and brother man and teaches ideas inconsistent with man's solidarity. The classes named take in much of our modern literature, and explain many of our foibles and follies.

The literature of a nation must be real, no sham or make-believe, it must depend on reason and not upon feeling, no poison for the young, or impulse for evil; or that literature is rebellious in the strictest sense of the word.

There is another class of rebels of whom we know little good. These are our revolutionists, better iconoclasts or image-breakers. Some of these men have many traits to be admired. Some are to be commended for their fearlessness. We admire free thought, we love free men. But liberty does not mean wanton destruction, for we are only free to be truthful, and the iconoclasts who would destroy the peace of the world by breaking down the pillars upon which society stands are to be censured as a Nihilist would be. Some of these men may be right in their views; time alone will prove that, but still they do not seem to realize that lasting good, even the sweet blessings of civilization required years for their attainment, but they would, like Macbeth, "Strive to catch the nearest way." We may take it for granted, from our experience, that steady slow growth is the only true growth. Change to be enduring must be gradual. He who is right may afford to wait. But these men come out and say, "The rule of society is wrong, have done with all that our modern science does not approve of." But their scientists war among themselves, and know not what is to be approved, and would displace a form of order with interregnum. They talk and vapor to the viler mob, and have foolish societies embodying the views of the best known among them. They who advocate such courses of action, although their work may be sugar-coated with rightful aims, are yet to be regarded as enemies of man. Good doctrines taught by force are good lessons learned under protest.

Progress is not always peaceful and uniform. Mighty revolutions have often decided the destiny of men and of nations. But more than solidarity owns was learned through the milder teachings of peace.

There is also a rebellion in politics, the corruption of which is almost proverbial. Men rise into political prominence, and their standards soon wane. It is not an application of the law of the survival of the fittest, but of the modern law of "pull." Corruption goes into official positions, and no longer is the will of the people the nation's law. But on whom does the burden rest? Surely not upon the system, but rather upon the corruption that has crept into the system. Men no longer take up some political doctrine because it is good, but because it is for the gratification of some selfish motive of their own. Men rush to some party standard, not because it is good, but because it is popular, and thus stifle their God-given rights for a mess of pottage—popular favor. We hear of men being forced into parties, and of employees being intimidated by employers. The rebel is in all this. A man puts up his coin to baffle the popular will. Then there are those who appeal to sectional lines and go back to the feud of long ago, not remembering that wrong in the past does not justify wrong at present. There are also those who are called rebels, because they have lost their cause; for it is asserted that God is always on the side of right. Such argument needs no refutation. So these malcontents keep alive the fires of enmity and are rebels.

Another class of rebels are the cowards. That man is as much a rebel who refuses to assert his opinion as the one who holds a selfish opinion and asserts it. The world needs courage, not only on the battlefield, but at the ballot-box; not only as we associate with others, but also in our private life. Enough true courage will reform the world, and a truly courageous man cannot be a rebel.

In our study of rebels we must not neglect the pessimist. We are tired of the man who never has anything to suit him because he is himself wrong, and yet imagines that all the good in life gathers around his own personality. He injures the

happiness of others because of his air of evil, and makes society worse from his preaching that we are already past redemption.

There is yet another class of rebels, who are greater fools than any before named. These are the men who never rely upon reason but upon precedent and never desire manners or standards to change because they want to stand still. In their guides of long ago we have many true lights, but time changes conditions and conditions make methods applicable. We must move or perish in oblivion, grow or die; there is no middle ground. There is no comparison whatever between the stagnant pool of past research and the sparkling waters of modern knowledge. These men are found everywhere. They will not change but declare that the old-time way is good enough for their purposes. They hold back church and state, disbelieve in all things new, and assert that we know nothing as did our ancestors.

I have spoken of a rebellion in politics, but there is a certain class of politicians who require treatment under a separate head. I mean those who make of constitutional policy a matter of political exigency, and of national weakness a political issue. We all know men who have firm and decided views on issues political and social, yet if their party does not declare according to their views, they stifle free thought and follow their party blindly. So questions that ought to receive clear and logical settlement get into the mire of politics and the issue is never solved, or, if at all; bunglingly. A very good exemplification is to be found in the question of national expansion. This question will never be settled with the calm judgment it requires, because it has gotten into politics as an issue. Some assert that this expansion will be our ruin because Monroe taught differently.

"Every extension of territory has been preceded by prophecies of evil. Yet every one of these extensions has been followed by increased power and prosperity. Daniel Webster predicted dire disaster upon the acquisition of the Oregon territory. History bears different testimony. Can we now say that the acquisition of new territory is contrary to our policy in the past? True, the conditions which made expansion expedient and necessary in the early days of the Republic are not now operative, but

the spirit which then prompted the men, who directed the Nation's destiny, to meet new conditions with new and sometimes hazardous measures, is still the spirit by which we must be governed.

"We are to honor traditions only so long as traditions serve the real needs of the present; for what may be wise for one generation another finds injudicious. The policy of our government must be changed for our changing needs. Shall the Nation press forward along the paths which open alluringly into a field of wider power, or shall it deliberately remain bound in the swaddling clothes of eternal infancy?

"Here is the parting of the ways, and to stand still is the Chinese policy. Rather let us go on and on. Let us extend the highways of American supremacy." These are the arguments of the pro expansionists.

The anti-expansionsionists say that all true government derives its just powers *only* from the consent of the governed. And they say that they wish to accord the Filipinos self government. They would allow these savages to govern themselves when most of our States that have a Negro population have found it expedient to deprive this same race within our own borders of the right of suffrage.

And if it is not wise at home, where these people have at least the examples of civilization, in the name of reason itself how can we expect these people to succeed under the adverse circumstances which now surround them?

Then Kipling would have us take up the White Man's Burden for humanity's sake. That was the alleged cause of the war, and although I do not desire to speculate, still I cannot believe that the principles of humanity had anything to do with this war. War would have been unknown to this generation if it had not been for the blowing up of the Maine; or more plausibly (as one of our own Tar Heel historians has shown us in the case of our late civil war), if our commerce had not been hurt. But, still, if our motives were pure and the war was fought in

the name of humanity, then there can be no higher expression of that humanity than that which Kipling has given us:

"Take up the White Man's burden—
The savage wars of peace
Fill full the mouth of famine,
And bid the sickness cease;
And when your goal is nearest,
(The end for others sought)
Watch sloth and heathen folly,
Bring all your hopes to nought."

Some one has said that the war now being waged in the Philippines was unjust because it was not in the spirit of the Battle Hymn of the Republic. Such idle talk may be very catchy, but it lacks all force. The Battle Hymn of the Republic has no more to do with our national standards than "Yankee Doodle" has. It was merely an ephemeral song that touched a chord in the hearts of some seemingly philanthropic people and has nothing to do with our national standards; it was not even a true statement of conditions.

To my mind both sides lack the force of argument; for they are unwilling to own that our country has become greedy and desires to have maritime glory and colonies. No, they will not admit that we are simply following an impulse of human nature and are trying to grab as much territory as we can. No, no, they will not admit that, but prefer to hide behind the subterfuge of humanity.

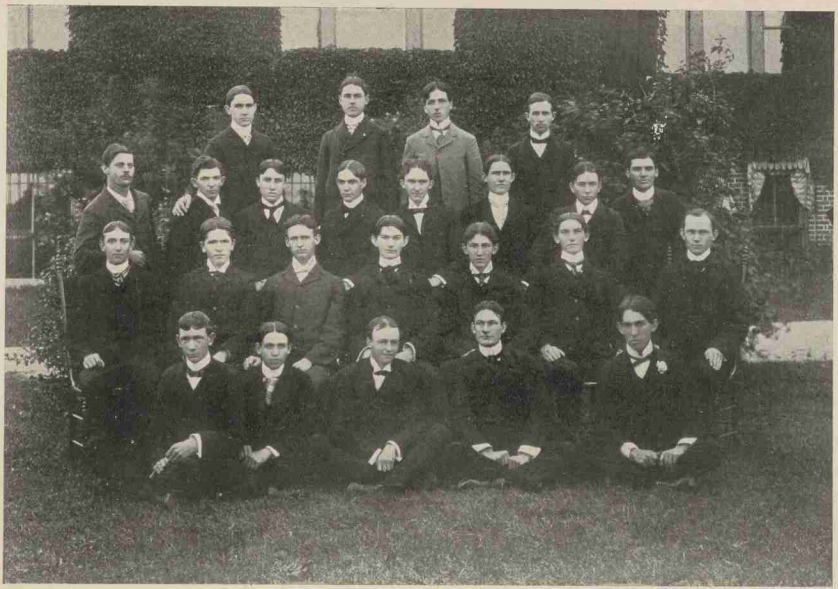
Then I wish to notice a rebellious tendency lately manifested. I mean the attitude of certain nations and people toward the Czar in regard to his late disarmament proposition, which, if carried out, would be a great blessing to humanity. But instead of giving him support the harping critics immediately assailed him, questioning the purity of the purest intentions, and the same Kipling who preached to us humanity, satirized the Czar and bade all men—"There is no truce with Adam-Zad, the bear who looks as a man." Surely this concrete example will show better than anything else, the rebellious attitude of men in regard to one of the greatest menaces organized society knows.

In conclusion, I wish to forestall any possible misunderstanding. I do not mean to assert that society is altogether pure; on the other hand, it contains much corruption. But I do say that the problem of the future is the purification of society, and the only medium by which man can be improved is society. In other words, the duty of men is to aid in the renovation of society. We should not like the rebel try to break society down.

And again, I do not mean that all so-called rebels are rebels in the true sense of that class of whom I am speaking. In the ordinary acceptation of the word, some of our greatest men were rebels: Washington, Jefferson, Lee, Davis, Wheeler, and scores of others. Were these men rebels? God forbid. Time has proven that they were "the chosen seed to plant the world anew."

"Let us keep close guard of our society, and let its welfare be our welfare. As we are a part of humanity, let its prosperity be our prosperity and its sufferings our sufferings. If we do that which is good to humanity, we do good to ourselves. But if we do that which is injurious to society, we inflict an injury upon ourselves. A flourishing humanity is our paradise, and a decaying humanity our hell. And as the instinct of self preservation in the species is the source of our actions, we will instinctively do the good and leave undone the bad as long as we are in a normal condition. We will not sin against the morality of nature until the race has sunk into a condition of morbid degeneration, which impels the individual to decay and also suicide. Whoever has sought for a firm foundation for morality—philosopher or religionist—has finally stumbled upon this eternal, immutable doctrine of human fellowship; for it forms an elementary constituent of the human consciousness, it is one of the irresistible impelling forces of man's actions.

But solidarity, fellowship with our kind, must be the foundation not only of our morality but of all our institutions? In the existing forms egotism finds expression, the forms which are destined to replace them will be the outcome of altruism. Selfishness arouses the desire to govern others; it leads to despotism; it produces kings, conquerors, ambitious ministers and party leaders. The love of our kind arouses the desire to serve the



JUNIOR CLASS.

race: it leads to self government, universal suffrage; it produces a legislation inspired alone by the welfare of the community. Selfishness is the cause of the most heinous injustices in the distribution of property; a solidarity would equalize these injustices to such an extent that an education and daily bread would be assured to every one capable of cultivation and willing to work. The struggle for existence will last as long as life itself, and be always the cause of all development and perfection, but it will assume milder phases and be in the same proportion to its fierce warfare of to-day as a war carried on between civilized nations is to a slaughter among cannibals. I see the civilization of to-day whose characteristics are pessimism, lying and selfish egotism, followed by a civilization of truth, love of one's neighbor and cheerfulness. Humanity which is to-day an abstract idea, will then be a fact. Happy the later born generations, whose lot it will be to live in the purer atmosphere of the future, flooded with its brighter sunshine, in this perpetual fellowship, true, enlightened, free and good!" But—

"If, drunk with sight of power, we loose
Wild tongues that have not Thee in awe—
Such boasting as the Gentiles use
Or lesser breeds without the law—
Lord God of Hosts, be with us yet,
Lest we forget, lest we forget."

LET US NOT SELFISHLY EXPAND.

BY W. D. ALEXANDER.

[An Oration Delivered on Commencement Day, June the 7th, 1899.]

When momentous questions in the life of a nation arise it is natural and right that there should be a difference of opinion as to their settlement. The absence of such discussion would argue that patriotism was dead or that brains had gone to seed. Hence, since Dewey's mechanical ingenuity converted Spain's Manila Squadron into submarine vessels, and since our combined army and navy laid the Cuban islands at our feet, what to do with the new territory thus placed under our protection, has been the uppermost question in the minds of our people. Even the very school children are lisping: "To expand or not to expand, that is the questionable caper." Philosophers are gravely pondering it; cynics are making fun of it; sneerers at our present possessions assert that this nation has become a giant and is no longer to be lulled into national quietude by the nursery rhymes of its babyhood; ambitious statesmen ridicule the swaddling clothes made by Washington, Jefferson, Madison and Monroe; commercial greed wants to reach out for new mercantile territory; military men want new fields for promotion; and thus personal ambitions jostle roughly with patriotic forecastings and still further complicate the question.

That such an expansion of our bounds to take in such people would be fraught with the gravest evils to our union of States seems clear and capable of ready demonstration. If we could silence the voices, even the vociferations of those who see future conquest of one sort or another in these islands so tempting by nature, then I feel sure that the American people are not ready to follow these apostles of national aggrandizement in an endeavor to revolutionize our government and to trample under foot the teachings and policy that have made us great and prosperous.

What are some of the reasons that should drive home the conclusion that such foreign possessions as Cuba, and certainly the Philippine Islands, should not be added to our sisterhood of States?

The first reason against expansion is that our Constitution makes no provision for Colonial government—powers of law cannot agree with the bluff soldiers' recent declaration: "We have long since outgrown the Constitution." Our whole Constitution is based upon the assumption that our Union is a Union of sovereign States, equal in civilization, alike in intelligence and patriotism. We make no provision in it for representatives from States in a condition of semi-barbarism, and any taxation without representation is abhorrent to our belief and our practice. What, then, could we do with the Philippines? The best representatives that they could send us would not be fit to be members of our Congress and vote upon the questions before it. We could not assume the expense of administering their government without taxes from their people, and yet denying them representation would preclude the possibility of a constitutional or admissible tax.

Let us take an impartial look from official records at the real condition of the natives of the Philippine isles—these embryonic voters of a great republic. Mr. Hay, our recent Ambassador to England, gives in his official report for July, 1898, the following facts: These islands are about two thousand in number. They cover sixteen degrees of latitude, or a distance equal to that between Massachusetts and Florida, and are supposed to contain from eight to ten millions of inhabitants—no census having ever been taken—only one-half the archipelago is or was nominally under Spanish rule. The natives of many of the islands are savages in a state of barbarism, and very little is known of their actual number or condition. The natives of the most progressive islands find and take life easy. Their requirements are few. The sum of twenty-five dollars will provide a native household with a dwelling of its own and ample furniture. In a genial climate, on a soil grateful for the slightest tending, by waters teeming with fish, they know naught of

hunger, industry or ambition. Amusements may be said to be their national business. These amusements are of the lowest order, such as dancing, eating, and public rejoicing on the smallest occasion. Among the more civilized, cock-fighting is the national sport, and is a source of revenue to the authorities. Almost every native owns a fighting fowl, which is as dear to him as his wife. He carries it about with him and wagers his few pennies on its performance in the arena. Another favorite sport, when cock-fighting has become monotonous, is to "run-amuck," which means for the fun-seeker to make an indiscriminate and murderous attack upon everybody within reach until physical exhaustion terminates the innocent recreation.

Out of ten million natives in the archipelago seven million only approximate a crude civilization, the remaining three million being savages.

The idea of conferring American citizenship, with all its prerogatives, responsibilities and privileges, upon such a demi-civilized, piratical muck-making set of islanders in another hemisphere two thousand miles away, is so utterly absurd that the expansionists favor the European Colonial System for some years. But who does not know that such a system is a stench in the nostrils of the American people? Who does not remember that it was against the atrocities of such a system that we dared a war with so powerful a nation as England when we were yet in our infancy? The expansionists seem strangely to forget that we, as colonies, repudiated the very system that they now propose for us to adopt. At this late day millions of people cannot be governed by laws in the making of which they have no part; nor will they contribute their revenue to a nation which forbids them a voice in the expenditure of those revenues. Even semi-barbarians have learned this inalienable right. Against this system, described by Jefferson as based upon the belief that nine-tenths of mankind were born bridled and saddled with the other tenth booted and spurred to ride them, our fathers took up arms and defied England. The history of that period shows that they did not at first contemplate independence, but rebelled because they were not represented. It is incredible that the

men who fought and suffered for seven years in resisting the colonial system of Europe should have then formed a government whose constitution recognized and adopted the oppression against which they had successfully struggled. The people of the United States have never before favored the colonial system, because in all our acquisitions of territory, provisions have been made in the treaties of cession giving to the inhabitants of the ceded country, as soon as possible, American citizenship and statehood.

Even if by some modification of the objectionable colonial system we could provide for the present inhabitants of these islands, the problem of dealing with their children would still confront us. The descendants of these people, born after annexation, become citizens of the United States. The Fourteenth Amendment declares that all persons born or naturalized in the United States and subject to the jurisdiction thereof, are citizens of the United States; and the Fifteenth Amendment enacts that the rights of citizens of the United States to vote shall not be denied or abridged by the United States or by any State. It being certain, from these amendments, that the children of the Filipinos would be citizens and voters in case of annexation—it follows that they must be educated and civilized to fit them for the duties imposed by our jurisdiction over their country. Are we, already confronted by as many difficulties as are entailed by the administration of a country so vast as ours, by the task of making a homogenous mass out of the emigrants of the world, by the collection of taxes enough to meet our great yearly outlay; ready to undertake so Herculean a job?

The official record shows that we expend each year more than thirty dollars *per capita* in educating and governing the Indians, and if only one-third of this amount be expended upon the Filipinos, the annual expenditure would be the stupendous sum of one hundred millions of dollars, with no certainty of making them either law-abiding people or intelligent citizens.

The magnitude of the task is shown by the fact that in Manila, by far the most civilized community in the archipelago, there are about three hundred thousand people—two hundred

thousand of these are Chinese, fifty thousand Japanese, forty thousand natives, principally Malays, and ten thousand whites. What must be the character of the outlying islands, if such a mixed mob make the population of the capital?

If the constitutional power to hold the Phillippines were undoubted, I should still oppose their annexation on the well known principle that if we debar Eastern nations from seizing territory on our continent, we should not violate our own principles and seize territory in theirs.

The advocates of expansion tell us that large revenues will be derived from the Philippines, and that these revenues will reimburse us for all our outlay. The Statesman's Year Book for '94–'95 gives the income of the islands as $13,579,900. This income is derived from government monopolies, stamps, cock-fighting, opium, gambling, lotteries, raffles and Chinese capitation tax. On the other hand, the expenditures for the same year were $13,280,130. This leaves a net profit for the government of $299,770. Assuming that the United States would degrade itself by licensing gambling-dens, lotteries, cock-fighting, and the sale of opium, it will be seen that no goverment El-Dorado has been discovered in these distant possessions. When the enterprising carpet-bagger and hungry political appointee have swarmed to this new field of plunder, it requires no stretch of the imagination to see an enormous deficit each year to be paid by our tax-payers.

Annexation or expansion is unwise for still another reason: The greatest foe of democracy is militarism. When great armies are born, republics die. Our republic cannot afford to fly in the face of experience and say, "I am strong enough to do and prosper in that which others did and fell." Any attempt to hold these spoils of war means great standing armies now, and increasing armies as international complications arise.

A great crisis is upon us, and our free institutions must be maintained by the intelligence and virtue of the people, or we must cease to exist. We cannot escape the peril by stopping our ears as did Ulysses. Let us keep them wide open so that we can hear the truth. Let us listen to that lofty resolution of

Congress declaring the war with Spain to be waged not for conquest, but for humanity and the liberation of Cuba from Spanish despotism; and then let us hear with impatient disgust those who are shouting against hauling down the flag, which they would dishonor and degrade by violating this solemn pledge. Let the flag of our Republic not be hauled down, but brought back to congenial soil where it will wave over free men instead of floating above conquered islands in another hemisphere, and over ten million half-barbarians bought for two dollars each.

WAR EFFECTS ON LITERATURE.

BY IRA W. BARBER.

[An Oration Delivered on Commencement Day, June the 7th, 1899.]

Dreadful as war is, it has been not only one of the world's civilizing agencies, but also indirectly a stimulus to literature. During periods of national convulsion and strife, every dormant energy of a nation is aroused. Attempts at mastership, determination to surpass a hated antagonist, bring into play every resource of man's nature, and consequently expand his mind to its utmost capacity and literally raise him above his natural self. Such periods are indeed periods of mental exhilaration and fertilization. When the war, which has called out this mentality, ceases, the activity of mind cannot be arrested, but is transferred to some other sphere, and this sphere is usually a literary one; for literature, of course, is the natural product of an alert mind.

Hence we find that the ages of greatest literary power have followed closely upon the heels of great wars. The age of Pericles with its unrivaled splendor of mind followed the desolating Persian Wars; the age of Augustus, the intellectual glory of the Latin race, immediately succeeded the wars of Cæsar and his rivals; the age of Lorenzo the magnificent, in Italy, and the proud mental glory of the age of Louis the Fourteenth, were but the rear guard of wars of great magnitude.

Let us to-day study some of the effects that wars have had upon our English literature.

Our modern English literature may be fairly said to begin with Mandeville, Chaucer and Wicliffe. The incentives that impelled these men to literature may be found in the preceding wars. The Crusades were a liberal education to Europe. "If," says Sismaudi, "I were asked what was the knowledge acquired during the middle ages which did most to quicken and develop the intelligence of that time, I should say without the slightest hesitation the knowlege of geography acquired by the Pilgrims

SOPHOMORE CLASS.

to the Holy Land." This incentive to geographical and historical study led various travellers, such as the celebrated Marco Polo and Sir John Mandeville to explore the remote countries of Asia, and write books of what they had learned.

The war with the Mongols awakened Eastern Europe, and the West caught the contagion and brought it back to England.

Following the Chaucerian epoch came the Wars of the Roses, from which the sensitive mind turns with disgust and horror. Their savage battles, their ruthless executions, their shameless treasons, seem all the more terrible from the pure selfishness of the ends for which men fought.

During the continuance of these wars, the old literary class was passing away. The aristocracy and the clergy had hitherto monopolized the learning as they had the land of the kingdom. But while the followers of the Red and of the White Rose were slashing one another's aristocratic throats, and while clergy were endeavoring to maintain the balance of power and hold their lands and funds, the middle and lower classes became sick of the apparently endless strife, and left their masters to fight it out unsustained. These two classes went back to their farms, and, being unmolested by their hereditary overlords, a new stir of life was awakened among them. They rose from a condition of mere ignorant thralldom to that of thoughtful, self-respecting citizens. So the close of these wars in which the old nobility was almost exterminated, found in their place a new people with more intelligence, broader sympathies, and more correct views of economy and statecraft. From these men sprang the nest of singing bards and practical philosophers that made the next age so glorious. Hence these desolating wars, by the extinction of an effete dominant class made glorious room for a literary class. Out of the bitter indeed had come forth the sweet. Men saw again that a nation must rise by mind and not by force. So eager was the desire for knowledge, that it was said "Men opened their eyes and saw." The recently emancipated classes seemed to gather new energies at the sight of the vast field which opened before them.

But, from the first, it was manifest that the revival of letters

in England would take a tone very different from the tone it had taken in Italy—a tone less literary, less largely human; but more moral, more religious, and more practical in its bearing both upon society and upon politics. This is shown by practical results. More Grammar schools were founded in the latter years of Henry the Eighth than in the three centuries before. In his "Utopia," More was the first to plead for proportion between the punishment and the crime. In his "Defense of Poesie," Sidney justifies it as a useful art.

The next step in the diversion of warlike energy into literary channels came from the exultant wane of patriotic emotion that swept over England on the defeat of the great Spanish Armada. England in her disrupted state had greatly dreaded a clash with powerful Spain. When her light vessels, daringly maneuvered and boldly fought, gained a complete victory over her dreaded foe, exultation knew no bounds. Lyric, narrative, descriptive, and dramatic poets united in magnifying and glorifying the achievement. The literature of life sprang into being in the buskined measures of Marlowe, Shakespeare, and Jonson. Elizabeth became Gloriana indeed to her subjects, and national cementation was greatly promoted.

During the latter part of Elizabeth's reign and through James's administration, this brilliant "Pagan Literature," as Taine calls it, was declining, and mentality awaited a new impulse.

This mental impulsion came from a grim, determined, single-minded sect of men who arose with a stern faith in their hearts, liberty in their minds, and a sword in their hands. At first, no favorers of literature were they. Songs, music, beauty, were all mere rubbish in their estimation. The Bible was literature enough for those unrelenting Puritans. Their very battle cries were texts from the Old Testament. Charles and his cavaliers fled from their faces. Their victorious battles seemed to stamp out poetic fancies and literary excellencies. But a people who had felt the electric thrill of stubborn contest and who had fattened their minds on the sublimities of David and Solomon could

not pass away without expression. So Bunyan and Milton arose to voice the emotions of their souls.

Doubtless many imitators and successors would have arisen, but events were moving with head giddying swiftness, and the restoration of the Stuarts brought to an almost abrupt close the Christian revival of letters.

With the return of the Stuarts to Whitehall, there came a marked change in the morals—hence in literature. As Painter says: "The reign of the flesh set in." Virtue was held to savor of Puritanism; duty was thought to smack of fanaticism; and integrity, patriotism, and honor were regarded as mere devices for self-aggrandizement. The effect upon literature can easily be imagined. It debased the moral tone of poetry and the drama to a shocking degree. As Dryden tells us in one of his Epilogues—

> "The poets who must live by courts or starve,
> Were proud so good a government to serve;
> And, mixing with buffoons and pimps profane,
> Tainted the stage for some small snip of gain."

In addition to its let down in morals, our literature borrowed much of its mould and spirit from the French, whose literature was popularized by Charles and his followers. An age of smoothness and ease followed in which Waller, Dryden and their contemporaries led.

Against an idle, dissolute King and corruption of any kind, England soon protested. James was dethroned to make way for William of Orange. The wars that attended this change, and the glorious Marlborough victories under Anne, ushered in the next greatest mental age of our race. These great national triumphs, consequent elevations of spirit and development of mental wealth were fitting preludes for the coming of Swift, Bolingbroke, Addison, Steele, Pope, Gay and their glorious companions.

Time forbids a critical examination of each of the other following periods in the history of our literature. But the remarkable literary fruitage of this century is especially noteworthy in

connection with the wars of the century. The richness and broadness of the mental life of the last hundred years is almost unrivaled. An age that has produced Carlyle, Ruskin, the Arnolds, Thackeray, Dickens, George Eliot, Huxley, Tyndal, Darwin, Tennyson, Browning, Macaulay and their brilliant compeers is surely the result of unusual mental stimulus. Where do we find an exacting cause commensurate with such mental results?

The answer is not far to seek. The close of the last century and the opening of this saw the mighty convulsions attendant upon the efforts to establish representative governments. This movement, starting in America, and in turn taken up by most of the monarchies of Europe, shook the very foundations of principalities. The sanguinary revolution in France, culminating in the Napoleonic Wars in which nearly all of Europe was engaged, and the successive struggles of other nations stirred men's minds and imaginations to their depths and provoked the highest thought. With the subsidence of war, the mental energy was again diverted to literature. And as the excitement was great, the resultant was grand. In like manner, the Civil War in our own country was a source of literary growth. Disastrous as it was in many ways, it broke up old ideas in the South, implanted new aspirations, opened new channels, and the strides that for the past decade have been made by the literary men and women of the South are truly marvelous. May each year add to their laurels until our homes are the homes of richest culture, and our authors the thought leaders of the world.

THE ALUMNI ASSOCIATION.

BY G. S. FRAPS, PH. D.

The Alumni Association of the North Carolina College of Agriculture and Mechanic Arts was founded in June, 1895. The College was about to send out its third graduating class of twenty-two men, and, including these, the graduates numbered forty-nine. Though few in numbers, the graduates felt that it was not too early to organize. They could look forward to a rapid increase in strength with each succeeding year, and they wished to be the founders of an organization which, they felt sure, would aid in augmenting the importance and usefulness of their Alma Mater. The first officers of the Association were as follows:

President—C. D. Francks, '93.
Vice-President—Charles Pearson, '94.
Secretary-Treasurer—E. S. Darden, '95.

The objects of the Alumni Association are, like all such organizations, to bring their members into closer social relations, for the short period of Commencement Week at least; and to promote the best interests of the College. The Alumni Banquet, and the Alumni Oration look towards the social side more especially. One main object of effort for the last two years has been towards the establishment of a Textile School as a Department of the College. The real work of the Association, or at least the major part of it in this direction, is done by the Executive Committee. To pay necessary expenses incurred in the promotion of its objects, an initiation fee is charged all members; the Association also expects a yearly contribution from each member for a fund to be used as the nucleus of a loan fund, or for scholarships, or similar purposes.

The first Alumni Banquet, held in June, 1896, was very successful. Mr. David Cox presided as toastmaster. Every suc-

ceeding Commencement has had its banquet, and the custom may now be regarded as one of the regular functions of the Alumni. The Alumni feel that they need the gathering around the table, the reminiscences of days that are past, and all the other pleasurable expressions that such occasions bring forth. At the last banquet, in June, '99, Mr. W. J. Matthews occupied the chair of honor, toastmaster. The toasts responded to were as follows: "Industrial Education," G. S. Fraps, '96; "Our Boys," H. E. Bonitz, '93; "Class of '93," S. M. Young; "Class of '95," J. B. Bizzell; "Class of '96," Daniel Allen; "Class of '97," Graham Clark; "Class of '98," B. C. Fennell; "Class of '99," Mark Squires; "Voluntary," Prof. C. B. Park; "The Ladies," Prof. Alex. Rhodes; "Dry Matter," S. E. Asbury, '93; "Our Graduates," C. W. Gold, '95; "Honorary Members," Prof. C. M. Pritchett.

Like the Alumni Banquet, the Alumni Oration has become an established custom, and grows steadily in popularity, both with the alumni and the general public. The Alumni Oration was inaugurated in 1896 by Mr. W. J. Matthews, in a fine address on "The Coming Young Man of America." At the last Commencement, June, 1899, the orator, Mr. S. E. Asbury, delivered a very thoughtful address in which he emphasized the growing necessity for a course in Chemical Engineering. The Alumni Orator for June, 1900, is Mr. C. W. Gold, Business Manager of the *Wilson Times*, and Editor of *The Dixie Dairyman*.

The Executive Committee of the Alumni Association is composed of those members who reside in Raleigh, or at the College. The Alumni Association believes sincerely that North Carolina needs a Textile School, and is firmly convinced that such a school should be a department of the North Carolina College of Agriculture and Mechanic Arts. During the last two years the Executive Committee has worked with the establishment of this school as an object. Letters, addressed to prominent mill men and manufacturers all over the State, brought replies that show vividly that at least a portion of our people are alive to the fact that such a school is a necessity for the industrial development

of the State. Many of the replies were most enthusiastic. It should be mentioned here, that the Watauga Club, largely instrumental in the foundation of this College, have been agitating this question for some time. North Carolina will take an important step forward in industrial progress when these efforts bear fruit.

A college paper is a very necessary accompaniment of college life, and, rightly managed, it should be a source of interest and educational influence for both students and alumni. Realizing this, the Alumni Association has endorsed RED AND WHITE, and most willingly has voted hearty co-operation to it. The alumni individually are expected to do what they can to make this paper a success, and to encourage its development. The writer would like to suggest to the Literary Societies of the College, that they co-operate with the editor of this paper, by handing to him such literary work of genuine merit as is done within their respective Society walls. The publishing of essays, abstracts of debates, etc., from the Societies, ought to add greatly to the interest in their work, and stimulate and encourage their members. Of course, in order to prevent undue jealousy between the two, and to ward off the dangerous cry of favoritism, each would have to have a certain definite amount of space.

The foregoing is only the suggestion of the humble writer, to those mighty personages, the Editor, and the two Literary Societies.

As has been already stated, the Alumni Association is trying to raise a fund for the foundation of a scholarship, or a loan fund, by yearly levies on all of its members. It is hardly necessary to dwell on the usefulness of a loan fund to any college, still less so when the college was founded "in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life." Any graduate of the College can recollect men who have worked their way through; they remember, too, how the lessons suffered for lack of time to study them when this was the case, and they can count numbers of men who passed away from the Freshman, the Sophomore Class for one poor reason—they did not have the means. The gradu-

ates know what good can be done by a loan fund, and so can any one who has studied its work at the colleges which have them.

The Alumni Association should hope to raise a loan fund in time. Their numbers are few, and some of the members are indifferent, so the fund which may be used for this purpose grows but slowly. It is to be hoped that this much-needed institution, this loan fund, will soon become something not to be looked forward to, but looked back upon, not a hope for the future, but a reality, a living, growing reality. A growing reality, for with us it must begin small and grow fast. The co-operation of every member of the Alumni, and the assistance of true friends of the College and industrial education, are needed to bring this about.

The officers of the Alumni Association, as at present constituted, are:

President—Dr. G. S. Fraps, '96.
Vice-President—A. H. Prince, '95.
Secretary and Treasurer—N. R. Stansel, '98.
Chairman of the Executive Committee—Charles Pearson, '94.

FOOTBALL TEAM.

HISTORY OF THE NORTH CAROLINA COLLEGE OF AGRICULTURE AND MECHANIC ARTS.

"The old order changeth, giving place to new," said one of our modern poets. And to day we witness this spirit of change in every plane and condition of life. It is the distinguishing characteristic of the age in which we live. "Humanity can point to no century in which the inventions which penetrate so deeply, so tyrannically, into the life of every individual are crowded so thick as in ours. The discovery of America, the Reformation, stirred men's minds powerfully, no doubt, and certainly also destroyed the equilibrium of thousands of brains which lacked staying power. But they did not change the material life of man. He got up and laid down, ate and drank, dressed, amused himself, passed his days and years as he had been always wont to do. In our times, on the contrary, steam and electricity have turned the customs of life of every member of the civilized nations upside down, even of the most obtuse and narrow-minded citizen, who is completely inaccessible to the impelling thoughts of the times." So in these days of rapid change and material development, we find that all the ideas of men have undergone some change to keep pace with the electrical rapidity of these modern times. In fact, man is simply following the natural law of development.

Again, we find that the changes made in man's material condition have made it necessary that he alter his forms to meet the changed conditions. And in no case have these forms changed more than in the forms of education. It is natural that these forms should change, as education is the tool by which we master conditions and make the forces of nature subservient to our needs. This change in educational methods finds many forms of expression, but we are concerned with only one of these. I mean the change from exclusively theoretical and literary education to that form which combines practical application of the phenomena of nature to the needs of man, with enough of black-

letter lore to make us conversant with logical reasoning as it bears on our natural needs. Hence, we see technical schools scattered about over our country, whose only purpose is to make practical men and not theorists. Let us trace the crude beginning of this movement in North Carolina, which found its consummation in the foundation of the North Carolina College of Agriculture and Mechanic Arts. To do this it is necessary to give some account of the Watauga Club as it was the charter-members of this Club who were the early leaders, in fact, the originators of this movement.

The Watauga Club was organized May the 26th, 1884, and its purpose was mainly the discussion of economic questions. The Club was proposed by Mr. Walter H. Page; the prospectus of its principles was by Mr. W. J. Peele; the name was given by Mr. G. E. Leach. It grew out of a conversation in front of the Citizens National Bank, between the three gentlemen above named and Mr. A. D. Jones, deceased. Mr. Jones came over from the post-office with a letter from Senator Vance, and said, "Boys, Vance wants us to form a Tariff Club." Mr. Page said, "Why not form a club to discuss other economic questions as well as the tariff?" Mr. Peele suggested that it should have a meaningless Indian name. Mr. Leach, after reflection, suggested that it be named after one of our mountain rivers—Watauga. The informal meeting dispersed, and met several days later, when it adopted the prospectus which had been drafted in the meantime. Among its early members were the gentlemen named above, Dr. Chas. W. Dabney, W. H. Kerr, deceased, Arthur H. Winslow, C. G. Latta, John W. Thompson, A. A. Thompson, Alf. W. Haywood, H. M. Cowan, and Dr. R. H. Lewis; later, Thomas Dixon, Chas. D. McIver, and H. E. Norris, besides various other young men from Raleigh and other parts of the State. A significant feature was that no man could become a member who was over thirty-six years of age. During the Legislature of 1885, when the Club was trying to incur favor, this limit was abrogated.

A most excellent way to record history is by the writings of those who have helped to make that history. So I insert the

address made by Mr. W. J. Peele at the laying of the corner-stone of the College, August the 22d, 1888, which depicts better than any words of mine the causes that led to the foundation of our *Alma Mater*.

On that occasion Mr. Peele said:

It is said that ten years before the agitation of the movement culminating in this institution some farmers in Edgecombe County suggested the propriety of an Agricultural College. As the benefits of industrial education have been more or less familiar to all well-informed persons for the past twenty-five years, it is quite probable that the suggestion was actually made as was alleged. It was either not very well received, or not much insisted upon, for none of the originators of this movement ever heard of it.

But it is not the purpose of this paper to treat of mere suggestions. It was said of John Huss that if he had lived a century later he would not have been burned at the stake, and that his reformation would have succeeded like Luther's. How this would have been we cannot tell. All that we now know is, that his reformation did not succeed like Luther's, and that he was burned at the stake. It is my purpose in this paper to show that nearly ten years later than ten years ago the propriety of establishing an Industrial School in North Carolina was suggested among some young men of this city; that then they showed how the thing could be done, and that then, with the powerful assistance of many others, they went ahead and did it.

It is also the further purpose of this paper to record the names of the principal actors in this movement. There are some like Mr. [W. S.] Primrose, Mr. [R. S.] Pullen, Dr. [Charles W.] Dabney and Mr. [Walter H.] Page, whose names will always be indissolubly connected with this institution. There are also others like Colonel [Wharton J.] Green, Mr. [W. R.] Williams and Mr. [A.] Leazar, of the Board of Agriculture, whose names ought to be under-scored on the corner-stone. There are still others like Mr. [A. H.] Winslow, Mr. [G. E.] Leach and Mr. [W. E.] Ashley, of the Watauga Club; Mr. [Thomas] Dixon,

Mr. [R. W.] Winston and Mr. [H. E.] Fries, of the Legislature; Major Harding, Major Tucker, Mr. [C. T.] Bailey and Mr. W. G. Upchurch, of the citizens; and Colonel [L. L.] Polk, of the *Progressive Farmer*, whose services are a part of the history of industrial education in North Carolina.

On May 26th, 1884, the Watauga Club, which had just then been formed, adopted a prospectus of its principles and purposes, containing the following clause: "We proceed upon the assumption, which cannot be denied, that there is in our community a serious lack of accurate and practical information upon the most common economic questions which arise for our consideration." In response to this sentiment one of the members, who had been appointed to "address the Club upon any subject he may elect," prepared and read at the next regular meeting of June 18th, a paper upon *Industrial Education*, and the feasibility of establishing an Industrial School in North Carolina. From time to time other papers were read and suggestions offered as to the most practical plans for establishing such school. On the 17th of December, 1884, a committee was appointed with instructions to present to the Club at its next regular meeting, to be held in January, 1885, a "definite report upon the practicability of establishing an Industrial School in North Carolina, with a view of submitting the same to the Legislature which should then be in session."

At the next meeting of the Club, January 7th, 1885, Mr. Arthur Winslow, himself a graduate of an Industrial School, read the report of the committee.

On the 15th of January, at a called meeting of the Club, Mr. W. H. Page offered the following:

"*Resolved*, That a committee be appointed to memorialize the Legislature in the name of this Club to establish an Industrial School in North Carolina, and respectfully offer to the Legislature, or a proper committee thereof, all the information on the subject in possession of the Club; that the committee be empowered, if need be, to publish such information also."

The resolution was adopted, and Messrs. Page, Winslow and another were appointed as the committee. With the assistance

of Dr. Dabney, the committee prepared a memorial, the substance of which is as follows:

"1st. To establish an Industrial School in North Carolina—a training place in the wealth producing arts and sciences.

"2d. To be located in Raleigh in connection with the State Agricultural Department.

"3d. To erect a suitable building and provide proper equipment.

"4th. That the instruction be in wood-work, mining, metallurgy, and practical agriculture.

"5th. That necessary shops and laboratories be erected adjoining the buildings of the Agricultural Department, and that an experimental farm in the vicinity of Raleigh be equipped.

"6th. That an Industrial School is of prime importance and greatly in demand."

To this was subjoined information and estimates of cost.

The committee appeared before the Legislative Committee on Education, whose acting chairman was Mr. Leazar. Mr. Thomas Dixon, an enthusiastic believer in industrial education, introduced a bill of his own without waiting for the report of the committee. Mr. Leazar, for the committee, subsequently introduced the bill which became the Act of 1885. The bill passed the House by a vote of fifty-one to eleven. In the Senate, Messrs. R. W. Winston, Willis R. Williams, Capt. S. B. Alexander and Major John Gatling, deceased, were its principal champions. It passed by a vote of twenty-three to nine, becoming a law on the 7th day of March, 1885.

The time will come when posterity will demand the ayes and noes on this bill, but I will not call them to-day. The bill became a law not without serious difficulty. Some opposed it because they were fossils and oppose everything; some feared it would ultimately draw the Land Scrip Fund away from the University. It was the general opinion of its friends at the time it was passed that it would have failed if it had called for one dollar from the general treasury.

The main features of the Act are interesting at this day. It provides:

1st. That the Board of Agriculture should seek proposals of donations from the cities and towns of North Carolina, and

when an adequate donation should be made by any city or town, where the school should be located, giving preference to the place which offered the greatest inducements.

2nd. That the school should be under joint control of the Board of Agriculture and directors from such town or city.

3rd. That the instruction should be in wood-work, mining, metallurgy, practical agriculture, and such other branches of industrial education as may be deemed expedient.

4th. That the Board of Agriculture should be authorized to apply annually $5,000 of the surplus funds of their department to the establishment and maintenance of said school.

Pursuant to Act of Assembly, and authorized by resolution of the Board of Agriculture adopted October 15th, 1885, Mr. McGehee, Commissioner of Agriculture, advertised for proposals. Charlotte responded, offering an eligible site and $5,000 in money; Kinston offered $10,000 in money; Raleigh offered $5,000 in money (increased subsequently to $8,000), the Exposition Building, valued at $3,000, one acre of land donated by Mr. William C. Stronach (conditioned upon the location of the school upon it), and subsequently the use of twenty acres of land donated by the Directors of the State Fair, situated in the western part of the Fair Ground.

At this meeting of October 15th, the Board of Agriculture passed a resolution instructing the Director, Dr. Dabney, to prepare and submit at their next meeting a report upon the cost and character of an Experimental Farm, and also upon the conduct of an Industrial School.

Not satisfied with the progress made since the passage of the Act, the Watauga Club, on November 4th, passed a resolution calling for a mass-meeting of the friends of industrial education throughout the State. With the aid of the citizens of Raleigh, acting through Messrs. Primrose and Latta, a great mass-meeting was called together on the 26th day of November. Capt. Octavius Coke was made chairman. Dr. Chaney from Atlanta, Major R. Bingham, W. H. Kerr and others addressed the meeting. Great enthusiasm prevailed, and the following resolution was adopted:

"We, citizens of North Carolina, in mass-meeting assembled, feeling a deep interest in the material welfare and prosperity of our State, and well knowing that intelligent labor is the basis of our civilization; believing that our people are of right entitled to an institution where the best methods of manual labor may be taught and its dignity faithfully impressed upon the minds of our youth; deeply sensible of the necessity of a system of education which will train the mind and hand together, and of the truth that pure theoretical and literary education is not of itself sufficient to meet the demands of the people or the necessities of these times; profoundly conscious of the fact that the avenues of livelihood to men trained only for literary pursuits are already crowded, and holding as we do that it is the duty of the State to her sons as she increases their demands upon society by education to open up to them and multiply the avenues of legitimate occupations; therefore

Resolved, 1. That we ought to have an Industrial School.

2. That it ought to be located in Raleigh.

3. That we will give such institution our cordial co-operation and support.

4. That a committee of twenty-five be appointed to prepare a report upon the cost, character and constitution of such school, and submit the same to the Board of Agriculture at their next regular meeting in December."

Mr. Primrose was made chairman of the committee. Among the most active of its members were Mr. Donald McRae of Wilmington, and Maj. R. J. Powell of Chatham. The committee, accompanied by Maj. Tucker, who represented the Raleigh stockholders in their donation of the Exposition Building, submitted these resolutions and their report. (Several other stockholders outside of Raleigh also generously donated their stock). Speeches were made by Mr. Primrose, Maj. Tucker, Capt. Ashe, Mr. Ashley and others. The Board of Agriculture appointed a committee to report at their next meetiug upon the sufficiency of the amount tendered to establish the school. They adopted a resolution establishing the Experimental Farm.

At a meeting of the Board, January 20th, 1886, the citizens' committee made another supplemental report. The Board adopted a resolution against the establishment of the school upon the offers made, but donated $5,000 annually, to be applied as soon as a sum adequate, in their judgment, should be offered. The vote in the Board was understood to be close. The discussion

was adjourned to the newspapers, and for awhile it was lively. Never did industrial education get a better advertisement. Both sides claimed friends with the school. The dispute was upon the adequacy of the sums offered and certain technicalities.

At the meeting of the Board of Agriculture, April 21st, 1886, the citizens' committee again appeared before them and increased the offer of the city of Raleigh to $8,000 in money. This offer was accepted, and a resolution to establish the school at this city was adopted. Messrs. Leach, Moring and Wynne were appointed directors on the part of the city. A site was purchased from Dr. Grissom, and negotiations were pending for letting out the contract to build when some events occurred which materially changed the whole history of industrial education in North Carolina.

As far back as 1885 Mr. Lovill had offered an amendment to the Industrial School bill then pending, that the Land Scrip Fund be taken away from the University and given to the proposed school. It was lost. Sometime after that Col. Polk began to make the same demand through the columns of his paper. On the 18th of January, 1887, a mass-meeting of farmers, called together to consider the conditions and needs of our farmers, passed a resolution, offered by Mr. S. Otho Wilson, for the farmers of Swift Creek, to the effect that the farmers needed an Agricultural College, and that the Land Scrip Fund be diverted from the University and applied thereto.

On the 26th of January, a great mass-meeting of farmers and workingmen, called together from forty counties by Col. Polk, mainly to consider this question, was organized with Elias Carr as chairman, and passed a resolution to the effect (1) that the time had come to establish an Agricultural and Mechanical College in accordance with the Land Scrip Act; (2) that the interest of the Land Scrip Fund should be paid to the College; (3) that a sufficient amount from the general treasury be appropriated and available convict labor to establish, equip and maintain such college upon a basis equal to the demands of the hour; (4) that the surplus funds of the Agricultural Department be utilized in this connection; (5) that every student be required to take a

BASEBALL TEAM.

course of manual training; (6) that the payment of the Land Scrip Fund to this college should not work a diminution of the appropriation to the University; (7) that the funds and property of the Industrial School, including the donations of the city of Raleigh, in accordance with a resolution of its Board of Aldermen, be turned over to the proposed college. These resolutions were prepared by P. A. Dunn, chairman of committee; A. D. Jones, L. L. Polk, and others. A committee, J. T. LeGrand, chairman, H. E. Norris, D. McN. McKay and Geo. Z. French, was appointed to transmit these resolutions to the General Assembly, and, with the aid of the committee appointed by the convention of the 18th inst., to secure the passage of an act embodying these resolutions.

The committee was ably assisted by Mr. Primrose, Dr. Dabney, Mr. H. E. Fries, Mr. Leazar and many others, and they did their work well. They prepared the bill which is in every essential particular the Act establishing the College. Mr. Leazar introduced the bill for the committee. In its passage through the Legislature it did not have a sail "through seas of heavenly rest." Not every one who voted for it favored it. Some wanted to reduce the appropriations to the University; others wished to cripple the Agricultural Department. They were, in fact, however, saving the Department and rendering it far more useful to the people. Some Republicans demanded that its government should be by directors from both political parties. Its friends accepted this amendment, which is, perhaps, wise, as it takes it out of politics. The bill would hardly have passed but for the timely influence of Messrs. T. B. Keogh, J. C. L. Harris, John Nichols and J. B. Eaves upon the Republican members of the Legislature. It had to run the gauntlet of amendments. Amendment by Mr. H. G. Ewart to locate upon his farm. Lost. Bill passed final reading in the House by a vote of sixty-eight to nineteen.

Amendment by Mr. Mason, in the Senate: "Locate near Chapel Hill, on lands of J. A. Cheek." Lost.

Amendment by Mr. Purcell: "To submit the question of establishment to the qualified voters of the State." Lost.

"This is another sink-hole to bury the people's money in," exclaimed a youthful Senatorial fossil from the West. "The people are not in favor of it, for it was not canvassed on a single stump in North Carolina."

"You are mistaken," said Mr. Eaves. "I made it an issue upon every stump in my county that my opponent voted against the Industrial School Act of the last Legislature, and I beat him upon that issue."

The bill passed its final reading in the Senate and became a law on the 3d day of March, 1887, by a vote of twenty-nine to thirteen.

Capt. S. B. Alexander, Mr. W. R. Williams, Mr. J. H. Pou, Mr. Leazar and Mr. Fries were among its principal advocates in the Legislature. Both presiding officers were its friends. Two years before Governor Stedman had engineered the first act through over the heads of an unfair and filibustering opposition. The passage of the Hatch Act about this time appropriating $15,000 to the College and Experiment Farm to be run in connection therewith, the generous donation of Mr. Pullen of this site of sixty acres surrounding, the strong pressure of two great conventions of farmers, and the well-directed efforts of its friends in the city and elsewhere, with the aid of friendly Representatives, swept the bill through the Legislature as if by storm. It will be a matter of interest one of these days to call the ayes and noes, but I will not call them now.

The main features of this Act are worthy of attention here. It provides that the name of the school shall be "The North Carolina College of Agriculture and Mechanic Arts"; that it be located on the lands donated by R. S. Pullen; that it shall be managed and controlled by the Board of Agriculture and five other persons, who together constitute its trustees. (Their names appear upon the corner-stone). That the interest on the Land Scrip Fund, $7,500 a year, shall be transferred to it on June 30, 1888, or as soon thereafter as it shall be needed; that the Directors of the Penitentiary shall furnish requisite brick and stone and convict labor as they are able, without interfering with previous contracts; that the assets and accumulated funds of the

Industrial School be turned over to this College, and also the surplus funds of the Department of Agriculture not required in its regular work. (The expenses for regular work had just been limited by another Act to $20,000 a year). That the Experiment and Fertilizer Control Station be connected with the College, and authority given to the Board to turn over to it all real and personal property in their possession, and also to receive donations from the United States Government for Experiment Stations, then in accordance with the Act of Congress. (This Act appropriates $15,000 per annum to the College of Agriculture and the Experiment Station to be run in connection therewith. Part of this fund under a construction of our Act of Assembly, is being applied to Fertilizer Control Station). That the use of Camp Mangum tract, 300 acres, situated a half mile west of the State Fair Grounds, be given to this College. That 120 students may be admitted free—each county being entitled to a scholarship for every member it sends to the General Assembly. Such students shall furnish evidence of good moral character and their inability to pay tuition. That every student be required to take a course in manual training. That the Board of Trustees be composed of one-half of each political party. The laws of North Carolina do not seem to contemplate the possibility of a third party and have made no provision for it in the government of this institution.

A summary of some of the main features of the Hatch Act is necessary to a proper understanding of our Act of Assembly. It passed in its present shape March the second, 1887, the day before ours became a law. It provides that in order to promote practical scientific investigation and experiment in the principles of agriculture, and to diffuse such information among the people, there shall be established *under the direction of the agricultural college or colleges* of each State established under the Land Grant Act of 1862, a department to be known as an "Agricultural Experiment Station." That results of experiments and investigations shall be published quarterly in a bulletin to be sent to the newspapers of the State. That for the expenses of investigation and dissemination the sum of $15,000 *per annum* shall

be appropriated to be specially provided for by Congress in its appropriations from year to year. That of the first year's appropriation one-fifth may be used in the erection and repair of buildings, and five *per centum* thereafter. That this Act shall not impair the legal relations existing between the colleges and their State governments. That where States have experiment stations separate from such colleges, this money may be applied to such stations. (Ours is in connection with this college and a part thereof, and will be more completely subordinated thereto by the next Legislature, if it carries out the intention of the Act of Congress). That where a State has an Agricultural Department connected with a school not distinctively agricultural and shall have or shall thereafter establish a separate agricultural school in connection with an experimental farm, the Legislature may appropriate this fund in whole or in part thereto. That this appropriation shall be subject to the legislative assent of each State.

The assets of this institution are:

1. The site and sixty acres surrounding, donated by Mr. R. S. Pullen, valued at $4,000.

2. The use of twenty acres of land in the State Fair Ground, donated by Directors of State Fair, valued at $2,000.

3. Three hundred acres of land, the Camp Mangum tract, located about three-quarters of a mile west of this building, valued at $5,000.

4. The Exposition Building, donated by the Raleigh stockholders, and valued at $3,000.

5. Surplus of the Agricultural Department, $14,000 *per annum*, contingent upon continued existence of the fertilizer tax.

6. The direct donations of the City of Raleigh in money, $8,000.

7. The accumulated assets of the Industrial School set aside under Act of 1885, amounting to $5,000.

8. The materials and labor furnished and to be furnished by the Directors of the Penitentiary, valued at $6,000.

9. The State's certificate of indebtedness for the Land Scrip Fund, $7,500 a year, permanent endowment, if good government continues, of $125,000.

10. The appropriation under the Hatch Act, $15,000 *per annum*, equivalent, under certain limitations, to an endowment of $300,000. Total, $472,000.

11. The earnest labors of five hundred of our best citizens and the best wishes of many thousand others.

Grand total: To be estimated by the future historian of this institution, who shall write the second chapter of its history, commencing with the beginning of practical operations by the Board of Trustees under the law of its establishment.

I am enabled to read a printed copy of this history through the enterprising kindness of Mr. E. G. Harrell, who is an enthusiastic friend of this institution. I have finished the task that has been assigned to me. One or two thoughts and suggestions, and I have done.

You must not expect too much of those who have this institution in charge, nor expect it too fast. I am glad I am not one of them. They have a splendid endowment to work with, but it is hedged about in part by limitations, and they are in a new and untried field in North Carolina. For awhile they must feel their way cautiously, as being partly in the dark. Said General Johnstone Jones to me, himself a newspaper man, "I never saw the words 'Industrial Education' in print in this State until this agitation by the Watauga Club." This may not prove that it never was in print, but it does prove that it was very rare. These Trustees, then, will meet many difficulties, will make some mistakes, will receive some criticisms, but I confess here, by way of State's evidence, that every hindrance this institution has met so far has redounded ultimately to its benefit. The hill of difficulty which seems so steep to climb but helps us down the other side of it, and resistance to the progress of truth, is God's method of advertising it. If those who have this movement in charge will only have faith, as said Abraham Lincoln, "The people, the people, the people, will carry them through."

I see, or I think I see, a difficulty that will dance attendance upon this institution with devilish pertinacity: *it is the tendency toward theoretical, literary and ultra-scientific education.* Al-

though we have a thousand schools in the State where these things may be taught, and should be taught, the tempter sitting squat at the ear of the authorities will whisper, "This is the place to teach them." There are to-day five million people in the United States, and three million of them are in the South, who call black-letter scholasticism alone, education. Lord Bacon waged war with these literary Apollyons, and they will be found fighting against progress on the day of judgment.

With Pharisaical zeal and bigotry, these men would feign have buried the new religion from Galilee, mountain deep beneath the fossil learning of the Rabbis and the traditions of the elders. They wanted to issue a diploma to its Divine Author before He could get authority to heal the sick or raise the dead. Fools seeing this institution in close and deadly struggle with this tendency will confound them *both* together and try to hurl *both* into the same destruction.

There is a class of friends, too, who must be resisted. Their cry is North Carolina for North Carolinians, which as often proceeds from a pot-hunter as from a patriot. Pay no attention to them. God made all this world from which to choose the best things that are in it. I charge you that you execute the people's business as you would your own, and that for this purpose you secure the best agents that can be found, under what sky soever they may have been born.

It was the custom among the Greeks and Romans to build great temples in honor of great principles and virtues. Their marble columns are standing to-day in unrivaled beauty upon this earth. The centuries crowd together like little children at their feet, and old Father Time grown weary in his work of destruction, has sat himself down beside them to rest. No beholder of these splendid columns can doubt that the virtues of which they are monuments were at one time held in honor.

"I will build me an house," said Jehovah, the Great Royal Arch Mason and Supreme Architect of this Universe, and the gilded dome of Solomon's Temple rose from the hill of Mount Zion, a beacon light for all the ages. To-day there stands near the Ganges a beautiful mausoleum or temple. It was built by

an Indian King in honor of his affection for his wife. It is adorned and crowned with the purest white marble. Octagonal and slightly pyramidal in shape, it lifts its graceful head for more than two hundred feet above the plain. Standing like a giant goddess of beauty, clothed in pure garments of white, it can be seen for thirty miles away. It has heard the rush of the sacred river for six centuries, but its marble looks almost as pure as if it had just sprung from the hand of the architect. As it arches itself upward in successive splendors of symmetry back toward the great Author of all things symmetrical and beautiful, it is one of the most magnificent works of man. The great eye of Day, in his fierce, searching glance over all this earth, lights not upon upon another such a monument to the virtue of affection. Fittest habitation on earth of the fittest virtue under heaven or in heaven!

No white marble pillars support the building whose corner-stone we have laid here to-day. At its feet no sacred river flows. In its walls are nothing but North Carolina brick and her still more solid sandstone. It is a goodly and a worthy structure, yet I will not compare it to the temple of the ancient Indian King; but in one respect they are alike. Both are the monuments of a labor of love; for this too is a temple reared by North Carolinians in affection for North Carolina and by North Carolina in affection for her children.

It may be injured by the parsimony of some future law-giver, or it may be enlarged by the generosity of some more princely benefactor than Mr. Pullen, but I make this prophecy: that the principle of industrial education, for the want of a habitation wherein to dwell, shall walk naked in North Carolina no more again forever.

And to this building and to the institution it embodies, and the principles of industrial education of which it is the home, I would say in the language of the Latin, itself an emblem of immortality, *esto perpetua!*

In publishing the Historical Address of Mr. W. J. Peele and the Memorial of the Watauga Club, showing the origin of the

Agricultural and Mechanical College, I wish to call attention to some points which, though they are there clearly proven, seem not to be generally understood. It appears that the movement out of which the College grew, had no reference whatever to any of the Acts of the Federal Government; in fact, none of them had been passed at the time of this movement except the Land Grant Act of 1862; and the originators of this movement did not contemplate ever getting any of that money, but advocated that the School be started out of the surplus funds arising from the tax on fertilizers.

Of course the passage of the Hatch Act of 1887, and the Supplementary Morrill Act of 1890, were Godsends to the movement as they were both intended to promote Industrial Education; but what I wish to specially point out is that it was undertaken without reference to any aid from the General Government whatever.

It appears also, that to Col. Polk mainly belongs the credit of getting the Land Scrip Fund away from the University about three years after this movement was started, and that the early promoters (probably because the main ones were University men) had little to do with that particular phase of the fight, because it would come with better grace from others.

The Address is of the more historical value, because it was delivered in the presence of a multitude of the friends of Industrial Education gathered from all parts of the State; but it omits one important fact as well established as any which it contained, that the speaker himself was the particular member of the Club who first proposed the establishment of the School.

To show how cautiously the early leaders felt their way in the inculcation of the principles of Industrial Education, and to illustrate the rough ideas of our College founders, who were trying to catch public sentiment and lead it gradually from such a crude beginning to the point of acknowledgment of the State's industrial needs, I insert extracts from the memorial of the Watauga Club, which bears the following title:

COLLEGE INFIRMARY.

An Industrial School.

THE WATAUGA CLUB MEMORIALIZE THE GENERAL ASSEMBLY AND SET FORTH REASONS WHY THE ESTABLISHMENT OF AN INDUSTRIAL SCHOOL WOULD BE OF VAST BENEFIT TO THE STATE.

MEMORIAL.

To the Honorable, the General Assembly of North Carolina:

We, a committee appointed by the Watauga Club, an association in the City of Raleigh, designed to find out and make known information on practical subjects that will be of public use, respectfully memorialize your Honorable Body:

1st. To establish an Industrial School in North Carolina, which shall be a training place for young men who wish to acquire skill in the wealth-producing arts and sciences.

2nd. To establish this school at Raleigh, in connection with the State Agricultural Department.

3rd. To make provision for the erection of suitable buildings and for their equipment and maintenance.

Having given this subject our full consideration, after careful study, we further respectfully submit the following suggestions:

1st. That instruction at this school be in wood-work, mining, metallurgy, practical agriculture, and in such other branches of industrial education as may be deemed expedient.

2nd. That the necessary shops, laboratories, etc., be erected adjoining the building of the Agricultural Department, and that, in addition, an Experimental Farm be established in the vicinity of Raleigh, which shall be properly equipped.

We submit the facts that have caused us to conclude that such an institution is of prime importance and greatly in demand, together with estimates of the necessary cost of equipping such an institution.

ARTHUR WINSLOW, *Chairman*,
W. J. PEELE,
WALTER H. PAGE,
Committee.

[The following are the facts and suggestions about the establishment of an industrial school, submitted to the General Assembly, with a memorial, by the Watauga Club.]

An industrial school is one in which the practice of an art is taught. It is primarily a place for the preparation of young men to earn their living in the practice of the manufactures and other industries. In it the student is made familiar with the details of the different processes employed in the arts by practice in the actual work of the various departments and by extended observation and study. The best way of doing a thing is there taught; a way determined by collecting, comparing and classifying the results of the experiences of men everywhere and at all times. It diffuses definite and authoritative information and pupils are no longer confused and disheartened by finding, as in the old system of apprenticeship, that the explanation of well-known facts are nearly as numerous as the masters. It is a short cut to knowledge and thus a device to save time. It is distinguished from the technical school by the absence of the element of experiment and investigation, and it is not a school of general culture, but its instruction is most effective when it is made a part and branch of such schools, where the shop and field work supplement the studies in the various technical sciences; for no greater mistake could be made than to assert that the farmer, mechanic or manufacturer has no need of a liberal education, and, as Dr. Drown writes: "Happy is the man who combines in himself both the knowledge to think and to work."

In treating of this subject, of the establishment of an industrial school in North Carolina, we will adopt the following order of topics for discussion:

1. The advantages to be derived from an industrial school.
2. The call for such an institution in North Carolina.
3. The location.
4. Cost of equipment and courses of instruction.

THE ADVANTAGES TO BE DERIVED FROM AN INDUSTRIAL SCHOOL.

The advantages possessed by a graduate from such a school are self-evident. He stands in the position of a skilled workman. Though not proficient in all the branches of the art he may have studied, he is well informed as to its general outlines and main principles and his mental training has been such that he is qualified to soon perfect himself in any branch he may engage in.

The advantages to the community would seem none the less apparent. The more skilful and intelligent citizens the State possesses, the better for its prosperity and stability, and the more such men are fitted to develop and to utilize its resources in the best manner, the greater will be its increase of wealth with the consequent raising of the standard of comfort.

The steps which have been taken elsewhere to establish, to maintain and to enlarge the scope of technical and industrial schools speak eloquently in testimony of their value. Large polytechnical and industrial schools have been founded, and are maintained in all of the principal States of Europe. In the United States they have developed to an almost equal extent. Most of the larger cities contain such schools, and they are increasing in number and proportions yearly. The Massachusetts Institute of Technology had, in 1883, an investment in building and machinery aggregating about $370,000. Its permanent endowment fund is $267,000, including one-third of the Land Scrip Fund, donated to the State by the General Government. Its annual catalogue for the years 1884 and 1885 shows a list of fifty-seven instructors of all grades. This school has been in existence for twenty years. During this time the number of students has steadily increased from 72 to 579, and this last number is more than double what it was in 1880. The degree of Bachelor of Science is conferred for proficiency in one of nine different courses in the technical professions. Of particular interest in the courses and in the equipment of this institution is the instruction in electrical engineering, in which the student is

made familiar with the various technical applications of electricity; the new shop and complete equipment for instruction in mechanical arts; the laboratory of mechanical engineering, where there are engines and machinery available and suitable and suited for experiments with steam, in the transmission of power by belting, in hydraulics, etc.; the new mining and metallurgical laboratories, which, during the past summer, have been much extended and entirely remodeled, at a cost of between six thousand and seven thousand dollars. The school of industrial science at this institution, in the terms of the catalogue, "provides an extended series of scientific and literary studies, and of practical exercises." Subsidiary to this is the School of Mechanic Arts, which is: "For the benefit of those who are unable, for want of time or means, to go through one of the regular courses, and yet desire a good preparation for industrial pursuits;" also the Lowell School of Practical Design, where, with free tuition, young men and women are taught the art of making patterns for fabrics, paper hangings, oil cloths, etc., and are given opportunity to work their designs into actual fabrics.

The Worcester Free Institute of Industrial Science had, in 1883, a total endowment of about $624,000, with an annual income of $24,000. Thirteen professors were employed. The products of the students' work are sold for the benefit of the institution, which realizes some $5,000 per annum from this source. The college is thus a manufacturing establishment in which instruction accompanies production.

The Chicago Manual Training School was founded by association of gentlemen connected with the Commercial Club of Chicago. An amount of money sufficient to insure its success was pledged and a committee appointed to prepare a plan for its organization. The regular school exercises began only about a year ago. The instruction is that of a high school accompanied by manual training in wood and iron work.

The Miller Manual Labor School, of Albemarle county, Va., was richly endowed by the will of Samuel Miller, in which he left instructions that buildings should be erected for the comfortable accommodation of one hundred pupils and their teachers;

and that these pupils, being residents of the county of Albemarle, shall be fed, clothed and instructed free of expense. Instruction is given in wood and iron working; running of steam engines, technical drawing, printing, electrical engineering, agriculture, and in the other scientific and general studies usually pursued at such schools. Boys cannot remain in the school after they are eighteen years of age save in exceptional cases, and parents and guardians must relinquish hold upon them during the time they shall be required to remain at the school.

Other technical and industrial schools of note in this country are the Columbia School of Mines and the Cooper Union in New York; the Stevens Institute of Technology at Hoboken, New Jersey; the Rensselaer Polytechnical Institute, at Troy, N. Y. In addition there are technical departments connected with many of the universities and colleges scattered through the country, such as the State Universities of Illinois, Wisconsin and Michigan.

In Georgia a committee of seven was appointed from the House of Representatives in November, 1882, by the Speaker, "to investigate and consider the propriety and expediency of establishing in this State a School of Technology, under the supervision and direction of the State University." The reports of this committee and the accompanying discussions contain much information of value.

Technical education has been proved to have a most direct effect in stimulating and perfecting the manufacturing industries. At the time of the opening of the Industrial School at Worcester, that place was only a comparatively small village. Now it is a thriving city of possibly near 75,000 inhabitants. The increase and aggregation of wealth, it is claimed, is largely due to the action of the school upon the surrounding country. It has made the city a center of manufacturing interprise. It has developed the inventive talents of the citizens till the city's ratio of inventions is by far the largest in the State. In England a royal technical commission was appointed in 1881 to inquire into the reason why certain continental nations, notably Germany, France and Belgium, were able to manufacture various

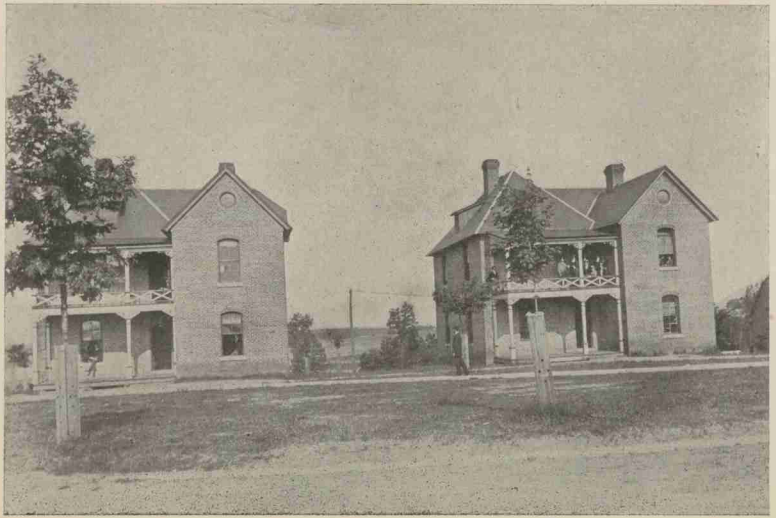
articles in a superior manner, and at a less cost than could be done in England. As a result of their investigation they discovered that this was due to the higher training of the foreign workman and that in largely increased and improved facilities for technical education alone lay the hope of resuscitating the waning industrial fortunes of the kingdom.

THE CALL FOR SUCH AN INSTITUTION IN NORTH CAROLINA.

North Carolina has many uses for industrially trained labor. This State has undoubtedly a wealth of natural products both in the agricultural and mineral lines, and there is little of skilled labor or appliance with which to turn them into finished commodities. The State has done much of late in the way of advertising itself through exhibitions, publications and other channels, with the idea of attracting capital and labor from other places. Let it now turn to and prove to the world, by utilizing its riches that its exhibits are not mere collections of show specimens, and that its resources do not exist merely upon paper. People at a distance are inclined to feel somewhat skeptical with regard to the vaunted riches of any section of a country when its natives can make no use of them. There is some money in the State, and if the trained labor is supplied, there seems no reason why its people should not enjoy all the advantages which can be derived from its resources. Why should the great cotton crop have to travel all the way to New England before it can be manufactured into articles of use? There are great piles of copper and other ores already mined in this State which lie unutilized in the mine dumps simply from the fact that there are no smelters to reduce them, and the bulky unreduced ore will not bear the cost of long transportation. A few successful results of local enterprise would prove the most effective advertisement, and money would be readily drawn into what was demonstrated a profitable field. The following extracts from Mr. J. F. Hanson's argument before the joint committee of the Legislature of Georgia in favor of education in the mechanical arts, are equally applicable to North Carolina. On page two he says: "Mr. Nimmo, who is regarded as one of the most reliable statisticians in this

country, contributed an article to the June number of the *North American Review*, in which he states the census of 1880 shows that of the total manufacturing done in the United States, but nine per cent. of it is done in the Southern States." On page 4: "I have told you that the agricultural classes in Georgia have nobody to depend on but themselves. This is not absolutely the case, but it is so in a very large measure." "When they have reached a point of production that will supply their own demands, on whom are they to rely for the sale of any surplus? The man who supposes grain and wheat can be raised in this State to be sold in open market in competition with these products of the great Northwest, transported hither under present low rates of freight, is simply a dreamer." On page 5: "So long as our productive population is engaged almost exclusively in agriculture, there can exist no demand for farm products at all commensurate with the necessity for the diversification of crops that must come before agriculture will ever be profitable." "Diversified industry and increased demand upon agriculture, from population thus employed, is the only method by which this great interest can be advanced." "We are face to face with a new danger, as a result of largely increased cotton crops for the past few years." "The results of the last several crops in putting an increased supply upon the markets of the world, has developed that there is a limit to the demand for American cotton at anything like paying prices. In view of this fact and the tendency to increased acreage planted from year to year, there is a grave question ahead of us in reference to the value of this crop." On page 7: "It is true that much has been said in the newspapers about the wonderful things we have accomplished in cotton manufacture. I assure you that so far the South has engaged only in the manufacture of the coarser grades of goods." To illustrate this, I mention the fact that three-yard brown sheetings, made by Southern mills, in which there is used in the manufacture the same quality and quantity of cotton, machinery built at the same shops, after the same patterns, by the same men, as used in Eastern mills, sells from three to seven per cent. under the Eastern manufacturers' goods of the same weight and appar-

ent value." "We may dislike to own the fact—it is unpleasant and even mortifying; but in truth, we have not the skill of New England in planning or operating mills." Again on page 9: "The development of iron manufacturers is indispensable to cotton manufacturing on a good basis. Look at the enormous cost of machinery involved in the development of cotton manufacturing. Shall we permit the profits of the business to slip through our fingers?" Onpage 12: "To illustrate, the workings of the one industrial system in connection with the policy involved of buying everything abroad that should be produced at home, and also to demonstrate plainly the cause of weakness in our agricultural classes, I will suppose a case that will make my meaning clear. In building a new capitol, suppose that $1,000,000 are to be expended. Now let the State require that the material of all kinds shall be supplied by the people of the State, and that it should be obtained within the State, and the work be done from bottom to top by Georgia architects and mechanics. When the work is completed, the State will have the value of a million of dollars in a new capitol and the people of the State will have the million of dollars that the material, labor, etc., cost. Any man can see that in this process the value of the building has been added to the wealth of the State and is equal to the depletion of her treasury by virtue of its cost, and at the same time the dealers in material and workmen of all kind employed in building it have the million of dollars that it cost. Suppose this material to have been supplied and the work done by the people of Tennessee. When the work shall have been completed and paid for, Georgia would have the building worth the million of dollars that it cost her and Tennessee would have the money that it cost." The Hon. N. E. Harris, in an address delivered before the Georgia State Agricultural Society, gives the following illustration: "Your cotton crop, i. e. of the South, is very valuable. It was worth nearly $280,000,000 last year. Suppose it were possible to keep the entire crop of one year, with all its possibilities of expansion, at home for distribution. You would scatter $280,000,000 through the country. Suppose you could spin that cotton crop into



FIRST AND SECOND DORMITORIES.

yarn. You have almost doubled its value and left the money that did it in the pockets of your people. You have now nearly $560,000,000 worth of property. Suppose you weave it into cloth and knit it into hose. You have again nearly doubled its value, and the money is still in the country. You have now almost enough property in your possession to pay the national debt." "These are your possibilities. In proportion as you approximate them, in that proportion you will win back your wealth and regain your lost prestige as a nation."

WOOD MANUFACTURES BY DR. CHARLES W. DABNEY, JR.

"North Carolina claims to have 120 different timber trees out of the 338 found in the United States. One hundred and thirteen specimens were exhibited at Boston, it is said, and each one of these could be put to some good use, if we only knew how to do it. Our woods include nearly all of the nicest and largest soft woods, cypress, juniper, cedar, poplar, pine, etc., all of the most valuable hard woods, hickory, white oak, maple, dogwood and persimmon, and the very finest of the ornamental woods, like our walnut, cherry, mountain mahogany in the West, holly, and our red bay in the East. But with all these splendid resources, the finest of any State at the present day, we are practically without any manufactories of wood of more than neighborhood importance. Cutting wood into planks or blocks and shipping it, is not manufacturing it. We ship barrel staves, spoke timber, handle timber, shuttle and bobbin blocks, to be made into the manufactured articles at the North. We sell our magnificent cherry and walnut logs, worth $50 and $100 when cut into boards, for $5, or it may be $10. Our birth-right for a mess of pottage!

The following facts are submitted in evidence of this state of things:

ARTICLES OF WOOD SOLD IN RALEIGH MANUFACTURED OUTSIDE OF NORTH CAROLINA.

Furniture, all comes from Baltimore, Cincinnati, Grand Rapids, etc. One lot of furniture from Chattanooga, known to

be made from Western North Carolina walnut. The new furniture for the Yarborough House was brought from Michigan, and traveled right through our walnut and cherry forests (*via* Western North Carolina Railroad).

Well buckets, we mention the articles as we found them, of white oak, from Nashville, Tenn.

Axe and other handles, hickory and white oak, from Baltimore and the West. Small tool-handles, beech, oak and hickory, from New England. Ditto, from Georgia. Buckets, tubs, etc., from white pine, ash, cypress, cedar, juniper, all come from North New York and Baltimore. The bucket factory at Newbern failed, we are told, on account of bad work. Their wares dropped to pieces—want of knowledge and skill, and not the fault of the timber. Grain measures, bushel and half-bushel, all from Baltimore and New York. Brooms, all from North and West. Baskets, from Baltimore and New York, while our uplands are full of good white oak, and our bottoms of willow. Kitchen utensils, bread trays, all from the North, when our papaw gum makes the lightest, nicest trays ever seen; biscuit-rollers and boards come from New England, of course; coffee mills from Connecticut; churns from Ohio and Michigan; faucets from Pennsylvania and New England; spoons, butter-paddles and skimmers—it takes a Yankee to condescend to such small things, though they sell, wholesale, at twenty-five to fifty cents a dozen. Maine makes the shoe-pegs and clothes-pins from her beech, and doing it altogether by machinery, makes money at it.

Bench-screws and carpenters' wooden tools and handles are made in Connecticut from beech, oak and hickory mostly. They must buy their material somewhere, for they have no fine-grained hard wood.

Stepladders, on sale in Raleigh, were made at Erie, Pa., in New York State and in New England. Great numbers are sold. Frames for looking-glasses—you would be astonished to hear how many of these are sold—are all made in Maine, Massachusetts and New Hampshire. Other kinds of frame and moulding comes from Baltimore and New York.

The wheelbarrows on our railroads, the pick-handles and shovel-handles, all come from Ohio. So do the snathes and hoe-handles that the farmers use. But we cannot go into the list of agricultural implements. A few made at home, but if we follow the most of them up, they will lead us to Cincinnati and Cleveland, Ohio; to Chicago, to Indianapolis, to South Bend, Ill., and into the Northwest.

In a carriage-shop in Raleigh can be found wheels made in Indianapolis, of very inferior hickory, too; wagons from Ohio and Illinois; buggies—the cheapest—come from Cincinnati and Indianapolis, made by machinery, of course. They drop to pieces with a year's use. Bodies of buggies and carriages, bass, ash and oak, made at Columbus, Ohio; shafts and tongues from the same place.

But let us turn from this humiliating spectacle and enumerate the few standard articles of trade manufactured in North Carolina and found on sale in Raleigh.

HOME WOODEN MANUFACTURES.

Handles, beautiful white hickory from Greensboro. "Why don't you get them all from there?" we asked. "Because they are too dear; we buy our cheapest handles in Baltimore," the merchant answered. The only factory-made hollow ware which we found was fish tubs and barrels, and wretched things they were—good timber but bad work. Rims and spokes, the best are home-made, we were assured. The carriage man affirmed that the best buggies were made at home, but he could not say the same for the wagons. The one standard article of trade in which we now compete successfully with outside manufactories is sash and doors. These were a few years ago imported also, now we can make them at home as cheap as we can buy them in Baltimore. We have heard of one regular furniture factory at Old Fort, McDowell County, but we do not see any furniture from there in these parts. And herewith the whole story of North Carolina wooden manufactures is told! Put it by the side of her timber resources, and are we not ashamed of it?

What is the cause of this state of things? Will anybody say that it is best it should be so—that we can afford to pay for those things with our wheat, cotton and tobacco? Every one knows that the profits in manufacturing are far greater than in growing wheat, cotton or tobacco, while the existence of factories in a community always advances the price of everything the farmer sells. No, don't let us sophisticate, but acknowledge the corn! We don't know how to make these things to good advantage, and, therefore, we do some menial or less skilled labor and buy all our wooden manufactures from our smarter neighbors.

If we had an institution in North Carolina which would teach our boys the use of the lathe, the planing and moulding machine and other wood-working machinery, along with general mechanics, how long do you think it would take those boys to stop this exportation of crude timber and this importation of wooden manufactures?"

In the South, as a result of the slave system and of the present abundance of negro labor, there is a reluctance felt, among certain classes of people, to enter into the actual drudgery of industrial work. This feeling is being overcome, but industrial education would tend to much hasten this result.

As an indication of the demand for such instruction in North Carolina, it is of interest to learn that some six months ago there were forty applicants for instruction seeking admission into the machine shops of the Raleigh & Gaston Railroad, and some twenty applicants at the North Carolina Railroad shops. Of further value are the facts which have been obtained from catalogues of a few technical schools, i. e., that from the Southern States there are at present sixteen students in the Rensselaer Polytechnic, at Troy, two students at the Columbia School of Mines in New York, and at the Massachusetts Institute of Technology thirty-three from eleven Southern States. This is a strong argument when it is considered what the annual cost attendant upon such instruction must be when the student has to travel a long distance to his school, has to pay a heavy tuition fee and has to be supported away from home.

In this connection Gen. Francis A. Walker, in his report as President of the Massachusetts Institute of Technology for 1884, makes the following remarks which are most pertinent to the subject in hand: "Among the gratifying features is the appearance of students from not less than eleven Southern States, to an aggregate of thirty-three, against eight States with an aggregate of twenty-two students last year.

Believing, as I do, in the almost boundless possibilities of industrial growth in that portion of our country, it is with keen delight that I see so many of the generous youths of the South turning from the rhetorical and dialectical exercises which so engrossed the educational interest of the generations past, to qualify themselves, by scientific and technological study and practice, to lead and direct the development of the industrial energies and the natural resources of that fair land. I rejoice to add that in manliness of character, sobriety of conduct, and strictness of attention to the prime object of their residence, these gentlemen do honor to the States from which they came."

Granting that there is a growing demand on the part of the people for technical education, it has been suggested that there might be no demand for the skilled labor which would be put into the market. This is fallacious. Where there is any demand for labor, the best labor will always be preferred, and such labor will bring about the best results. If in the manufacturing line the demand is at present limited, there is every indication that this will increase, and technical education will tend to hasten this. It will diffuse a spirit for industrial development, and it will distribute through the country a class of men who are prepared to make the best use of its natural resources. How much better it is, in the present condition of the South, that such knowledge should be disseminated than that pure literary culture should be fostered or that fresh competitors should be manufactured for the already overstocked professions of medicine, law and politics. The energies of the people should be chiefly directed towards the accumulation of wealth, not so much as an end in itself, but as a means to higher ends, for, as Mr. Buckle says, "Without wealth there can be no leisure, and without leis-

ure there can be no knowledge. Great ignorance is the fruit of great poverty."

THE LOCATION.

In establishing an industrial or technical school in North Carolina the alternative exists to start it either separate and apart by itself or as a branch of the State University. There is considerable space in the buildings of the University, which is available and which could be turned to use in this connection, and much of the heavy expense of building would be thus saved. It is also best that instruction in the arts should not stand by itself, but that each branch should be made a part of some professional course, though it should be left optional with the student either to pursue all the studies of the course or to restrict himself to the purely industrial ones. Location at the University would give opportunity on the one hand for the student of a profession to acquire familiarity with its practical details and, on the other hand, for the student of an industry to avail himself of the facilities offered by the University for obtaining a wider education and higher culture.

A visit was made to Chapel Hill with a view to ascertaining just what facilities were offered there. President Battle expressed himself entirely in favor of the movement, and courteously gave all the information and assistance in his power. Plans and dimensions of all the buildings were obtained. In the "Old West Building" a large room 30 by 36 feet, corresponding to the museum in the "Old East Building," is vacant; it has good light, high arched ceiling and brick wall, and would be suitable for light work. In the "New East Building" there are vacant spaces, 54 by 18 feet, which might be utilized on the first and second floors; and in the "New West Building" there is a similar space on the ground floor. The "Gerrard Hall" is a building 66 by 45 feet, with walls 18 inches thick and 24 feet high, and could be turned into a very good shop. The basement of "South Hall," now used for a chemical laboratory, offers excellent facilities for shop work. It is 132 by 25 feet, has a brick and cement pavement, and thick brick walls. It extends some four feet above the level of the ground.

If money sufficient can be raised, however, the former plan is decidedly the preferable. A University has to make its instruction include a wide range of subjects, and unless it have plenty of money at its disposal, thorough training cannot be given in all the departments. Technical training would probably be a subordinate part of the curriculum. Its work and results would be more or less hidden. The site of the University is also an objection. It is too far removed from the active centers of business and life. It is not brought sufficiently into contact with the people or the people with it. The students have not the opportunity to gain a knowledge of the ways of men, or to become thoroughly imbued with the spirit of the times; and the people, on the other hand, cannot look into the actual workings of the institution or appreciate the value of its instruction sufficiently for them to be impressed with its importance, or for them to take an active interest in furthering its objects.

It is, therefore, the decision of the committee that the most practicable and effective plan which can be adopted is to establish this school in Raleigh in connection with the State Agricultural Department. The necessary shops and laboratories should be erected adjoining the present building of the department, and the vacant space in that building could be utilized for lecture rooms, drawing rooms, etc. The chief officers of the department could be made members of the faculty and instructors in the school, and, on the other hand, the advanced students, especially of chemistry, could be profitably and instructively employed in the current work of the department. An experimental farm should be worked in connection with the school. The necessary land could be purchased in the vicinity of Raleigh, and equipped at small expense, and the farm, if well managed, could be made nearly self-supporting. To give the students the broad and educated views which it is highly important that they should have for the successful prosecution of their work, it would doubtless be practicable for the professors of the State University to deliver courses of lectures at this school on those general topics which it is deemed advisable to instruct in. Night school could be carried on for the benefit of young men living in Raleigh who can-

not afford to devote the hours of the day to study, and who desire to perfect themselves in industrial pursuits.

Thus, by a judicious use of the existing facilities, a school could be established at small expense which could give valuable training to the youth of the State, and which would be maintained with little or no additional taxation.

COST OF EQUIPMENT AND COURSE OF INSTRUCTION.

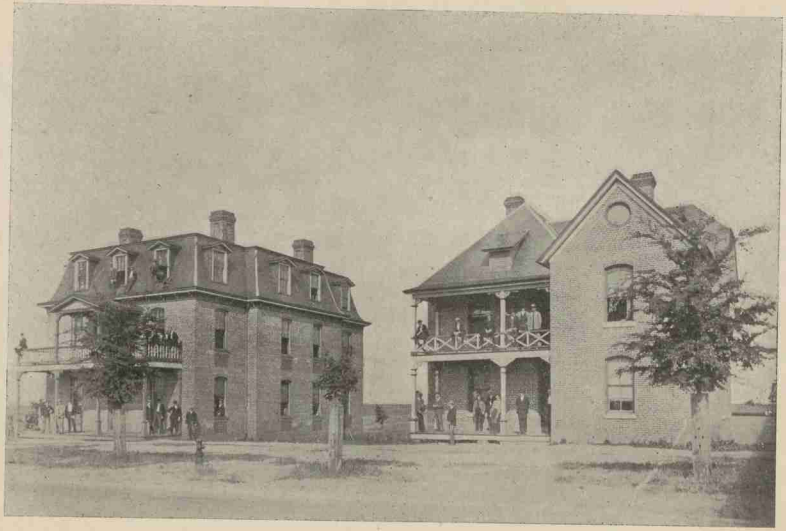
Mr. Eaton, Commissioner of Education in Georgia, estimates that to equip a technical institution there would cost, exclusive of buildings, $35,000.

Prof. Martin, of the Stevens Technological Institute, estimates that to equip a suitable machine shop, forge shop, foundry, school of design, assaying department, chemical laboratory and weaving department would cost in total $22,500; and the estimate of Gen. Walker, of the Massachusetts Institute Technology, is even less. (See report of committee on School of Technology to the Georgia Legislature).

Prof. H. H. Belfield, Director of the Chicago Manual Training States, states that the cost of equipment there was about $25,000. This includes 24 cabinet-maker's benches, bench and lathe tools of the best quality for 72 boys, 24 speed-lathes, a 52 horse-power Corliss engine, two tubular boilers, forges and other apparatus necessary for instruction in drawing, carving, moulding, drilling, etc.

At the Miller Manual Labor School the equipment of the machine shop cost $2,500.

The industrial branches which it would be advisable to instruct in, and to diffuse information concerning, are numerous, and it is difficult to decide which are most important. Instruction in practical agriculture would be of great service in furthering the farming interests of the State. Boys could be taught, by actual field work, the best methods of cultivating the different soils and what crops are most suited to them, the proper fertilizers to be used, etc. At the University there is abundance of land which could be used for experimental farming. The product would



THIRD AND FOURTH DORMITORIES.

not go to waste, and the student might even be self-supporting. The cost of the necessary implements would be slight, and the instruction might be carried on in connection with the work of the State Agricultural Experiment Station. No instruction would be of greater value than that in the various branches of cotton manufacture and the cost of introducing the essential machinery would be moderate. Instruction in carpentry, wood-turning, foundry work, machine tool work, etc., is of first importance and would well supplement a course in agriculture or mechanical engineering. Dr. Runkle, in a report on industrial education, estimates the cost of fitting a shop with fixtures and tools for wood-work, for twenty students, at $500. We give further itemized estimates of cost of the various fixtures and tools necessary for different kinds of wood and iron work. The following is a list of the totals:

I. CARPENTER'S AND JOINER'S SHOP.

Total for one student	$ 37.74
General tools for fifty students	697.00
	$734.74

II. WOOD TURNING AND PATTERN SHOP.

Lathe, lathe tools and bench tools for one student	$103.57
General tools for fifty students	376.50
	$480.07

III. FORGING SHOP.

Tools for one student	$ 62.51
General tools for fifty students	309.50
	$372.01

IV. FOUNDRY.

Tools for one student	$ 15.15
General fixtures for fifty students	697.50
	$712.65

V. CHIPPING AND FILING SHOP.

Tools for one student	$ 30.73
General tools for fifty students	91.50
	$122.23

VI. MACHINE SHOP.

Tools for one student	$ 412.50
General tools for twenty students	4,184.00
	$4,596.50

Grand total ..... $7,018.20.

A smaller number of students than is allowed for in these estimates would not much diminish the cost of the general tools, but, on the other hand, each student need not have a separate equipment, and there is more or less of a duplication of tools in the different classes of work.

A department for instruction in mechanical drawing and in industrial design could be started at small expense.

Last, but not least, it is to be earnestly recommended that instruction, as practical as possible, be given in the departments of Mining and Metallurgy. North Carolina contains an abundance of ore of many kinds, but few, especially of the precious metals, can be called rich ores, or ores which can be profitably worked by loose and wasteful methods. To make them pay, great economy must be practiced in their extraction and reduction with the aid of all the refinements of mining and metallurgical skill. Instruction should be given in the general principles of these arts and special experience made to the best processes for the reduction of the ores of the South, and this should be supplemented by as much practical work and study as possible. An experimental plant for this purpose would be costly as compared with that for simple wood-work, but it could probably be put up for a few thousand dollars, and it would serve a valuable purpose. Industrial instruction at schools is necessarily limited and on a small scale. The disadvantages of this can be largely counterbalanced by systematic field work and by period-

ical excursions to manufacturing and industrial centers where the students are set to work to observe, study and note according to a definite schedule, all that they see which bears upon their line of study or they are procured the opportunity to take part in and to enter into the active work of some industrial establishment for a short time. The Columbia School of Mines in New York has a summer school in practical mining, the classes of which visit mines and engage in underground work and the study of mine plant and methods. Similar instruction is common at other schools.

Raleigh, N. C., February, 1885.

The College was opened to students the first of October, 1889. The honor of being the first to enter as a student is disputed by B. Clegg Ashcraft and Walter J. Matthews. However, Matthews was the first to register and Ashcraft was the first to enter the building.

Not a great many students came to the College at first. The spirit of new life had been hampered by ecclesiastical coldness; the benefits of Industrial Education were not known to the many. Thirty-eight students remained at the close of the first scholastic year. Of these nineteen graduated in the Class of '93.

It is needless for me to further speak of the history of our College since its opening to students. It is an open book, "known and read of all men." What I have tried to point out and the path I have tried to illumine is its early history, and I trust that it has been made sufficiently plain. Had not this article already grown to such length, I would speak more of the later days of the College. Space forbids, and I trust that I shall be permitted to do so at some future day. My sole aim has been to endeavor to show who our College founders were and how they worked. I have ever been mindful of the fact that current history is no safe guide, and so I have endeavored to present the papers of our earliest days which derive the more importance from the fact that they have been ratified by these same leaders again and again.

DURING the present year, Col. A. Q. Holladay resigned as President of the College, and Dr. George T. Winston was elected to the position.

A textile department is soon to be added, and all indications point to a season of unbroken prosperity, and our institution now bids fair to take its proper position among the State Colleges.

With many regrets I stop my pen, for the present task has been a pleasant one.

THROUGH the storms and strifes of ten years the A. & M. College still lives, proudly triumphant over her enemies. A beacon light may she ever be to the cause of Industrial Education and a source of comfort to those who till the soil. May she ever inculcate the doctrine of the Divinity of Labor.

[THROUGH inadvertence the following blunder was made: The Col. Green referred to in this article was Col. W. F. instead of Wharton J. It is unfortunate that such a mistake should have been made, especially so when Col. W. F. Green was so intimately connected with the College for a long time. Allow me here to express my thanks to those members of the Watauga Club who so cheerfully aided me in this task. Also to Mr. Poe of the *Progressive Farmer* who kindly loaned me his files.—EDITOR.]

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