TABLE OF CONTENTS.

The Red and White

Vol. XI. West Raleigh, N. C., October, 1909. No. 2.

TWILIGHT THOUGHTS.

By E. D. Hellweg.

The twilight shadows come to spread their shroud
Of darkness o'er my tired and care-worn heart,
While all the brightest hues of sunset's proud
And glorious splendor one by one depart.
Reluctant to retire and leave my soul
Abandoned to the blackness of the night,
Their going takes from me the very goal
Of life, with the withdrawal of their light.
I would not live forever thus, and long
To see the morning's regal birth, to taste
Again the sweetness of the day, so strong
Is life to light allied. But God, in haste
To show His love, has hearkened to my call—
He's lit the candles of His vaulted hall.

—*Randolph-Macon Monthly.*

FRANKLIN, THE ELECTRICIAN.

Although Franklin, the author and diplomat, is well known to all in America and Europe, the general public knows very little about Franklin, the electrician. We often see evidence of this want of knowledge in statements published to the effect that Franklin discovered electricity. These statements are not true, but it is a fact that within one year ofter he began his investigations of electricity he made discoveries from which modern electricity may be said to take its beginning.

At an early age Franklin showed a marked inclination to the study of the sciences. He made himself acquainted with as many scientific men as he could come in touch with. Soon after his return to Philadelphia from Europe (1726) he formed into a club, called the Junta, a number of his scientific friends. He also organized the American Philosophical Society.

In 1746 interest began to be awakened in the subject of electricity. It was in this year that the Leyden jar was discovered.

About this time, while in Boston, Franklin met a Dr. Spence, who showed him some electrical experiments, and, although the apparatus was meagre and the experiments rather poorly performed, Franklin was surprised and very much pleased.

In 1742 he founded what was known as the Library Company, of Phieladelphia. This society drew its supply of books and literature from England, and it kept in touch with an international scientific club, called the Royal Society, through one of its members, Peter Collinson. In 1746 a Dr. Watson gave to the Royal Society a number of books explaining certain electrical experiments which he had performed. Very soon after the reading of Dr. Watson's books before the Royal Society, these books were sent over to the Library Company by Collinson, together with a tube, such as the one Watson used in his experiments. Franklin had in his nature that which caused him to always attempt improvement in anything in which he took a hand. He was very much interested in the subject of electricity,

and he immediately seized upon the opportunity of repeating the experiments which he had seen in Boston. Others soon became interested, and soon a quartette, composed of Franklin, Kennersley, Hopkinson and Sing, formed a sort of club for scientific effort. In less time than a year he ascertained a fact which to a great extent revolutionized the science. He discarded the idea that electricity was a substance created by friction, and held that it was "an element diffused among and attracted by other matter, chiefly water and metal." In a short while he proved that the Leyden jar contained no more electricity after charging than it did before it was charged. He next did away with Dufay's theory of vitreous and resinous electricity, and gave to the world his theory of a positive and negative condition. The theory that Franklin made known assumed the electrical fire to exist in all matter as common stock, and if a body acquired more than its normal amount he regarded it as positively electrified; if it lost some of its normal amount, he regarded it as negatively electrified.

Although other investigators had suggested the probable identity of lightning and electricity, it was left to Franklin to prove it. Having brought together and published all the arguments and evidence that he could find in support of this theory, he set about the actual proof of the fact. His work was translated into French by D'Alibard and was largely circulated in France. His method was probably suggested to him by the experiences of a certain ship with St. Elmo's fire and a stroke of lightning. Franklin argued that these globes of fire were electrical fire drawn from the clouds by the points of the masts and spars and that if there had been good connection from the spintle head to the water the wire would have conducted the stroke into the sea.

Acting under Franklin's suggested method, three Frenchmen, D'Alibard, Buffon and DeLor, carried out an experiment which proved the identity of lightning and electricity. In the meanwhile Franklin had performed in Philadelphia a simpler and less expensive, although much more dangerous experiment,

which as conclusively proved the identity. Here is the method as described by Franklin himself: "Make a small cross of two light strips of cedar, the arms so long as to reach to the four corners of a large thin silk handkerchief when extended; tie the corners of the handkerchief to the extremities of the cross, so you have the body of a kite which, being properly accommodated with a tail, loop and string, will rise in the air like those made of paper; but this being of silk is fitter to bear the wet and wind of a thunder gust without tearing. To the top of the upright stick of the cross is to be fixed a very sharp-pointed wire, rising a foot or more above the wood. To the end of the twine next the hand is to be tied a silk ribbon, and where silk and twine join a key may be fastened. The kite is to be raised when a thunder-gust appears to be coming on, and the person who holds the string must stand within a door or window, or under some cover, so that the silk ribbon may not be wet; and care must be taken that the twine does not touch the door or window. As soon as any of the thunder clouds come over the kite the pointed wire will draw electric fire from them, and the kite with all the twine will be electrified, and the loose filaments of the twine will stand out in every way and be attracted by an approaching finger. And when the rain has wetted kite and twine so that it can conduct the electric fire freely, you will find it stream out plentifully from the key on the approach of your knuckle. At this key the phial may be charged, and from electric fire thus obtained spirits may be kindled, and all the other electric experiments be performed, which are usually done by the help of a rubbed glass globe or tube, and thereby the sameness of the electric matter with that of lightning completely demonstrated."

As early as 1749, before the discovery of the identity of lightning and electricity, Franklin had outlined his proposal for the protection of buildings and ships by means of the lightning rod. He argued that since these pointed rods would draw the electric fire from the clouds before it came near enough to do damage, they should be put to practical use. He was the first to reap benefit from their use.

Although the lightning rod soon came to be extensively used, there was bitter opposition to it by many. Certain clergymen and others opposed it on the ground that lightning was one of the ways of punishing sin and warning men from the commission of sins, and that it was impiety to interfere. In England considerable controversy arose as to their use. George III was bitterly opposed to them.

Not only does Franklin deserve honor on account of the benefits which we have reaped from his discoveries, but also it is only right that we should consider his advancement in years when he began his study of the science, that while he was carrying on his experiments he was educating himself and carrying on other lines of work, and that he accomplished in less than a year what scores of others had been attempting for half a century. He deserves a foremost place in the line of our great discoverers. T. W. T. 11.

Material taken from Ford's "Many-sided Franklin" and Benjamin's "Intellectual Rise in Electricity."

EH! TO THE BULL FIGHT.*

BY LUIS TABOADA.

All painful impressions, all of the general sufferings, all of the political sorrows, disappear before the prospect of the extraordinary function—the bull fight.

On the morning of the eleventh of this month the real lover of the sport will hasten to see the separation of the bulls in their corrals, and from the grandstand each one will discuss and argue the conditions of the herds, both physical and intellectual. Their conversations will probably be something like the following:

"Ah!" will exclaim one of the dyed-in-wool sports, "look at that little black bull, the one with short horns. You can bet your life he'll give us a good time."

"Well, I don't know," will reply the other intelligent one, "I think that one to the right is better, the one tinted red. He seems to me to be a much better bull for several reasons."

"Oh, the best one is he that is licking his chops over by the burladero.† Just look at him now, how full of life he seems."

"Oh well, speaking of bulls, you should have seen the one they had at Saragossa ten years ago during the celebration of the Virgin of the Pillar. Ah! he was a bull indeed. They had to shoot him between a corporal of the guard and a harness maker of Calatayud—"

"What an atrocity!"

"Yes, he was dark, or rather of a chestnut color, and his left horn was lower than his right; but my! the intelligence that

---

*This article, translated from the original Spanish of Luis Taboada, vividly portrays how the true Spaniard views his national sport—the bullfight. The free, happy disposition of the Spanish sportsman is well brought out and might be favorably compared with the "fan" of our own national sport.—EDITOR.

†Burladero, a dodging-place, or narrow entrance in the barrier surrounding the bull ring, large enough to admit the fleeing bullfighter, but not the pursuing bull.

bull had. He would leave his stall and place himself so that he could see the people gathered together, as if he was searching for some one. It was afterwards learned that he wanted to see if an old friend of his was there, the Secretary of the civil government. . . . "

"To be sure, there are bulls of very good sentiments."

"Why, sir, they resemble persons, if you will pardon the bad comparison."

"And in general the bull is a most noble animal."

"And most intelligent, too."

"Actually, sir, there are bulls that know Latin."

"Sure, and, man alive, I have been assured of the fact that the Duke has a bull which is able to dance the Seville dance!"

Well, so much for the yarns of the sportsmen. At any rate the public offices will be closed, the ticket speculators will make a fortune and the tavern keepers will use so much water in diluting their drinks that the water carriers will also make their fortunes, all on account of this august occasion.

All public places will be deserted, and even many devoted housewives will abandon their house duties in order that they may go out to the street of the Acala, for the object of seeing the bull fight, and the omnibusses will pass laden down with the sports, happy and noisy.

Long hours will pass ere the return of these pleasure seekers. Many a faithful wife will stand surrounded by her tender children and wait for the return of her husband. When he does finally loom into sight she will cry with delight, "Ah, there comes your father."

"Where, where?" will ask the children.

"Do you not see him there with his stick and sportsman's hat? Here Agapito, here, we are waiting for you."

The children on seeing their father will run to him, crying with delight, and will endeavor to climb his trouser legs. On seeing such demonstrations of affection and delight the casual onlooker might believe that the father had just returned from America, where he had succeeded in making a fortune.

"Hello," says the newcomer noncholantly, directing himself to his wife, "Have you waited long for me?"

"Oh, no," she will answer, "only two hours and a half; but, how about the fight?"

"Pshaw!" he will chortle, with a huge show of disgust," nothing more than usual, nothing more than usual."

"Did you suffer any injury during the fight?" she will ask anxiously.

"None, wife none," and he will immediately sink into a melancholy state. "Everything is going wrong. Really, we have no more bulls, no more fighters, and sad, sad to say no one is ashamed of it. My, my, what are we coming to!"

And really the poor fellow will seem to be sorry that no one was killed or seriously injured. "Let us go in the house," he will add, "I don't want to stand out here and let you worry me about that fight."

The married couple will then direct themselves to their home, with the satisfaction of knowing that they had fulfilled a patriotic duty. That night, however, on account of the father's having spent all his money at the bull ring, the children will have to make their supper on kidney beans and a half-egg each; but the father will say resignedly:

"Well, we have to take things as they come. Supper or no supper, I must not fail to see the full fight."

—*Translated from the Spanish by R. K. Babington.*

THE FARM BOY'S OUTLOOK.

I.

A time comes in every boy's life when he hears these questions: What next for me in the world? Where is my place? What can I do? These are likely to be lonely hours in the day-dawn of young manhood. The boy feels himself in a strange world concerning his entrance into which he was not consulted. He begins by thinking that the good places in this world are all filled and he will have a hard if not a hopeless task in his endeavor to push himself into anything worth working at. It seems to him that he is almost an intruder, that no one wants him.

This prospect, perplexing for any boy, is particularly gloomy for the average boy reared on the farm. It is to a brief discussion of the farm boy's outlook that I ask your attention.

If there is a paramount economic evil existing in our State it is the evil of poor farming. From any car window our eyes rest on too much waste and wasting land, on too many tumble-down country homes, bare of beauty and devoid of comfort. The fact of unremunerative culture of our fields is confirmed by the crop reports. The average yield of wheat in the United States is 15 1-2 bushels. In North Carolina the yield is only 9 1-2. The United States averages for corn 30 bushels per acre; ours is only 15.

In connection with this poor farming there may be no business opening at home for the young man. The father continues to run the farm, and often does not give the boy a chance.

The boy lacks congenial associates; the hired man does not satisfy his intuitive longings for companionship. Father and mother may not be interested in what interests him. The farm may, moreover, appear too small for his activities. He is ambitious and sees that achievement emanates largely from the city. There seems to be more money and less financial risk in some other business. He may expect to find more diversion and

entertainment in the city, and the tendency of his teaching probably has not been such as to give him sympathy with the farm.

From these conditions often the boy's outlook, so far as the farm is concerned, is towards discouragement and failure.

II.

Let us inquire into the causes of these conditions. The majority of our farmers in the South have inherited a tendency to depend upon the negro as a laborer; and, although the slaves are gone, the farmers have not fully come to recognize the true dignity of labor. For this reason our farmers at large have failed to direct their work in the spirit of intellectual progress.

Our homes have not been beautified: there is no grass, there are no trees, no flowers where they should be grown. Things about the farm are not kept in order, and thus there is not the pleasant air of thrift so conducive to content and happiness. Instead, the farm home and farming have been made repulsive, and the repulsiveness to the average boy has been increased by the fact that farmers are unsociable and their homes are, on this account, often lonely.

Perhaps one of the greatest causes for the gloomy outlook for the farmer boy comes from what is called the drudgery of farm life. I do not wonder that a number of boys, after years of monotonous toil and a vision of a future likewise filled, wish to leave the farm. But this hopeless drudgery is most frequently the penalty of ignorance and not an inseparable part of the farmer's life. It is a natural result of physical work with no admixture of brains.

Another cause is the narrowness of life on so many farms. In many homes no effort is made to render it bright and attractive by supplying interesting and instructive papers, magazines and books, by teaching the children the fundamental principles of the art and science of farming, to broaden the boy's horizon and to lead him to look not upon the emptiness of the old farm life, but upon the boundless interest and possibilities of modern farm life.

III.

The sole remedy that we advocate for these ills is an agricultural education—an education that will cause us to brighten and beautify our homes; that will enlist the intellect of the country boy into his surroundings; that will cause parents and teachers to join hands in breaking up this narrowness of life—a narrowness of life that has driven many of the brightest minds from the fields.

Shall the boy go to college to become a farmer? Book-farming is laughed at; but a mistake is made as to the real meaning. It is not book-farming that is wanted, but farming guided by true principles which are stated in modern books by learned scientists. The wise application of these principles requires brain, and for this a thorough education is needed. Not many boys are spoiled for the farm at college if they have gone there with the view of becoming educated farmers; on the contrary, they return home with a brighter outlook toward the future, and with new ideas as to the possibilities of the farm.

But only a fractional percentage of our farmers and their sons come within reach of our agricultural colleges. The question naturally arises, how are we to reach the rest of them? It seems clear to me that there is one way and only one way to accomplish this great end, and that is by requiring the fundamentals of agriculture to be taught in our public schools and in our high schools. These schools and these alone reach most of our children. Through them, therefore, we have it in our power to give the cause of good farming a tremendous uplift. It is essential that these young people should be early interested in the farm world around them. It is vital that their eyes be opened to the fact that there are simple laws underlying all good farming.

It is vital also that they should be forced to see that conformity to these laws leads to success, and that ignorance or neglect of them is the gateway to failure.

IV.

Then what can we expect as a result from this agricultural education attained in our college and rural schools?

First.—We can expect, with the increase in agricultural knowledge, a vast increase in the productiveness of the farms, a keener interest in farming by our boys, and the disappearance of the narrowness and drudgery of farm life.

Second.—Farming will become, not merely a physical, but an intellectual pursuit. *And last,* with the attractiveness of country life restored, our farm boys, having now a brighter outlook toward the future, will remain on the farms to enjoy that life for themselves most healthful and delightful, for their fellowmen most beneficent.

W. H. EATON.

BEFORE IT IS TOO LATE.

If you have a gray-haired mother,
  And from home you're far away,
Sit down and write the letter
  You put off day by day.
Don't wait until her tired steps
  Reach heaven's pearly gate,
But show her that you think of her
  Before it is too late.

If you have a tender message,
  Or a loving word to say,
Don't wait 'till you forget it
  But whisper it to-day.
Who knows what little memories
  May haunt you if you wait;
So make your loved ones happy
  Before it is too late.

The tender word unspoken,
  The letter never sent,
The long-forgotten message
  And the wealth of love unspent,
For these some hearts are breaking,
  For these some loved ones wait;
So show them that you care for them
  Before it is too late.

J. B. SARRATT.

PUBLIC SPEAKING.

Did you ever stop to think what an advantage there is in being able to think clearly, logically and consecutively while on your feet? If the occasion should arise could you express your views convincingly before a body of men? This is a practical question, and a very important question that we shall all have to answer sooner or later.

Perhaps you say, "Why should I concern myself about such things? I expect to be neither a lawyer, a preacher nor a politician." Then you expect to be a farmer, or an engineer, or a business man.

If you become a farmer you expect to become a progressive farmer. If you are a progressive farmer you will take an active part in the organization of farmers.

Should you become an engineer of any importance you will be called upon to submit and explain plans and specifications to boards of directors.

In short, if you become a prominent citizen, I might almost say "a desirable citizen," there will undoubtedly come times in your life when you will want to address your neighbors upon numerous subjects of vital importance to the community in which you live.

Surely you do not intend to leave college, professing to be an educated man, and not be able to address your fellow-men without a tremor in your voice and a wabble in your legs.

There are many things that can be mastered in the quiet and seclusion of one's own room, but we can hardly include among them the art of public speaking. To develop to our best we need the stimulus of another trained mind set in battle array against our own. What can be more interesting or more inspiring than an all but mortal combat between master minds? To witness such a contest should kindle the ambition of every youth.

Every man cannot become a great orator or a great public speaker, but there is not a man who reads this article who can-

not, by training, learn to master himself to the extent that he can speak to an audience without embarrassment.

Nowhere can the ability to speak be so easily acquired as in a good literary society, and by far the best time for a beginning is your first year in college. To neglect public speech would be to neglect the manual of arms in the battalion in which fate has enrolled us. It is only a side issue now, but later it may become one of the main issues of our lives.

Some one has said, "Public speech is a fruit from the school-tree of life that is easily reached, but because it has thorns we hesitate to pluck it."

It does have thorns. It requires work. If you are willing to work, A. and M. College has two literary societies that need your help, and they will help you far more than you can help them. Why not join one of these societies at your next opportunity?

A SHORT STORY OF CHARLES BABBAGE.

This short story will be divided into two parts on account of the space necessary to describe, even in the briefest manner, the inventions of this most remarkable man. Very little is known about his home life, although he lived very recently; the invention so far transcended the man in importance that the details of his life seem to have dropped out of sight.

Charles Babbage was born on the 26th of December, 1791, at Totnes, Devonshire, England. His parents were wealthy and sent him to a private school to be educated.

He entered Trinity College, Cambridge, in 1810. He early showed a marked interest in mathematics, and it is recorded that he was familiar with the works of the great mathematicians before he went to college. He graduated from Trinity in 1814 with high rank in mathematics, then traveled and continued his studies privately. His first published essay was on the Calculus of Functions, in the Philosophical Transactions of 1815. He was made a fellow of the Royal Society in 1816, and labored with Herschel and Peacock to raise the standard of mathematical instruction in England.

He early noticed the number and importance of errors in astronomy and other calculations due to errors in mathematical tables. The first idea of a calculating machine came to him in 1812 or 1813, while still a student. Some years later he went to Paris to study their methods for computing and printing the now celebrated French tables of powers, roots, circumferences, areas, sines, tangents, logarithms, etc. There he met several of the most noted mathematicians of the day. He bought a copy, at a high price, of Didot's natural sines, carried to the twentieth place in figures. By the permission of the French officials he copied by hand to the fourteenth place from the tables of logarithms deposited in the Observatory, every 500th number from 10,000 to 100,000.

All scientific callings require these tables, but especially astronomers and navigators. These tables are now seen in every engineer's handbook, and we little appreciate the labor and expense involved in their preparation. It is of interest to consider the extreme care that was taken to prepare them. The work of calculating these tables was entrusted at Paris to three corps of calculators, the first section investigated the various formulæ and selected the ones that could most readily be adapted to simple numerical calculation by many individuals. The second section consisted of seven or eight trained students, who converted the algebraic formulæ into numbers and tabulated and reviewed the calculations of the third group. The third section consisted of sixty to eighty persons, who simply added and subtracted the equations given them. Their labors occupied several years and the results were bound in 17 folio volumes. In these tables absolute accuracy is essential, and that is very, very rarely attained. In a set of logarithms stereotyped by Mr. Babbage the proof was compared number by number with other tables seven times, nevertheless in the last reading thirty-two errors were discovered. After stereotyping the proof was compared figure by figure four times and eight more errors discovered. Other tables, after having been in use for years, have been found to contain hundreds of errors.

Becoming intensely interested in these tables and the methods for preparing and copying them Mr. Babbage, as early as 1819, gave careful thought to the invention of a machine that would calculate and print them without the intervention of human hands and, therefore, without error. By 1822 he had made a small machine that would calculate simple formulæ, such as multiplication tables and squares up to eight figures.

In a letter of this same year to the president of the Royal Society he not only describes this machine, but adds that he had already designed a method for printing faultlessly the results, and that he also had in mind machines to multiply, extract roots and various other operations.

The machine that was constructed at this time was very simple, consisting of but few parts, but these were repeated many times. On trial it was found possible to calculate from 30 to 40 numbers a minute, which was faster than a man could copy them down. He claimed that his machine only needed to be constructed on a larger scale to calculate any and all tables that were characterized by regular differences between succeeding terms, and to add printing mechanism that would produce and record absolutely faultless tables.

He called this first machine a Difference Engine, because it produced successive terms of a table automatically, by adding the requisite differences to the last term.

To illustrate in the table of squares, 1-4-9-16-25, etc.

By subtraction we get the first order of differences, 3-5-7-9, etc.

By subtraction again we get the second order of differences, 2-2-2, etc.

Now, to find any term, we have only to add the constant 2 to the last known difference of the first order to the last known square to produce the following square:

To illustrate, what is the square of 11? The square of 10 equals 100, the square of 9 equals 81, 100—81 equals 19, 2 plus 19 plus 100 equals 121, the square of 11. This is comparatively a simple table. There are tables in common use that have five, six, and even seven orders of differences, before the constant is found. Mr. Babbage, in 1822, wrote to the Prime Minister of England and asked government assistance in constructing a difference engine that could calculate up to twenty places of figures, and that would also print automatically the results.

The treasury referred the request to the Royal Society for an opinion as to the merits of the invention. They reported promptly that it was "fully adequate to the attainment of the objects proposed by the inventor." Soon after, in 1823, the sum of $7,500 was appropriated to this end.

Mr. Babbage at once set to work to construct the enlarged and automatic difference engine. Draftsmen were set to work

making the drawings. Mr. Joseph Clement, out of Maudsley's men, was given charge of the mechanical part, and for four years the work proceeded. Tools had to be designed and constructed to meet the demand for extreme accuracy, even workmen had to be trained to a nicety of execution before unheard of.

In 1827 the expense incurred had amounted to $17,000, of which Mr. Babbage had advanced nearly $10,000. At this time his health was poor and he went to Italy, leaving minute instructions to be followed in building the machine, and placed $5,000 at their disposal. Perceiving that the probable expense would be considerable, he asked the government for another grant. Lord Wellington inquired of the Royal Society for an investigation as to whether the project was worth proceeding with. The society gave "their decided opinion in the affirmative." In 1829 the government made another grant of $7,500. By this time the expense had reached $35,000. Lord Wellington then personally examined the machine, and the government made a grant of $7,500 more with the suggestion that the calculating part be separated from the printing device.

In 1830 still another grant of $15,000 was made by the government. In 1832 the government constructed a fireproof workshop near Mr. Babbage's residence to contain the costly drawings and machinery which had accumulated during the years. In 1833 a portion of the machine was put together, which completely justified the expectation. It could calculate, and did so with absolute accuracy, tables of three orders of differences up to sixteen figures.

Meanwhile difficulties arose between Mr. Babbage and Mr. Clement, who had charge of the construction. The latter had an increasing sense of the value of his part of the work, and his charges grew apace. At length Mr. Babbage secured consent to have government engineers examine all accounts before being paid. There being some delay in payments Mr. Babbage was accustomed to advance money. In 1834 he declined to do this longer, and the result was that Mr. Clement withdrew, taking

with him many of the best workmen and all the special tools that he had designed and built, which according to the custom of the day he had a right to do, even though the government had paid for them. Then there were vexatious delays as to whether the government would meet Mr. Clement's terms or secure some one else for the construction.

Meanwhile an entirely new idea came to Mr. Babbage by which he could construct a calculating machine of far greater range than the difference engine. Mr. Babbage felt that it was not right to ask the government to complete the first machine without making known to them his new discovery. Perhaps, also, and it would be quite natural, he rather hoped that the government would abandon the old and start at once the construction of the new. At any rate, while the question was being discussed, political questions became involved and the matter was not decided until 1842, when it was definitely given up. The part of the machine that was completed was sent to the museum of King's College, London, and later sent to South Kensington and the uncompleted parts distributed among friends and institutions as souvenirs.

The entire cost of this machine to the government, exclusive of the fireproof building, had been $80,000. Not one penny came to Mr. Babbage as a recompense for his labors of twenty years. In addition to what the government had expended on the construction Mr. Babbage had also expended fully as much more and considerable sums for personal expenses, experiments, travel and research. Although this machine was never completed, it has been thought by some that the money had been well expended because of the habits of extreme accuracy and precision that were introduced into English machine construction by the many workmen and draftsmen who received their training under Babbage and Clement and then passed on to other shops, carrying with them the skill and method there acquired.

The construction of machine tools was certainly greatly enriched by the necessities involved in the construction of this invention.

From 1828 to 1839 Mr. Babbage had been Lucasian Professor of Mathematics at Cambridge. He had made several journeys to the Continent and written many letters and essays. One book, published in 1834, called "The Economy of Machines and Manufactures," summed up his consideration of the manufactures of the time. This book was widely printed and read for several decades, and did much to extend the modern system of manufacture by machinery.

Once only, in 1832, he tried to enter public life, but was defeated.

In our next number the story of Mr. Babbage will be continued with an account of his greatest invention, the Analytical Engine, which was the most complicated mechanism ever conceived by the mind of man.

DWIGHT GODDARD.

PHILIPPINE NEWS.

We are always interested in the graduates of A. and M., and it is with pleasure that we publish herewith three letters received by Lieutenant Young from our former college-mates, Latham, Shope and Faison. The number of A. and M. men who are joining the commissioned staff of the army or some other branch of the service, is growing each year, and these letters will not only be interesting reading to all of us, but will be instructive reading as well for many of the men who intend entering the Philippines constabulary or the Philippines scouts.

* * * * * * *

Letter to Lieut. John S. E. Young, Commandant at the A. and M. College, West Raleigh, N. C., from Lieut. James E. Latham, Philippines Constabulary, Detailing the Events of His Trip from His Home to Seattle, Washington.

MY DEAR SIR:—You can see from the heading of my letter that we are already a few days late, and are quite likely to be here for the remainder of the week. We learned Friday, when we reached here, that the Minnesota had a broken shaft and would not be ready to sail until June 23, 1909, instead of the 19th. Then on Sunday we heard that she was on fire (her coal) and was to be sunk on Tuesday, thus delaying her longer. So we do not know when we are to leave.

We went out to the fair (Alaska-Yukon) Saturday, and were offered work, so we began, and are yet working on the "Sugar Palace," in the Hawaiian building, at $2 per day, which beats loafing. You doubtless wonder what we mean by a sugar palace, so I will say that the government is having a sugar exhibit from the islands, and as a means of exhibition they have a typical Hawaiian building, plastered inside and outside with the cane sugar from the islands. I might say that we were plasterers. It is surely "Home, Sweet Home." We get in the grounds free of charge and are off from 4 o'clock p. m.

Right beside the building above referred to is a balcony where an orchestra of Hawaiian musicians make the finest, sweetest music I have ever heard.

We surely have had a wonderful experience since we reached here and on the way here from home. This is surely a good way to get an education. I would not take anything for what I have already seen and learned since leaving home. I need not describe the trip since you have been over these roads and already know about the sights that are to be seen, but must say that the mountain scenery is far more beautiful than can be described by any book or told by any person.

We are having a fine time here as we work only eight hours per day and then spend the remainder of the day in the grounds and city. We have already met quite a number of young men who are going over to the Philippines in the same work. Many lady teachers are going over also.

I should have said that the government has a village here called the "Igorrate Village." It is a demonstration of the life, in all phases, in the Philippine Islands. We took this in in full to gain knowledge of our future home. Am sure we were much benefited.

I sincerely hope you may be able to have more military work at the college than has been practiced in the past, for I realize more and more each day the many benefits to be derived from it.

These are surely strong, healthy-looking people out here. None are stooped over as so often is the case in the East. I cannot help but admire the beauty of the ladies here as well as their neat, trim forms. There are no negroes out here at all, but there are a great many foreigners, especially Chinamen.

With best wishes, I am,

Very sincerely yours,

JAMES E. LATHAM,
Lieutenant Philippines Constabulary.

Letter to Lieut. John S. E. Young, Commandant at the A. and M. College, West Raleigh, N. C., from Lieut. R. A. Shope, Philippines Constabulary, Detailing the Events of His Trip from Seattle, Washington, to Manila, Philippine Islands.

BUREAU OF CONSTABULARY,
MANILA, P. I., August 27, 1909.

MY DEAR LIEUTENANT:—I believe that I wrote you of my trip up to Seattle, Washington. We sailed from there June 23, 1909. I wish I could give you a full and complete description of my trip across the Pacific, but it would take too long, so I will mention only the principal events and you can draw from your imagination the sum total of it all, as you have made similar trips yourself.

To begin with, we had a fine, congenial crowd on board; quite a number of young people, both boys and girls, and every one "pulled together" to make the time a most pleasant one. We had several dances and candy-pullings on board and we surely enjoyed them. We had a great track meet on the fourth of July. Every one took a part—ladies also. There were prizes awarded to the winners, and some of them were very handsome and appropriate. The contest lasted all day, and every one pronounced it the most successful one ever attempted.

On the 7th of July we steamed into Yokahoma, Japan, and we were surely glad to get on land again. While there we visited Tokyo and went through the army museum, which contains all the war relics captured in the Russo-Japanese War. It certainly was interesting to us. I think Japan is the most beautiful and interesting country I have ever seen. After two days in Yokahoma we sailed to Kobe. While there I went up to Kyoto, a distance of fifty miles. We went through the old imperial palace, which contains some of the most beautiful gold paintings that I have ever seen. Kobe has the most interesting harbor of any place we landed. There were battleships of most every nation there, and it certainly looked good to see the Stars and

Stripes floating in the breezes. The Chinese Emperor came up while we were there, and there were fifteen salutes fired by the Japanese and Chinese ships. That night the ships were lined on each side of the harbor and their great searchlights were thrown across at each other. It was a most beautiful naval display.

From Kobe we sailed through the Inland Sea of Japan to Nagasaki, which alone is almost worth the trip over here. Our captain died just after passing through the Inland Sea, but everything went on as if nothing had happened.

At Nagasaki we stopped to take on coal, and it was interesting to see 1,500 Japanese handling those baskets of which you have spoken to the students. Shanghai, China, was our next stop. We were there only one day but I was in that time very much impressed with the city as most of it looked as modern as our cities in the United States, and more so than those I saw in Japan.

We were four days reaching Manila from Shanghai, and I was loath to leave the old Minnesota when the time came, for I have never in my life spent a more pleasant month as the one spent on board of that ship. A trip like this one is worth two years of any man's time and money, if he gets nothing else out of it, and a man who fails to take advantage of this opportunity to see some of the world misses the greatest opportunity in a lifetime.

As Mr. Faison has written you describing our movements up until now I will not mention them. We are in school now at Baguio and having plenty of work to do, but I like it and am getting along fine. We have a fine class of young men here, most of them college graduates. Two new ones came in last night making twenty-three in all. I am much pleased with the constabulary work so far, and I find it of a much higher standard than I at first supposed it to be. I fully believe that if a man will apply himself both here in school and after leaving here he has great possibilities and a bright future before him

if he wishes to follow the constabulary. Of course you know that it is my intention, if possible, to get into the regular army, but if I should fail in that it is most probable that I will follow my present career.

I hope Harrelson and Sumner got through all right.

Well, I suppose A. and M. will soon reopen, and I hope the work will progress this year as never before, and especially in the military department, for it certainly is as important as the others and as deserving, and offers great opportunities to young men who desire a military life.

The only way I can express my appreciation for what you have done for me is by trying to do something that will bring credit to you and your department.

Faison, Latham and I took supper last night with the Episcopal minister and his wife, Mr. and Mrs. White. He is from Virginia and she is from Tarboro, N. C., and graduated at St. Mary's in the class of 1898. They certainly are pleasant people and it was a great treat to us to meet some one from so near our our homes and knowing so many of our friends.

To-morrow the constabulary officers will have a baseball game with the regulars from Camp John Hay. None of us have had any practice, so it will be a great game no doubt.

It is growing late so I will have to close, wishing you a most prosperous and successful year in your department and for the school in general.

Very respectfully,

R. A. SHOPE,
Lieutenant Philippines Constabulary.

Letter to Lieut. John S. E. Young, Commandant A. and M. College, West Raleigh, N. C., from Lieut. Ralph R. Faison, Giving the Details of His Work in the Philippines Constabulary.

BAGUIO, BENGUET PROVINCE, P. I., August 24, 1909.

MY DEAR LIEUTENANT:—I have delayed answering your kind letter of June 13th in order that I might look around and be better able to tell you what I thought of the Philippines in general and the constabulary in particular.

Just two months ago yesterday Latham, Shope and I left Seattle for Manila, and one month ago yesterday we landed in the last named place. During this time we have seen so many new and interesting things that we have decided to each write you about different parts of the trip, and I am to take it up from our landing in the islands.

As I have said before, we came ashore from the steamship Minnesota at Manila on July the 23d, and I was not long in making up my mind that it was the best city I had seen since I left Seattle. Neither Yokahoma, Tokio, Kobe, Kyoto or Nagasaki, Japan, nor Shanghai, China, could compare with it in either beauty or cleanliness.

Our life in the islands as civilians was short, as we were taken almost immediately to constabulary headquarters and assigned temporarily to the Santa Lucia Bararcks in the city. These barracks were at one time used by the Spanish cavalry. For the next week we were kept quite busy getting fitted out in uniforms and other necessary supplies and in reading up on our new duties. There was plenty of spare time, however, to take in the interesting sights of the city, which we did. Stationed in the barracks with us were about a dozen more newly appointed third lieutenants who, like ourselves, were just over from the States. Among them were three '09 graduates from V. P. I., an old Clemson graduate, three '09 men from University of Missouri, one from University of Tennessee, a graduate from Culver, Indiana, one from Oregon Agricultural College and others. Besides these there were six or seven more on duty in

the several stations in the provinces and who were awaiting the opening of the constabulary school.

On August 1st we were ordered, in twos, to the provinces to spend the two weeks between then and the opening of the officers' school on August 15th. Luckily for us Shope and myself were sent to the same station, about fifty miles north of Manila and in the Pampangan Province. This was the headquarters of the senior inspector of the constabulary in that province. Most of our time here was spent in getting familiar with constabulary office work, though we were twice sent out with a squad of soldiers on a "hike." My trip was from San Fernando, our station, to the top of Mount Arayat, a distance of twenty-one miles one way. We arrived at the small town at its base about 1 o'clock at night, spent the rest of the night there and climbed the mountain next day. There was no regular trail so it took us practically the whole day to go up and down. The men were rationed for three days with rice and fish, and our dinner was cooked and eaten on top of the mountain. We spent that night in the village, returning to San Fernando next morning. This was my first trip out with soldiers, and it is needless to say that I enjoyed it. Shope had a somewhat similar trip.

Our time spent in San Fernando was spent pleasantly. The commanding officer was an ex-Spanish army officer and under him we began Spanish. Every day we were required to learn so many common Spanish words and recite them to him. Work was over at 5 o'clock and after that time we were at liberty to go anywhere we wished. Several times the captain took us out to call on some of the native officials, and once to a dance. We were both sorry when our orders came to report to Baguio for a three months course of instruction.

We left San Fernando on the 15th, making the trip to Baguio in a day. The train took us only as far as Camp Overton, the trip from there on being in an automobile over the famous Benguet Road. This road, which is built of rock, and which rises almost from the sea level to an elevation of five thousand feet, has recently been completed by the government at a cost of over two million dollars. At one time we could see back of us eight

bridges, one of which is the longest steel bridge in the Orient. The scenery along this road was the prettiest I have ever seen, and would alone be worth a trip out here.

Baguio is the summer capital of the Philippines and has an elevation of about five thousand feet, almost equal to that of Mount Mitchell in North Carolina. One would hardly expect to find a cool spot in the islands, but here the days are always pleasant and the nights cool enough to use two blankets and for a fire to feel good. The months of December, January and February are still colder. In this province live the Iggorotes, at one time famous for their head-hunting. This is rarely ever practiced now, however, those around here looking peaceful enough. As cold as it is the natives wear few clothes, the dress of the men consisting of a band once or twice around the waist. To-day Shope and I took a picture of the Iggorote policemen dressed in coats, hats and bands with nothing on their legs or feet. Those who were at Jamestown probably saw the Iggorote tribe there. The same crowd were being exhibited in Seattle at the A. Y. P. Exposition.

And now I will tell you something about our school. As you probably know, all constabulary officers have to graduate from the school before they are sent out on regular duty. The school was at one time in Manila, but has since been moved up here. The school term is three months, there being four classes a year. As we entered on August 15th we graduate on November 15th. In our class are twenty-three obys, most of whom are graduates from colleges in the States. In the school are three instructors and the superintendent. All are officers of the constabulary and all good men. One of them, Lieutenant Costosa, is an ex-Spanish army officer. He teaches Spanish and fencing. Probably I can best give you an idea of our school work by naming over the day's schedule. At 5:40 we have reveille and at 6:15 breakfast. At 6:45 we have inspection of quarters and at 7 drill. This hour from seven until eight is taken up in Butt's Manual, setting-up exercises and bayonet exercise, music instead of commands being used. At 8:15 we assemble for classes, and from that time until 12 are kept busy. Subjects taught are Philippine

Law, Topography, Military Tactics, including infantry Field Regulations, Firing Regulations, Guard Manual and manual of Bayonet Exercise and Military May Reading, which would come under Topography. At 12:15 we have lunch and at 2 o'clock the Spanish class begins and lasts until 3:30. Drill begins at 4 and lasts until 5. Four men are detailed from the squad each day for fencing. At 5:15 we have retreat, which ends the day's work. From 7:30 to 9:30 we have two hours to prepare the next day's lessons, and at 9:30 all lights have to go out. Saturday the program is changed. We begin by having the weekly inspection of the company. The inspection is of person, gun, haversack and contents, canteen, etc. In this we are made to unsling haversack showing meat can, tin cup, knife, fork, spoon and ration bags, also a change of underclothes and socks. The canteen must be filled with water and cartridge belt with ammunition. Rolled tightly and fastened to our haversack is our blanket. After inspection out of doors we have inspection of quarters by the major. Next, for an hour, we are taught dancing. No doubt you saw while over here the Spanish dance, rigadon. For this dance music is furnished by the constabulary band stationed here. This is the dance used by the Filipinos and we are made to learn it in order to be able to take part after we are stationed. Saturday evenings and Sunday we have liberty.

Everything here is strictly military, and while we are officers at school we are made to begin at the bottom and do the work of a private along with our other duties. We are instructed just as if we had never seen a gun. Each day an officer is detailed as officer of the day, and also as sergeant, major, adjutant, company commander, officer of the guard, supernumerary officer of the guard, to hold guard mountaing with troops from the sixth company of constabulary stationed here.

There is little else that I can say more than I have written, except that I am perfectly satisfied with the constabulary in every way, and if I had it to do over again I would certainly come. The officers are of a high class of men, and in fact the

service requires such officers. It is true the pay is not so much to begin with, only fourteen hundred dollars, but for the right man promotion comes quickly, and with promotion higher pay. I venture to say though that few, if any, of the graduates of the '09 class at A. and M. are getting more than we are at present.

I sincerely hope you will be able to get at least three in from the present senior class at college. If any of them are interested I will gladly give them information, both printed and otherwise, that I can. I do not want any of them to think for a minute that there is no work in the constabulary, for there is, and plenty of it; but I will say that the work is of a high character and both interesting and instructive. In Colonel Harbord's address to the last class of Constabulary School he said: "It may be fairly said that the youth who loves adventure, the spice of danger and the uniform, but looks forward to the exercise of power and responsibility in an honorable service in his later manhood, should find in the constabulary a congenial career."

Just a word about a man's health in the islands. From what I have been told by "old-timers," and from what I myself have seen and experienced, a person who is careful of his diet and drinking water is just as safe as he would be at home. I've never felt better in my life than I have since being out here.

And now I will have to close. As I said before, we all three are not only anxious to make a success ourselves, but for your sake as well, and we sincerely hope to make a showing, both while in school and afterwards, that will not cause you to be sorry of getting us into the service.

Both Shope and Latham join me in best wishes for yourself and other members of the faculty and in wishing for the college a successful year. We look for nothing but success, however, with such a president and faculty.

While in Manila we called on Professor Conner, as acting director of the Agricultural Bureau. He holds a big job. He

seemed glad to see us, and only after getting all the A. and M. news would he let us go. I have heard both from Tillette and Hardie, two former graduates from A. and M. Tillette is in Mindanao and Hardie in Southern Luzon.

Sincerely your friend,

RALPH R. FAISON,
Lieutenant Philippines Constabulary.

Y. M. C. A.

Phenomenal as the growth of the college has been, even more so is that of the Young Men's Christian Association in the college. A great world-wide influence for good is being brought to bear by the various Y. M. C. A. movements, and we are proud to say that our college has such a strong association.

The Young Men's Christian Association was once looked upon as being limited to a bunch of "goody-goodies," but now *every* class of the college boys are among its members—from the stalwart athlete to the humble little *really* good fellow. And after all is not this right? Is not the association's purpose and mission to help men—all men, regardless of rank—morally, mentally and spiritually? No one is perfect in this triune sense, therefore every college man needs the strengthening influences of the Y. M. C. A. The association tends towards a unification of all Christian students in an effort to help others as well as themselves. Its purpose is to do good—to do so it must reach all men. Christ himself taught that the *sick* need the physician more than the *well*.

And so we rejoice in the growth of our association, rightly giving most of the honor to our general secretary, whose efforts are and have been untiring for its advancement. He being the official representative of our association at all times has, by his precept and example, practically *lived* many men into its membership. He has won the good will—even the love—of every man in college. A thousand and one *little* things have wrought wonders. Let us all strive towards the erection of an association building in order that our work may mean most.

A membership contest, composed of two parties of twelve members each—men from all ranks in college—proved an exceptional success. A larger per cent of the student body are

members of the Y. M. C. A. than ever before. At the conclusion of the contest the losing side, as previously arranged, paid a part of the expenses of a seven-course banquet at Giersch's for all of each party, the association paying the rest. The sides were led by McLendon and Springs, president and treasurer of the association. A paid-up member counted five points and one not paying one point. McLendon won by a score of 103 to 64. The banquet was a pleasing climax to a vigorous canvass of all quarters in college.

Those who attended the Bible Study Institute at Guilford report a most beneficial meeting. The great need with us is more competent leaders for Bible study work.

The religious meeting committee has been fortunate in securing good speakers for the past month. The meetings were well attended and deservingly so. Dr. White, pastor of the Raleigh Presbyterian church, brought us a strong plea for Bible study. He showed that to be educated one must know the greatest Book ever written. Ignorance of the Bible is a great weakness. Men of all ages have been influenced and inspired by it. Know the Bible not only because it is God's word and law, but also because it is a fundamental factor of all knowledge.

Mr. John T. Pullen, one of Raleigh's bankers and a sincere friend of the college, spoke about "Desirable Young Men." These fellows are not often found, but business men are always watching for them. Desirable young men are men of *character—real character.* Thousands have good reputations, but few have good characters; the one often shields the other until the critical moment comes when one's real self—*his character*—is shown. Mr. Pullen is all the more impressive because of the sincerity with which he *feels* his theme. Proverbs iii: 6. *"Acknowledge Him in all thy ways, and He shall direct thy paths,"* said he, is fit for any man's motto. At the conclusion the speaker left a large number of the Psalms, Proverbs and St. John in separate little forms for free distribution.

"We are here for work," said Professor Satterfield, of the Mechanical Department. The college man has three main du-

ties to perform: duties to himself, to others, and to God. Work is the foundation of it all, but so *few* of us work as we should. The four years in college are years of preparation and character building for future life. Do not waste one of the precious minutes, but *work* to learn the best way to do things; then do them.

Lieutenant Young, our College Commandant, is always welcome at the Association meetings. He emphasized the fact that all soldiers are not non-followers of Christ, but that there are many Christians in the army and navy service. Y. M. C. A.'s are found wielding their influence for good in all important military posts. The army and navy offer a broad field of service, not only to the Stars and Stripes, but also to God. Aside from the above, the speaker narrated some of his foreign experiences and read interesting letters from former A. & M. men who are now in the service, both at home and in the Philippines.

Mr. Bergthold, our General Secretary, discussed "Friendship" at our last meeting. We all have friends who are near and dear to us, but Christ, our best friend, is always ready to aid us. He is, indeed, a true friend. He possesses all the characteristics of a friend. He even *died* for *us*, His friends.

The Red and White

PUBLISHED MONTHLY BY THE ATHLETIC ASSOCIATION
OF THE
NORTH CAROLINA COLLEGE OF AGRICULTURE AND MECHANIC ARTS.

SUBSCRIPTION:

One year, ... $1.00 Single copy, ... 15 cents.

For Sale at Room 3, Watauga Hall.

Entered in the West Raleigh postoffice as second-class mail matter.

Students, Professors, Alumni and friends of the college are each and all invited to contribute literary articles, personals and items. All contributions, accompanied by the writer's name, should be sent to the Editor-in-Chief; and all subscriptions to the Business Manager.

Cash prizes are offered as follows $2.50 for the best original story; $2.50 for the best original poem; and $5.00 for the best original paper subject of which is to be taken from American Literature, American political or industrial history, or economics. This last paper must be submitted for publication before the March 1910 issue of the Red and White goes press. The other papers are to be submitted for publication in any issue during the year.

Advertising rates are furnished on application. Advertisers may feel sure that through the columns of this magazine they will reach many of the best people of Raleigh and a portion of those throughout the State.

Charges for advertising are payable after first insertion.

We want to impress upon the student body the fact that eight or nine men cannot get out a representative magazine, or any

magazine at all, for that matter, without the hearty co-operation of the students. We earnestly desire that every man in college who knows the use of a pen will at least make an effort to write something for THE RED AND WHITE.

To be sure, we are interested in purity of athletics, and we recognize that there should be some authority, some recognized head to look to in cases of college athletics. But how many men in college, with the exception of the Athletic Committee, can clearly define to us what the S. I. A. A. really is? You may tell us that S. I. A. A. stands for Southern Intercollegiate Athletic Association, but you have not told us the principles it stands for and is governed by, or the reason why so many institutions do not wholly recognize the S. I. A. A. The Y. M. C. A. seems to have taken a hand in the matter now, and things are assuming something of an aggressive attitude toward the athletics of the South. Under the head of Athletics we are publishing a copy of the proceedings and a copy of the resolutions adopted by the Athletic Conference held at Montreat last summer, which will be of interest to many and which bears on the topic of athletic purity.

A member of the faculty has offered a prize of five dollars in cash for the best contribution printed in THE RED AND WHITE not later than in the issue for March, 1910. The conditions are as follows: Contest open to all students in the College. Prize to be withdrawn unless five or more papers fulfilling these conditions are accepted and printed. Length limited to five pages of RED AND WHITE print. Signatures to be printed with the papers. Subjects to be taken from American literature, American political or industrial history or economics. Judges to be chosen by the editors of THE RED AND WHITE.

The November issue of THE RED AND WHITE will be a distinctive "Junior issue." All the literary articles published will be original with Juniors, also the technical and other contribu-

tions published. The class of '11 at A. & M. has had an eventful history, and this issue will merely be another deed to be added to their record. The coming of the November issue of THE RED AND WHITE is being awaited with pleasure.

Locals

YELL, Freshman! Come out on the foot-ball grounds and practice the yells; also at the games. The team needs your support, and it will go a long ways toward gaining a victory.

WE HAVE SEEN several familiar faces on the campus since the last issue of THE RED AND WHITE, among whom are "Ike" Farmer, of '08, who is now an employee of the Seaboard Air Line Railway, and "Dick" Rheinhart, '09, who is still with us. He remains on the "Hill" until after the Fair. C. W. Hewlett, '06, for two years an instructor in the electrical laboratory here, delighted us with a pop call several days ago.

MECKLENBURG, as usual, has sent up her usual large quota of men to old A. & M. The "Hornets," as they have been pleased to call themselves, had a "swarm" the other day, and as a result we are glad to publish the fact that their nest has been made and the following officers elected to preside over their meetings and attend to the necessary business: Harry P. Murray, president; F. N. McDowell, vice-president; E. B. Hunter, secretary and treasurer; L. E. Steere, corresponding secretary. Twenty-seven members are enrolled.

WHERE will you spend your Christmas vacation? Holidays begin December 22d and end January 4th. Of course, you want to go home. Well, beginning December 20, 1909, and ending January 2, 1910, there is going to be held in Rochester, N. Y., the biggest, most important student gathering ever held in North America. This is the Convention of the Student Volunteer Movement. There will be present at this convention three thousand picked delegates from every school and college in the United

States and Canada. A strong platform of speakers, including a number of men from foreign countries, will be present. The number of delegates from each college is limited, as follows: Every college entitled to two student delegates and one faculty representative for every two hundred men enrolled. A. & M. is entitled to three students, one faculty man and the general secretary. Efforts are being made to secure a special car for the delegates from North and South Carolina, which will insure a pleasant trip. Who wants to go? Besides visiting Rochester and attending the convention, many delegates will take this opportunity to visit the great world wonder, Niagara Falls, which is only a two hours' trolley ride from Rochester, and will during this period be dressed in the glory and splendor of its winter attire. This side trip alone will be worth the entire trip. For further information see the General Secretary.

PERHAPS Meredith College did not "hand us a lemon" after we received such a warm welcome at St. Mary's and Peace, when we were celebrating our foot-ball victory over the Maryland Athletic Club.

IN A FEW DAYS you will be able to buy all kinds of post cards of college scenes from W. F. Eller, L. L. Dail or C. G. Spencer. These cards will cost you as follows: four for 5c; eight for 10c; twelve for 15c; twenty-five for 25c. A limited number only is published; and to be sure that you get some, see either of these men and give them your order.

JOE MIKULEC, globe trotter, was a visitor on the hill on the afternoon of the A. & M.-Merriville game. He has now traveled one foot some nineteen thousand miles and has six thousand miles more ahead of him. He started from Croatia, Austria, February 5, 1906, and expects to complete his journey by February 5, 1911. Joe pays his way by selling post cards, having on them his picture and a short description of himself. That

he was pleased with his short stay at A. & M. is proven by the way he jingled his pockets as he left down the road at a "two-forty gait."

GET WISE to the latest A. & M. post card. Isn't it a "classy" article? It is in the form of an invitation from the Athletic Association to the public, calling attention to our great Fair Week game with Kentucky. The State flag is crossed with an A. & M. flag, with the College seal beneath, all printed in colors. Hundreds of the cards were sold and sent by the students to all parts of the country. The boys from the "Blue Grass," who believe in "fine women, fine horses and fine whiskey," may feel assured that their game will be well advertised.

THE MANY FRIENDS of the College, as well as the student body, will learn with great interest of the organization of a glee club here. It has been some time since a successful club has been organized, the last one being in the fall and spring of '05 and '06, this being perhaps the best club ever organized. In the fall and spring of '07-'08 another club was organized, but, under many disadvantages and difficulties, was forced to disband, to the sorrow of the College, as well as to each individual member. On Wednesday, September 20th, a call meeting was held for the purpose of organizing the present club. At the first meeting great enthusiasm was shown, and has been gradually increasing ever since. There were so many of the boys who applied for a position in the club that many naturally had to be refused, who formed a second club. The great number which constantly attended its meetings gave the instructor a very broad field from which to choose its members, and we believe his choice was excellent. We have some very good voices and should put out a club very superior to the one of '05 and '06. The following officers have been elected: L. L. Hood, president; M. S. Mayes, manager; O. M. Sigmon, secretary and treasurer; J. W. Bergthold, faculty adviser; C. G. Hall, librarian; W. H. Crow, stage manager; C. E. Bell, press reporter. The club was very fortu-

nate in immediately securing Prof. Harry M. Snow as its instructor. Professor Snow has recently been elected as instructor of music at the city graded schools. He is a graduate of the New England Conservatory of Music, of Boston, and comes very highly recommended. The progress of the club has been very great under Professor Snow's instruction, and if it keeps up its present rate of improvement it will be able to give an entertainment by the middle of January, if not before Christmas. An orchestra has also been organized in connection with the club, and with both combined we will be able to render many very excellent concerts.

The October dance of the Thalarian German Club was given Saturday night, October 2d, in Pullen Hall, A. & M. College. The dance was gracefully led by Mr. J. L. Springs, who introduced many unique and intricate figures. Quite a number of couples attended, as follows:

J. L. Springs with Miss Willa Norris; Gordon Harris with Miss Ethel Rogers; E. H. Smith with Miss Juliet Crews; J. E. Beaman with Miss Nannie Lee; I. N. Tull with Miss Minnie Moring; W. E. Blair with Miss Mildred Goodwin; G. W. Ross with Miss Frances Lacy; R. F. Jones with Miss Katherine Boylan; J. M. Council with Miss Fannie Johnson; J. B. Park with Miss Lucy Moore; Eugene Lee with Miss La Rue Pearce; R. Sanders with Miss Lizzie Lee; Mr. MacNider with Miss Louise LaMar; E. D. Scott with Miss Margaret Lee; J. L. Scott with Miss Martha Laird Roberson, of Haw River, N. C.; T. T. Dawson with Miss Ann McKimmon; E. L. Winslow with Miss Narnie Rogers; W. E. Winslow with Miss Ruby Norris; N. S. Lachicoeti with Miss Julia Thompson, of Mississippi; Professor Smith with Miss Miller, of Ohio; L. P. London with Miss Elizabeth Thompson; C. M. Taylor with Miss Ruth Lee; C. E. Walton with Miss Mary Habel; E. B. Haywood with Miss Katie Barbee; R. W. Hicks with Miss Nannie Hay; J. W. Hardie with Miss Josephine Boylan; C. A. Stedman with Miss Grizelle Hinton; Mr. and Mrs. Shaw.

Stags—William Thompson, Durham; Hugh Adams, Durham; Dr. Louis Pegram, McLean, Gantt, Cosby.

Chaperones—Mrs. M. T. Norris, Mrs. Paul Lee, Mrs. C. Lee, Mrs. McGee, Mrs. McKimmon and Miss McGee.

COLLEGE DIRECTORY.

LEAZAR LITERARY SOCIETY.

T. J. Brevard ..... President
J. P. Quinnerly ..... Vice-President
H. P. Whitted ..... Secretary

PULLEN LITERARY SOCIETY.

H. W. Wells ..... President
D. W. Seifert ..... Vice-President
R. E. Forbis ..... Secretary

TEXTILE SOCIETY.

T. B. Summerlin ..... President
E. McCracken ..... Vice-President
J. E. McGee ..... Secretary

THE STUDENT FARMER.

L. P. McLendon ..... Editor-in-Chief
J. M. Best ..... Business Manager

Y. M. C. A.

L. P. McLendon ..... President
J. W. Bergthold ..... General Secretary

SENIOR CLASS, '10.

E. B. Moore ..... President
W. H. Crow ..... Vice-President
L. D. Moody ..... Secretary
I. N. Tull ..... Treasurer
W. R. Phillips ..... Historian
R. W. Hicks, Jr. ..... Poet
E. Lee ..... Prophet

JUNIOR CLASS, '11.

J. M. Beal ---------- President
J. M. Sherman ---------- Vice-President
D. R. Hinkle ---------- Secretary and Treasurer

SOPHOMORE CLASS, '12.

H. Hartsell ---------- President
C. C. Bost ---------- Vice-President
C. E. Brown ---------- Secretary and Treasurer

FRESHMAN CLASS, '13.

J. F. McAllum ---------- President
Sol. Woolard ---------- Vice-President
R. M. White ---------- Secretary and Treasurer

SHORT-COURSE CLASS.

R. M. Pitts ---------- President
J. Garvey ---------- Vice-President
C. P. Buchanan ---------- Secretary and Treasurer

Athletics

In their first appearance of the season on the gridiron our eleven fulfilled every expectation by defeating the Maryville College team, of Tennessee, to the tune of 39 to 0.

Maryville team came here with a good record. For the past several years it has been holding down the central western universities to small scores, and they were determined to do A. & M. likewise, but such a thing was impossible, for they were outclassed in every respect. A. & M. scored six touchdowns, a field goal and a safety in the first half. The teams were too unevenly matched to make the game interesting. It seems, that taking at face value, the statement made by the coach of the Maryville team, that we are on a favorable standing with Vanderbilt and Kentucky, for he says that his team last year was beaten by these universities by the respective scores of 17 to 0 and 10 to 0, and that this year's team is very much stronger than the one of last season. The Red and White warriors started off with vim, the first touchdown being made in four minutes. From the very start they were cool and calm, and at no time of the game did they slack up. Von Glahn, Stevens, Seifert, Dunn and Captain Bray played their usual high-class game. Robertson and Long figured as stars. In the second half all the subs were put in, who made a creditable showing, eight more points being made in the last half. Halves, 20 and 15 minutes, respectively.

A. & M. defeated the Maryland Athletic Club in Norfolk, Saturday, October 9, by a score of 12 to 0. M. A. C. was composed of some of the best foot-ball players that have ever worn a uniform, such men as Eddie Harlan, of Pennsylvania, and others, from Michigan, Dartmouth, Sewanee, Yale, Princeton, Vanderbilt and V. P. I. But for this A. & M. cared nothing,

for they had grit in their craws and were fighters to the end. The M. A. C. played A. & M. to a standstill in the first half, neither side being able to gain ground. In the first half both teams were frequently penalized for off-side and other illegal plays. The superior training of A. & M. in the second half was very prominent; they seemed more determined and put more life in the game. Both lines were almost impregnable in the first half, and A. & M.'s line held like a stone wall. Not a single time did M. A. C. gain the required 10 yards on downs, and they played a kicking game throughout. During the first half A. & M. sized up the Marylanders to perfection and went in the second half to win. Every man was confident that we would score. Two touchdowns were made in the first seven minutes of the second half. The first touchdown was made by Seifert, aided by Stevens, who is a Norfolk boy and plays quarterback for the Aggies. His pass was cleverly executed, and the M. A. C.'s were at a loss as to what had happened. Score, 6 to 0. Five minutes later, Stevens made the most sensational run of the game, getting the ball on the kick-off on the 55-yard line and ran the entire distance, placing the ball squarely between the goal post. The goal was kicked, making the score 12 to 0. In a few minutes the game ended, with A. & M. threatening to score again.

Mr. O. M. Sigmon, who was an A. & M. representative at the Southern Students' Convention at Montreat last June, asks us to publish the proceedings of the Athletic Conference, held June 18th; also a copy of the resolutions adopted at that time. The following is what he gives us:

MONTREAT, N. C., June 18, 1909.

At the request of the employed officers of the Young Men's Christian Associations of North and South Carolina, a meeting was called, at which representatives from all of the associations were asked to be present to consider the question of athletic purity in the Carolinas.

The meeting was called to order by Dr. Fisher, who stated the purpose of the meeting. Mr. Foster, of Charlotte, then made a

statement of Charlotte's position as a registered amateur organization, with the present existing conditions in the Carolinas. Professor Riggs, of Clemson College, next made a statement as to what the S. I. A. A. stands for. This was followed by a general discussion of the S. I. A. A., its value, why some institutions have withdrawn from the organization, etc., by Messrs. Rankin, Hogue, Pritchard, Denton and Turner. The general sentiment was that the S. I. A. A. is at present the best organization in the South to promote athletic purity among the educational institutions. There was some discussion then concerning a change of rules of the Athletic League of the Young Men's Christian Associations, with respect to the South, so that there can be better co-operation with the S. I. A. A.

The following resolutions were adopted by the representatives:

Resolved 1. That this body put on record its vital interest in the spread and maintenance of the principles of pure athletics.

2. That we recognize that the city and college Young Men's Christian Associations bear a strong responsibility in the promotion of pure athletics.

3. That the work of the Southern Intercollegiate Athletic Association in promoting clean athletics is heartily approved by this body.

4. That the Governing Committee of the Athletic League of the Young Men's Christian Associations of North America be requested to adapt its rules, as applied to Young Men's Christian Associations in the South, so as to recognize and be recognized by the Southern Intercollegiate Athletic Association.

5. That a committee be appointed in each State represented at this conference for the purpose of securing the co-operation of the athletic committees of those colleges and universities who are not in the S. I. A. A., looking to the establishment of better athletic relations and to the consideration by these institutions of the purpose and plans of the S. I. A. A.

6. That the S. I. A. A. be requested to appoint a committee to co-operate with the above-named committee.

The following motions were made and carried:

That a copy of the above resolutions be printed in all of the Carolina college papers at the beginning of the next session.

That the above resolutions be printed in all of the local papers as early as possible.

That the resolutions be read at one session of this conference.

Resolved, That this conference, through its committee, request the International Committee of the Young Men's Christian Associations to promote a clean sport day in all colleges and city associations in the territory represented.

W. M. RIGGS, *Acting Pres. S. I. A. A.*
GEO. J. FISHER,
Sec. Ath. League of North America.
R. W. HOGUE,
University of North Carolina.
B. B. FOSTER,
N. E. BYRD.

LIST OF MEN PRESENT AT ATHLETIC CONFERENCE AT MONTREAT, JUNE 18, 1909.

Dr. George J. Fisher, New York City.
Prof. W. M. Riggs, Clemson College, S. C., S. I. A. A.
G. C. Huntington, Charlotte, N. C.
J. E. Johnson, Charlotte, N. C.
J. B. Huntington, Asheville, N. C., Y. M. C. A. Phys. Direc.
J. S. Hunter, Durham, N. C., Y. M. C. A. General Secretary.
W. B. Abbott, Spartanburg, S. C., Y. M. C. A. Gen. Secretary.
H. F. Bretthauer, Charleston, S. C., Y. M. C. A. Phys. Direc.
B. B. Foster, Charlotte, N. C., Y. M. C. A. Phys Director.
J. B. Poole, Monaghan Mills, Greenvile, S. C., Y. M. C. A. Physical Director.
J. W. Bergthold, A. & M. College, West Raleigh, N. C., General Secretary.
O. M. Sigmon, A. & M. College, West Raleigh, N. C., student.
N. L. Provost, Clemson Colege, Clemson College, S. C., General Secretary.

N. E. Byrd, Clemson College, Clemson College, S. C., student.

E. E. Barnett, Univ. of N. C., Chapel Hill, N. C., Gen. Sec.

J. R. Wildman, Univ. of N. C., Chapel Hill, N. C., student.

M. G. White, Furman Univ., Greenville, S. C., student.

C. C. Smithdeal, Guilford College, Guilford College, N. C., student.

R. P. Nicholson, Guilford College, Guilford College, N. C., student.

Prof. W. A. Graham, Warrenton High School, Warrenton, N. C.

M. M. Rector, Univ. of S. C., Columbia, S. C., student.

Rev. R. W. Hogue, Univ. of N. C., Chapel Hill, N. C., college pastor.

Rev. F. B. Rankin, Railroad Y. M. C. A., Hamlet, N. C., U. M. C. alumnus.

E. A. Turner, Georgia Tech., Atlanta, Ga., General Secretary, Wake Forest alumnus.

W. A. Alexander, Georgia Tech., Atlanta, Ga., student.

L. Gardner, Univ. of Ark., Fayetteville, Ark., Gen. Sec.

A. E. Lindley, A. & M. College, Mississippi, Gen. Sec.

F. M. Long, L. S. U., Baton Rouge, La., Gen. Sec.

A. S. Johnson, 328 W. 56th St., New York City, Gen. Sec.

J. G. Prichard, L. S. U., Baton Rouge, La., Asst. Phys. Direc.

Guy T. Denton, Vanderbilt Univ., Nashville, Tenn., Physical Director.

M. E. Snedecor, Univ. of Ala., Tuscaloosa, Ala., student.

Dr. A. S. Keim, Knoxville, Tenn., Y. M. C. A. Gen. Sec.

Vernon T. Grizzard, Nashville, Tenn., Asst. State Sec. Y. M. C. A.

Some other institutions were represented, but the names of the representatives were not handed in, as requested.

TRACK WORK.

Several days ago, Captain Sherman, of the track team, called a meeting for all men in college who were interested in track work, some forty or fifty men answering to the call. The object

of the meeting was not so much the discussion of work for next spring as it was to talk over the proposed cross-country event in December.

Professor Schaub, of the faculty, was present and spoke to the men in regard to the work. He announced that the faculty had decided to give another cup, something similar to the foot-ball and base-ball cups, to be competed for in an interclass track meet or in a cross-country run. He said that it was immaterial with the faculty as to how we would let the cup be won, but that he would advise us to have an interclass meet next spring and let the cup go to the class with the winning team, and that the cross-country run be made merely an individual affair. A cash prize of ten dollars, also a five-dollar sweater, have already been offered for this last event.

When put to a vote it was unanimously decided to have the cup for the interclass meet next spring, and to have the prizes go for the cross-country run, as rewards for the personal efforts put forth by each contestant.

It was pleasing to see the large number of men who were interested in track work. Messrs. Long and Walton, of the book store, have disposed of their entire lot of running suits and have had to order about thirty new suits to supply the demand. Quite a number of men have already begun training for the cross-country run in December.

Grinds

Gene Lee—"What do you suppose made the weather turn so cold all at once?"

Fresh. Wilson—"Sudden change of temperature."

Have you seen the Forbis patented re-burning, slow-burning, gunpowder, reacting, perpetual-motion gas turbine?

Professor (on physiology class)—"Mr. Hoskins, will you name the bones of the skull?"

Hoskins—"Professor, I have them all in my head, but I just can't think of them now."

Gantt says, "Every time a felow tries to do a heroic stunt these days he gents pinched."

Professor Smith—"Mr. Mayes, what is the highest form of animal life?"

Fresh. Mayes—"The giraffe, sir."

Captain Jay, while drilling his company, told them this: "Now, listen, men; when I say 'Halt!' place the foot that is on the ground beside the one that's in the air, and remain motionless."

Freshman Bost (the one that blows his bugle like he is calling doodle bugs) says he likes to see the foot-ball teams skirmish.

Professor Ellis (on Mechanics)—"What is this axis?"

Morgan—"X-axis."

Professor—"And this?"

Morgan—"Y-axis."
Professor—"And this?"
Morgan—"Z-axis."
Professor—"Well, then, where is the center of moments?"
Morgan—"At and so forth."

Freshman (reading a weather forecast to himself)—"Fair to-night and Thursday. Well, I thought the Fair was going to be from October 18th to 23d."

A young lady says, "E. L. Winslow has plenty of sense, but it's all in his feet, where he can't use it."

Bradley says that the E. E. Div. Seniors are like unto a motor running at overrated capacity!

"Typographical error," muttered Mr. Loftin, reading *The News and Observer* of October 15th. "This fool paper says that the 'Farmer Boys are full of grit.' The way they slay the stuff in this hotel, I would imagine what was meant is, 'Farmer Boys are full of grits.' At least, that sounds better."

Rollinson says a motor runs because it gets excited.

Stanback (coming into his room, rubbing his stomach)—"Old lady, my heart has been hurting me all day."

Bowditch (looking over Babington's kodak pictures)—"Who is this little kid, sprinkling water with the hose?"
Babington—"That's my little kid brother."
Bowditch—"Boy or girl?"

Professor Browne was going across the campus, accompanied by two little boys. Bill Manning, always wanting to see a joke somewhere, punched Charlie Stainback and snickered, "Law, just look yonder at Professor Browne and his two little amperes."

Lieut. C. B. S. says Wilmington Street is like the road to heaven—it leads to Peace.

We want to know why Captain Robinson persists in calling for the butter.

Babe Walton—"Shorty, what is the matter with your hand that's all bandaged up?"

Shorty Long—"Bandage? That's insulation. I have been reading a very shocking story about Joule Watt in the Live Wire Magazine."

Ditto—"Well, Mr. Loftin, what is your opinion of me, anyhow?"

Mr. Loftin (haughtily)—"Mr. Price, I have no opinion of you; I know you too well."

Professor Sprague—"Mr. Clark, will you explain the term, 'Heat expands; cold contracts'?"

I. Clark—"Yes, sir. 'In the summer, days are long; in the winter, they are short.'"

It is said that McLendon ran after a water wagon for three blocks in order to tell the driver that his wagon was leaking.

Pass the butter, please!

Clippings

"What do you think now, Bobby?" asked his mother, as she boxed his ears.

"I don't think," replied Bobby. "My train of thought has been delayed by a hot box."

Minister—"Do you take this man for better or for worse?"

Bride—"No, sah; jes' as he is; 'cause if he gits any better he'll die and dere'll be funral uxpenses, an' if he gits any wuss I'll kill him mahself."

A western bookseller wired to Chicago for Farrar's "Seekers After God." The reply was, "No seekers after God in Chicago or New York; try Philadelphia."

A Chemical Romance.

Said Atom unto Molly Cule,
"Will you unite with me?"
But Molly Cule did quick reply,
"There's our affinity."

Under electric light plant's shade
Poor Atom hoped to meet her,
But she eloped with villain base,
And now his name's Salt Petre.

"No matter how hungry a horse gets, he cannot eat a bit."

Q.—Why did the salt shaker?

A.—Because he saw the spoon holder and the lemon squeezer.

Mother—"Why did you permit Mr. Dasher to kiss you in the hall last night?"

Daughter—"Because that was the first chance he had."

Father—"Johnnie, what are you making all that racket about?"

Johnnie—"So I can play tennis."

Father—"Then you need a bawl, too; so bring me the trunk strap."

A grave digger dug a grave for Mr. Button. The bill presented was thus: "To one button hole, $5."

Lives of seniors oft remind us
That we should never make a flunk;
Work, ye, then, while ye are freshmen,
Os as seniors you'll be punk.

An old colored lady who washed for a living in the best families picked up a great deal of information as to various diseases, and expresed herself after returning home one day:

"Lord, there's more various diseases than I ever heard of afore. Ole Miss Bales has hwo buckles on her lungs and she'll die wid hermitage ob de lungs. Ole man Hagett's elementary canal is out of repair an' he has tansass in his throat. Dey don't know how to subscribe for people these days. If dey would throw away de patent nostrils an' stick to de ole arb bag dey'd soon all succumb and get well."

There was an epidemic of smallpox; the health officer insisted on vaccinating the old lady. She insisted she could not spare the time to be vaccinated on her arm, that if she could not work the children would starve.

The health officer said, "Well Auntie, I will vaccinate you on one of your lower limbs."

"No, sir; I can't spare one ob my limbs either. I've got to walk—I've got to work. You can't vaccinate me on my leg."

Then the officer said, very gently, "You've got to be vaccinated. What spot can you spare?"

The old lady thought and thought and finally said, slowly: "Well, de Lord knows I never gets no chance to sit down," and she was vaccinated.

—*The Minstrel.*

Exchanges

It seems that very little or no effort is made—as early as possible—by most of the colleges to get out their September magazine. It is hard to believe that this occurs from any lack of interest, yet from the number of exchanges received thus far it would seem so.

Those that we consider up so bright and early are as follows:

Hampton-Sidney Magazine is very handsomely gotten up and we are glad to see the amount of interest taken by its new editors. Congratulations, Mr. Editor and Chief. Probably on account of its being their first attempt this year each department is lacking in the amount of material; but what they have is good reading matter by both the college and outsiders.

The *Richmond College Messenger* is also to be congratulated. On looking over its literary department one would smile to see what good work can be done just at the opening term. The piece of poetry written by an alumni, "The Biography of a Rat," I consider good. Again, I find other good material contributed by alumni men. This I must say aids any magazine on to success. And I feel satisfied that any such help would improve the RED AND WHITE. So get to work you A. and M. graduates and contribute articles of some kind to the magazine which meant so much to you during your college career.

The Tatler, though a small magazine, we are also glad to acknowledge its receipt. This magazine is without doubt the daintiest that has reached us, and they are to be commended for its neatness and general air of taste. We hope that they will continue the magazine for another year, it is a credit to the school.

The *Penn State Farmer* we consider very valuable both in what little literary work it contains, but also for the great and good material of farm management and the like. We like the

division of the magazine into the various departments, and for a brief statement of forestry preservation. Your article "The Position of Forest Assistant on the National Forest" is very good.