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# The Cadet July 1894

The Cadet Staff

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# THE CADET.


NEW SERIES.

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No. 3.

## OUR CELESTIAL NEIGHBORS.

 THE question of the habitability of the planets has been a subject of speculation among both the curious and the learned for many hundred years, and yet, is far from being fully settled to-day. Pythagoras (about 500 B. C.) is said to have been the first to advocate the theory that the sun, not the earth, is the center of our system, the apparent daily motions of the stars, sun and moon being due to the rotation of the earth upon its axis. Accepting this theory, he naturally came to look upon the earth as a comparatively unimportant part of creation and began to speculate as to whether the planets were similar worlds. But Pythagoras could give no better reason for believing the sun to be the center of the system than that, "the sun is fire, fire is more dignified than earth, and hence should hold the more dignified position."

He did not advocate his views on the subject with sufficient force to have others to adopt them—if, indeed, they were more than mere conjecture, with himself—and we find the most learned men, down to the time of Copernicus and Kepler, accepting, almost without question, the theories

of Ptolemy, (150 A. D.) which explained all the motions of the sun, moon and planets by a somewhat complicated system of circular orbits, the earth being the center of motion. After Copernicus published (1543) his theory of the motion of the planets about the sun, Kepler, (1609-18), his Laws of Planetary Motion, and Newton, (1664), the Law of Universal Gravitation, correct ideas of the relative size and importance of our globe gradually forced themselves upon the mind of reasoning men.

So long as the earth was considered as the centre, and sun, moon and stars as having been created solely for the use of man, there seemed to be no inconsistency in the belief that the earth alone is inhabited; but as astronomers came to know that our globe is only one of eight similar bodies revolving about the sun—and

rather small and insignificant as compared with some of the others—and that the entire solar system is but little more than a point, when compared with the depths of space occupied by the fixed stars, it became a favorite notion that there must be other worlds quite as desirable for residence, if not

more so, than our own, and other beings, perhaps like the terrestrial inhabitants, perhaps far more advanced in the scale of life.

Previous to the latter half of the present century there could be but little more than conjecture on the subject, as there was no means of knowing very much of the physical condition of the planets, or even of the moon, our nearest neighbor, but the invention of the spectroscope, the application of photography to astronomical subjects, the enormous telescopes and other wonderful instruments found in the modern observatory, have rendered it possible to solve many questions previously considered utterly beyond the reach of man. We are now able to *guess* on the subject with somewhat more confidence.

Astronomical questions are now so generally discussed in current literature, and all reading people are so familiar with the leading facts concerning the sun and planets that certain views held by scientific men a century ago, now seem utterly fantastic. For instance, no one would think today, of asking if the sun is habitable, and yet near the close of the last century so learned a man as Sir Wm. Herschel—one of England's most famous astronomers—thought that the sun's heat and light resided entirely in the upper regions of its atmosphere, and that its globe was cold and solid, possibly fit for habitation, the sun spots being openings or breaks in the atmosphere, allowing the cool, dark surface of the interior globe to be seen.

In considering the question of the habitability of any planet, we naturally confine the discussion to the conditions necessary to sustain beings like, or similar to, man. Among these

conditions are a sufficient atmosphere, water, and a comfortable amount of heat—neither too much nor too little.

Let us look at the planets individually and see how they meet these tests.

As our moon is, on the average, at the same distance from the sun as the earth, it, of course, receives during the year, practically the same amount of heat that the earth does.

Its surface is diversified by mountains, valleys and plains, very much as is the surface of the earth, but the dark patches formerly called seas, and still so named on lunar maps, are now known to be only plains, there being little or no water. That there is no atmosphere, or at the most an extremely rare one, is shown by the fact that all parts of the moon's disk are equally distinct when seen through the telescope.

If there were an atmosphere of considerable density the limbs would be less distinct than the center of the disk, owing to the increased depth of atmosphere through which they were seen.

Again, when a star passes behind the moon its disappearance is instantaneous. If there were an atmosphere,

the stars would disappear gradually. The changes of temperature that take place upon the moon would, alone, be entirely fatal to any life such as we are acquainted with. As the moon always presents the same face to the earth, it must rotate upon its axis once in a lunar month. In other words, its day being about twenty-eight of our days in length, the Lunarians, if there were any, would see the sun above the horizon for about fourteen of our days, while the dwellers on the face of the moon turned toward the earth, would see that body continually above the horizon, gradually passing through the same phases that the

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moon does for us. During the four-teen-day-long lunar day, the sun's rays fall upon the surface of the moon in full force, unmitigated by cloud or atmosphere, and yet the temperature of the ground is not raised as much as at first thought would seem necessary. Just as on the earth, the highest mountain tops, even in the tropics, are covered with perpetual snow, the rarity of the atmosphere allowing the heat to be quickly radiated, so is it upon the moon. If there were water vapor there it would be turned into perpetual snow. During the long lunar nights, the cold must become very intense—perhaps 200 deg. below zero, while during the day the temperature probably never rises above the freezing point.

Venus resembles the earth more closely in size, density and atmosphere than do any of the other planets, but as in the case of Mercury, the inclination of its axis, and its period of rotation are unknown, or at least uncertain. It receives from the sun nearly twice as much heat as does the earth, but it is quite conceivable that this may be compensated for by the character of its atmosphere. Its year is only 225 of our days, but that too, is a minor matter.

Regarding Mars, our information is much more definite. Although considerably farther from the earth than Venus it is observed under much more favorable circumstances. As Venus' orbit is within that of the earth, when it is nearest us it is lost in the light of the sun. Mars, on the contrary, is nearest when in the opposite direction from the sun, or when it rises at sunset. Mars returns to this position once in a little over two years, and is in a favorable position for observation for several weeks at a time. A favorable "opposition" occurred in August, 1892, the planet being then less than 35,000,000 miles from the earth, and much information concerning its condition was gained by the astronomers at Mt. Hamilton, Cal., Arequipa, Peru, and other observatories. The popular expectation as to the discoveries likely to be made—as indicated by newspaper articles—was, however, far beyond what could be expected with any telescopes yet constructed. With the best glasses, magnifying powers of

We may safely say there is no "man in the moon," except the one we fancy that we see when the moon is full, who, by the way shrinks out of sight when the moon is viewed with a telescope.

Perhaps we should mention the theory put forward by Hensen, a Danish Astronomer, and favored by Sir John Herschel, that the moon's center of gravity is some thirty miles farther from us than her center of figure, the side toward us being an immense table-land, and that there may be seas and an atmosphere on the farther side. Though interesting, the theory is probably untrue.

Of the physical condition of the inferior planets, Mercury and Venus, but little is known; Mercury, being at a mean distance of but 36,000,000 miles from the sun as compared with the earth's 93,000,000, must receive about seven times as much heat as does the earth, so that its climate must be uncomfortably warm



500 to 2,500 diameters can sometimes be used, though 300 to 500 are more common in practice. With the highest power mentioned, 2,500, the planet appears as if only  $\frac{1}{2500}$  of its real distance away, or as it would look if viewed with the unaided eye at a distance of about 14,000 miles. At this distance no object less than thirty or forty miles in diameter could be clearly distinguished though a *line* as of a mountain range, a river, or a strait could be seen if only a few miles in width, provided the "seeing" were good, *i. e.*, our own atmosphere clear and perfectly quiet—conditions which very rarely occur.

The planet is considerably smaller than our earth, its diameter being but 4,200 miles—a little more than one-half that of the earth, and consequently its surface about one-fourth and its volume about one-seventh. Its atmosphere is quite similar to our own. Its distance from the sun being about one and a half times the earth's distance it receives less than half as much heat, and yet, for some unexplained reason, perhaps the character of its atmosphere, its climate appears to be considerably milder than ours. Certain white spots that appear around its poles, alternately wasting away and increasing, with the changing seasons, are recognized by astronomers generally as ice-caps. They are much smaller than the corresponding caps about the earth's poles. Certain areas of gray or greenish tint are regarded as seas, while other areas of a reddish color are probably land. The proportion of land to water is much larger than upon the earth, and the arrangement is entirely different, there being no large seas or oceans, but numerous lakes or small seas, straits and channels. The land-

masses, too, are smaller. In short, while no long sea voyages are possible to the "Marticoli," transportation by water must be much more general than it is upon the earth. While the differences of color mentioned above are permanent, there are other markings which change frequently, seeming to be due to clouds like those floating in our atmosphere.

Observations made upon the permanent markings have established the fact, that the planet rotates in a little more than twenty-four hours and a half, on an axis such that its equator is inclined 26 deg. 21 min. to the plane of the earth's orbit, or about 3 deg. more than the earth's equator. This increased inclination tends to make the change of seasons more marked than upon the earth. On the other hand the length of its year, 687 of our days or 670 of its own, tends to make these changes more gradual.

Having seen that, in its general features, Mars is apparently enough like our earth to render its habitability not improbable, let us notice some of the further details of the conditions under which life there must be enjoyed. The mass, or weight of Mars is found to be only a little more than one tenth that of the earth, and its radius being a little over one half, the force of gravity is about four tenths. A man who weighs two hundred pounds here, would tip the scale at less than eighty there. Locomotion, then, must be vastly easier, and the "records" in athletic sports must be far in advance of any that we can see. There must be corresponding advantages in the line of engineering work. If the inhabitants possess the same kind of building materials that we have,

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As we have already seen, the day in Mars is nearly of the same length as our own, but the sun appears only two-thirds as large. At night, the stars appear of course, practically as they do to us, but there is a poverty of moonlight. Previous to 1877, the planet was referred to as "moonless Mars." In that year Prof. Hall, of the National Observatory at Washington, discovered that the planet really has two satellites, at distances of only 15,000 and 6,000 miles, respectively. Unfortunately, these two bodies are so small—only a few miles in diameter—that, as givers of moonlight, they do not amount to much, the nearer one giving the planet perhaps one-sixtieth as much light as our moon furnishes us. A peculiar fact about this inner moon is that it revolves about the planet from west to east much more rapidly than the latter turns on its axis, hence it rises in the west and sets in the east, being above the horizon only five and a half hours, so that it may rise twice in a single Martian night. The other moon rises in the east, and is above the horizon about two days and a half, during which time it passes through all its phases from new to full two times. The earth must appear alternately as an evening and a morning star just as Venus does to us, and one of about the same brightness.

Many conjectures have been made as to the possibility of communicating with the inhabitants of Mars, and, a few years ago a French woman left a sum of money in trust with the Paris Academy of Sciences, to be paid to the person who shall establish such communication. Strange as it

may seem, the Academy accepted the trust and the reward is still awaiting the Edison who shall conquer inter-planetary space.

Before dismissing the planet Mars from consideration we should perhaps, add, that certain of the observations made in 1892 are thought to indicate that the planet is much warmer and has less water upon its surface than was formerly supposed. Probably that question may be definitely settled during the opposition of the present summer.

Concerning the habitability of the outer planets, but little need be said. Although Jupiter receives from the sun only about one twenty-fifth and Saturn only about one hundredth as much heat per unit of surface as does the earth, they both, for some reason not yet known, seem to be in a condition much too heated to support life like any that we know. When Jupiter shall have cooled down sufficiently to be an agreeable dwelling-place, it will still present problems of life very different from those on the earth. Its equator is so little inclined that there can be practically no seasons, due to that cause. Its rotation in ten hours, its family of five moons, its immense size—being equal in volume to 1300 earths—the great length of its year—nearly twelve of our years—all introduce new problems. The force of gravity on its surface is two and one-half times that on the earth, so that an ordinarily agile man if transported to Jupiter would find it difficult to support his own weight, unless his muscular strength could be increased.

Concerning the physical condition of Uranus and Neptune very little is known, hence we may disregard them in the present discussion, and say that

so far as we can judge, Mars and Venus are the only planets that present any likelihood of being the abode of life. Of the latter we know but little, of the former we can only say, that so far as we can judge, conditions are not unfavorable.

But even if it were granted that none of the planets is likely to be inhabited, would it follow that our earth is the only body in the universe that serves as a dwelling-place for intelligent beings? It is well known that the fixed stars are suns, some smaller, some larger than our sun. What more natural than to suppose that these suns, or, at least,

many of them, are rulers, each of a system of its own, in which there may be one or more planets quite as well adapted to support life as our own? Consider for instance the star Polaris. Its distance being known and the light we receive from it, as compared with sunlight, it has been calculated that in real brilliancy the pole star is equal to about ninety suns like ours. Sirius is over forty times as bright as the sun, Vega about twenty. Is it likely that such orbs are scattering light and heat through space with no effect upon any sentient beings, except for the few stray beams that fall upon our little dot of a globe?



#### CAP AND GOWN.

IT is said the American College lacks tradition. In our own college this lack should not be surprising, perhaps, when we recall the fact that we are only about a quarter of a century old, a mere infancy for a school, and besides this our college is one that the very best reason for its existence is that new impulse in education required something different, and in a certain sense in the fundamental ideas I had almost said opposed to that college in which we should of course seek to find these traditions fostered, viz., the classical school. In our jostling age it is one of the most natural things in our lives to pass by all traditions except that one of getting money; that is here to stay.

It may be that the writer has an unusual amount of sentiment but it is a fact that we shall never "go through college" but once, no matter how much we may go afterward and

if a man gets nothing else it is worth something to him to have these sensibilities awakened, and I never saw a college man yet, no matter how torpid, who would not readily enthuse over old college days. Assuming that traditions have their value, these college colors, yells, customs (some of them), by-words and caps and gowns have a worth of their own.

The cap and gown so well established abroad has found comparatively little favor in America except for use on special occasions. In many colleges, classes are found which adopt it, but it is usually looked upon as a novelty and too often dropped by the succeeding class; whether this will hold true of the adoption of caps and gowns by the Junior class of this college at their annual prize theme contest only time will show; but it is sincerely to be hoped that in the future we may spare a few of our

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"practical" ideas and give a little time to sentiment. For the origin of this custom we must look to the University of Paris, which formally came into being somewhere between 1150 and 1170 and which observed the custom of placing upon the head of the Master of Arts a cap (biretta) in honor of his having successfully passed the period of his Bachelor of Arts or Science. The custom originated in the *pileus* which the Romans placed on the head of an emancipated slave. Since the University of Oxford was modeled largely after that of Paris, it is not surprising that a university cap should be found there. But it was at first only worn by graduates, being bound, pointed at the top and of a dark color. Later a board was placed upon the point of the top in imitation of those worn by the chief justices of France. Since this is called *Mortier* in French, it soon became corrupted to "morter" and with the thought of the board inside makes up the "mortar-board" of to-day.

The gown has long been associated with learning; judicial, ecclesiastic and scholastic. It was early introduced into England and rapidly applied to undergraduates as well as graduates and the clergy. It was used from the first as a means of distinguishing the status of the students in the different colleges of a University. Thus at Oxford the Doctor of

Divinity graduate wears a scarlet gown; a Master of Arts, black with crimson lining; a Bachelor of Arts, black with white fur trimming. The undergraduate gowns are black with no trimming, depending for distinction upon the way in which they are made. They are mostly loose, with no sleeves and a falling collar.

From a letter written in the year 1766 by President Holyoke of Harvard College, it would appear that gowns were first worn by the members of that institution about the year 1760, and on page 37 of the Laws of Harvard College for 1798 we find the following:

"The students are permitted to wear black gowns in which they may appear on all public occasions."

And on page 36 *Ibid*, we find these lines:

"The door swings open—and—he comes!  
behold him  
Wrapt in his mantling gown that round him  
flows  
Waving, as Caesar's toga did enfold him."

The cap used is the cap worn by the members of Oxford University, England, and is called the Oxford cap, and is well described in the following passage:

"My back equipped, it was not fair  
My head should 'scape, and so, as square  
As chessboard,  
A cap I bought, my skull to screen,  
Of cloth without, and all within  
Of pasteboard."

*Terre-Filius, Vol. II, p. 225.*



## THE PROGRESS OF SCIENCE.

"The work of Science is to substitute facts for appearances and demonstrations for impressions."

—RUSKIN.

### GARNER'S RESEARCHES IN GORILLA PHILOLOGY.

THE reader may be his own judge of the propriety of discussing the above subject under the "Progress of Science." Sometime ago Richard L. Garner penetrated darkest Africa, and remained in seclusion, except that he had the members of order *Quadrumaria* for his intimate associates.

He started on his unique journey possessed with the idea that monkeys communicate with one another by methods which are comprehensible to man if he could once get the secret. Mr. Garner has not published any of his results as yet, but a few of his general conclusions have been made public. He has learned three words of the gorilla dialect and eight of the chimpanzee. He says if he could pick up three words a year he would forsake civilization and devote his life to this work. There is no hope, he thinks, of making a monkey understand him, but great hope that he can understand a monkey. As an illustration of the hardships connected with his undertaking, and throwing some light on Simian reticence, he says that if he asks one of the species a question, he may not get a reply in two years.

He did not get any phonographic records, as the instrument did not reach him in time. While these researches, as published in the daily

papers, have a somewhat ludicrous aspect, it is not impossible that valuable results may be reached. Mr. Garner has the quality which is a *sine qua non* in all animal studies, namely a love for the animals themselves. He makes them his pets, enters into their sports and frolics and weeps over their loss. Coming generations may be progressive enough to be able to overhear their domestic animals expressing their opinion of their masters. Farmers would have to be exceedingly careful that their stock was properly fed, or the fact would be published throughout the neighborhood by what we now regard as merely inharmonious bawls. Without doubt, experiment stations would be at the front in researches of a practical and helpful nature in this department of science.

### SAILING ON A BICYCLE.

Charles D. White of San Bernardino, Cal., has recently invented a method of satisfactorily attaching a mast to the common bicycle, which seems to work successfully. A head block is bolted to the joint in the steering-head below the elbow, and in this block the end of the mast is placed. The sail is fastened to a ten-foot mast and an eight-foot boom, and is manipulated by a cord which passes around a small pulley fastened to the seat-spring. It is stated that a good wheelman can learn to manage

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the apparatus in a few hours, and ride with perfect ease. The greatest velocity is obtained by riding at right angles with the wind. The difficulties in tacking in a narrow road make it next to impossible to use the sail against the wind.

## APPLICATIONS OF ELECTRICITY.

The month's notes could well be made up of descriptions of new applications of electricity. Small incandescent lamps are being used for personal decoration. Inserted in jewelry, flowers and even in the hair of ladies, they add greatly to the brilliancy of the costume. Edison fitted up an aquarium of goldfish, each of which had swallowed an electric light, and whose delicate bodies showed all the minute details of their anatomy.

The microphone recently saved a Russian lady from premature burial, by detecting heart movements which had escaped all ordinary tests.

An electric finder is the latest thing in mining engineering. The apparatus includes among other features a telephone, in which vibrations are set up when the mine contains magnetic ore.



## SKETCH OF THE HISTORY OF MATHEMATICS.

THE end of nominal independence in Egypt did not affect the university in Alexandria. For several centuries Alexandria remained the intellectual center for most of the Mediterranean nations which were subject to Rome.

During the first century after Christ geometry remained the most important subject which was studied. There were only two original works published in this time, however, those of Serenus and Menelaus. Near the close of this century Nicomachus published an arithmetic which remained a standard authority on the subject for over a thousand years.

The earliest known writer who enunciated an algebraical theorem was Thymarides. He stated that if the sum of any number of quantities be given, and also the sum of every pair which contains one of them, then this quantity will be equal to one  $(N-2)$  the part of the difference between the sum of these pairs and the first given sum.

It was at about this time that Ptolemy

published his great work on astronomy. That he was a great geometrician is shown by this work, but he is chiefly concerned in the application of geometry to astronomy. His famous book on astronomy is called the *Almagest*. This work is founded on that of Hipparchus, and, while it does not advance the theory of the subject very much, it presents the views of the older writer in a very complete manner. This work remained the standard treatise on this subject until the time of Copernicus and Kepler.

We do not learn of another geometrician for nearly a century and a half. This was Pappas, who taught in Alexandria about the end of the third century. He probably discovered the focus in the parabola and the directrix in the conic sections.

Shortly after the death of Pappas, Diophantus did a great work toward the development of algebra. He was the first mathematician who used a system



of abbreviations or symbols, such as is now used in algebra.

He was enabled by this means to solve several problems which had hitherto perplexed all investigators. If space permitted, it would be interesting to look at some of his problems, but it does not, so we merely look at his methods. The most of his equations were in the form of  $Y^2 = Ax^2 + Bx + C$ . When A or C is absent, he is able to solve completely. If this is not the case and  $A = a^2$ , he assumes  $Y = ax + M$ ; if  $C = c^2$  he assumes  $Y = Mx + c$ ; and if the equation can be put in the form  $Y^2 = (ax \pm b)^2 + c^2$  he assumes  $Y = Mx$ . When equations of a higher order occur, he alters the problem so that it can be reduced to one of the above forms. We may say that Diophantus was the last man of any note connected with the Alexandrian school. No great advance in the development of mathematics was made from this time until about the sixteenth century.

Through the middle ages the history of mathematics is merely that of the introduction of mathematics into the more western countries. It is quite certain that there were mathematical societies in Paris, Bologna, Oxford and Cambridge, before the end of the twelfth century.

The first work which contains a systematic exposition of the decimal system of numeration was written by Bhashara, a Hindoo, who lived in the first of the twelfth century. It is not probable that very much of his work is original, though no traces of the same work have been found.

By the end of the thirteenth century the Arabic mathematics had been introduced into Europe, and were used by the side of the older arithmetic which was founded on the work of Boethius. The chief improvements over the Arabic system were the simplification of the four fundamental processes; the intro-

duction of the signs for plus, minus and equality; the invention of logarithms; and the use of decimals. The Arabs usually worked from left to right in addition and subtraction, but the plan of working from right to left was introduced by Garth, an Englishman, in the fifteenth century.

The signs + and - to represent addition and subtraction were first noticed by Stifel in 1544. The first well-known writer to use these signs, with that of equality throughout his work, was Vieta in 1591.

The inventor of logarithms was John Napier, who lived at Merchistown, 1550-1617. His results were only reached after many years of persistent study. The first announcement of his discovery was published in 1614, in his work called *Ufrifici logarithmonum candris descriptio*. His method of determination seems to have been very long and laborious. It was not by finding the approximate value of a convergent series, but in forming an immense number of geometrical means of various numbers. The rapid adoption of this system in England, was due to Briggs, and on the continent to Kepler. Other tables were made in 1620, by Edmund Gunther, who was the inventor of the terms cosine and cotangent. The only tables since issued and founded on fresh calculations were those issued by Lang in 1871.

The introduction of the decimal notation was probably due to Briggs. It was first generally introduced into Napier's *Constructio*, which was written after a consultation with Briggs. Although it is one of Napier's works in which this notation appears, all evidences point to the fact that it was communicated to him by Briggs.

A little before this, in 1586, Sterinus had done much toward the development of mechanics. Until this time the

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science of statics had rested on the theory of the lever. Sterinus enun- ciated the triangle of forces and was thus enabled to solve several problems which had long been in dispute. He also distinguished between stable and unstable equilibrium, and explained the so-called hydrostatic paradox.

As the treatment of statics originated with Sterinus, so the treatment of dynamics originated with Galileo. His attention was called to mathematics by observing that the lamp which hangs from the roof of the cathedral in Pisa, performed its oscillations in equal times no matter what the length of the oscillations. In 1587 he published an account of the hydrostatic balance and in 1588 a treatise on the center of gravity of solids. For three years he carried on experiments of falling bodies, and established the first principles of dynamics. He also proved that the path of a projectile is a parabola, and implied the principles of Newton's first two laws. In 1609 he invented a telescope and within a few months produced telescopes capable of magnifying thirty-two diameters. In less than a year he had made observations of the sun spots, the lunar mountains, Jupiter's satellites, the phases of Venus and Saturn's rings. Galileo was a believer of the Copernican theory, and the discovery of Jupiter's satellites confirmed his opinion.

His fame, however, rests more on the fact that he was one of the earliest writers who taught that science must be founded on laws obtained by experiment. The necessity of experiment was also advocated with great effect by his contemporary, Francis Bacon. Bacon published his great work the *Novum Organism* in 1620. This work had great influence on scientists in the eighteenth century.

It was also at about this time that Kepler did much to revive the interest in geometry. His work consists in certain general principles which he laid down and illustrated, rather than in any exposition of the subject. His works on astronomy are very valuable, but were based on the observations of his master, Tycho Brahe.



# A SERMON TO COLLEGE BOYS BY AN ALUMNUS.

TEXT: "Be ye perfect."—*Matt. v. 48.*

MAN has three dimensions—length, breadth, and height. His length of life depends upon his bodily health. His breadth of life depends upon a sound and cultivated mind. His height depends upon the extent to which he develops his moral and spiritual nature, and reaches up toward God. One cannot be a perfect man unless he expands in these three directions. Do you want to be a whole man, or two-thirds of a man, or one-third of a man? If the first, see to it that you grow with symmetry. Some few men run all to bone and muscle and sinew. Such are professional athletes and prize fighters. They count hard muscles, nimble limbs and strong frames as everything. The brain is sacrificed to brawn. This is one third of a man, the flesh only. Other men are book-worms, students, thinkers. Tied

to their work day after day, they never give their bodies time to develop. They have spindle shanks, narrow chests and the stooping gate of a scholar. They have no time to devote to anything but the line of investigation they are pursuing. They scarcely ever appear among their fellows, and if they do, everyone is wearied with their continually harping on a single theme. They scarcely know that they have a body or spirit. Here again is one-third of a man, the brain only.

There is yet another. Occasionally we find one who is a monomaniac on religious subjects. He has dwelt on them so long, that perhaps he even becomes entranced, and thinks he has visions like Swedenborg, who was an extreme case. He is always talking religion; his zeal runs away with him; he has more fervor than common sense; and he harms the cause of Christianity. Here, too, is one-third of a man, the moral only.

These characters are, probably, all overdrawn, for we can scarcely find one who is so completely dwarfed, but truth is sometimes more strongly brought out by exaggeration.

Now, students, here is the point. A college course is principally for the purpose of developing a man intellectually, hence one is likely to expand in this direction, at the expense of his body and his soul. Both the officers and students of a college are in danger of overlooking everything but mental strength. We all know that students have graduated from college total wrecks, physically, but God only knows how many have left their *Alma Mater* total wrecks, spiritually.

I shall stop here, but my sermon is not finished. I want you to take it up and preach it to yourselves. Preach it day after day, and practice what you preach, till you come to be perfect men. '89.



#### THE NEW ELECTRICAL COURSE AND INSTRUCTOR.

IT is with a good deal of satisfaction that we are able to give some more or less definite points about this new course and a few facts concerning the gentleman who will give instruction in this branch.

The course will be substantially the same as those offered by the best technological schools of the country, and will include very thorough work for two years in mechanical engineering and physics, and in the junior year the students will take up the electrical work proper—and continue it throughout the two following years.

The work will include practical electricity, which will consist of lectures and laboratory work, theoretical electricity by lectures, and the construction of electrical apparatus. The lectures will be given in Prof. Stevens' lecture room, and the room in the basement of Wingate Hall, in which the dynamo is, will be used as the laboratory, and the electrical apparatus in the laboratory in Coburn Hall, will be placed there, and the work in this room will be under the immediate charge of Mr. Earnest P. Chapin whose services have been secured by the college.

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Mr. Chapin, who comes very highly recommended, was born in Antrim, N. H., and like many of us in college he spent his boyhood days upon a farm, and at the early age of seventeen, he commenced his career as a teacher in Weare, N. H. After three years spent in study and teaching he entered Cushing Academy at Ashburnham, Mass., with a view to fit himself for Cornell University, which he did in four terms, and passed successfully the entrance examinations to Cornell in the fall of 1889.

tions and worked in the shops, thus getting the most out of his course, and besides this capacity for hard work, he possessed the happy faculty of making friends of all with whom he came in contact. He graduated with honor in the course of Electrical Engineering in the class of '93.

Since his graduation he has been connected with the Wharton R.R. Switch Company at Jenkintown, Penn., working on designs for automatic electric block signals.

Judging from what we know of this gentleman, there are but two things one of the hardest workers. He always wanted to make this new course a success, and these are funds, and students.

#### THE PRISM.

THE present junior class must be and Mr. I. G. Calderwood. The *Prism* given the credit for publishing the is dedicated to President Harris, and it first class annual ever brought forth in also contains an excellent likeness of the history of the Maine State College, him with an account of his life. A and it must bring feelings of great satisfaction to the class, and more especially to those who had the matter personally in charge, to find that their efforts were rewarded with so much success. Although no serious thoughts of publishing an annual were held by the class until the very last of the fall term, and nothing of much importance was done until the present term had well begun, the editors have, by devoting themselves constantly to the work, necessitating, of course, a great amount of their time, been able to get out an Annual which compares most favorably with like publications of the other Maine colleges. The editor-in-chief is Mr. Frank Damon, who was selected by the class, and who, in turn, selected the following to cooperate with him in the undertaking: Mr. L. R. Folsom, Mr. W. W. Chase, Mr. Albion Moulton, Mr. W. M. Murphy

and Mr. I. G. Calderwood. The *Prism* is dedicated to President Harris, and it also contains an excellent likeness of him with an account of his life. A sketch of the life of the late Prof. Balentine with portrait, also a fine portrait of Ex-President Fernald, with a biographical sketch by Mrs. Fernald, are among the many features. Pictures of the faculty, secret societies, football and baseball teams, Class of '95, CADET and *Prism* editors and Uncle Ben, views of the campus and buildings and encampment of the cadets at Searsport, make up the other principal illustrations. The work of the illustrator, Mr. Chase, is of special merit. The matter is well arranged and is very compact in form. The customary "slugs" usually found in such works are conspicuous by their absence. The *Prism*, coming as it does in this new era of the college's prosperity, is a great credit to the college, the class of '95, and lastly, the editors.

E. E. G., '96.



## THE CADET.

### EDITORIAL STAFF.

FRANK DAMON, '95.

ALBION MOULTON, '95.	E. E. GIBBS, '96.
L. R. FOLSOM, '95.	P. D. SARGENT, '96.
W. W. CHASE, '95.	H. A. WHITE, '97.

### BUSINESS STAFF.

C. J. PATTEE, '95.	S. J. STEWARD, '96.
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WE are very glad to present to our readers this month as a frontispiece the likeness of one of the most honored sons of the College, Hon. Louis C. Southard of Boston, Mass., whose interest in the College has never flagged since the time he was on the campus as a student. Among other things he has had a wholesome interest in athletics, of which we had good evidence last year in the tennis trophies he so kindly presented to our players, and again this year in the beautiful tennis trophy cup offered two years ago by him for the college championship and wrested by our Mr. Heywood from Bowdoin and brought here where we hope it may remain permanently. We are proud of our alumni, every one of them, and feel they have us in mind, but when they show their interest in these and similar ways it encourages "the boys" in no small degree. We feel that congratulations are in order over the fact that we were able to persuade Prof. Hart to tell us something about our "celestial neighbors" before he left us for his year of study away. That little gossip about Mars will surely prove very interesting, and this is none the less true of what he says of the others, even if some things are not so complimentary.

THE great event of the College year, Commencement, is now a matter of history, and we shall go on for another year until that week comes again that gives us a good time, and takes from us a certain number of our associates. The class of '94 may well feel proud of the impression they have left. Their exercises were very creditable to them and to the College. The executive ability possessed by those members who were most active in the management of the different departments of the work was well shown. A new feature was the Commencement Oration delivered under the auspices of the Alumni Association. The idea is, on the whole, a good one, and if it could be made a permanent feature of the work it would without doubt be of real advantage to undergraduate and alumnus alike. The Easy Chair extends its congratulations and best wishes to our now alumni of '94 and merely echoes the sentiment of the whole College when we bid them God speed and wish for them that which has been in a marked degree the portion of our graduates—Success.

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WE have just struggled through the first term under the new arrangement concerning absences, viz.:

Out over 10 per cent, out of exams; and though we are all still alive, some of us got an everlasting shaking up which "made the fire fly," but the inevitable was accepted with the grim philosophy a man uses when he sees a construction crew preparing to lay a railroad track through his nicely kept lawn.

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The truism, that the good of the individual must be sacrificed for the good of all, was well illustrated, and though it may have worked injustice to some as might be expected in the case of a new rule, the faculty feel well satisfied with this arrangement, and so of course it will be a permanent one without a doubt. The College has two kinds of friends; friends, and well meaning persons whose deep interest prompts them to follow closely events here and occasionally to offer suggestions which may or may not be timely. It is very unfortunate that some of these good people have deemed it necessary to take in hand the matter of the exclusion of certain students from the examinations because of time spent on the editorial work, etc. Though it was a little hard to have the doors shut in their faces as if they had been naughty boys, the consolation given by so much criticism of this action and the prominence given it was not so consoling as one could wish. As a matter of fact there seems to have been a general misunderstanding, but "we will assume" that this will not occur again and all will go "merrily as a wedding bell" until next exam time when several bells will probably toll.

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THE field day of the agricultural department which occurred June 6 was in every way a success. The program for the day was in the main like that of former field days. The forenoon was spent in a general inspection of the College halls and buildings, and at noon, beans; in the afternoon the drill and then, speeches. As nearly as could be estimated there were 1,700 persons on the campus. These gatherings are really educational in their tendency both to us and to our guests. To us, by showing us how others see us; to them, by enabling them among other things to see in the true light certain fallacies

that are circulated not infrequently. The session and speeches in the chapel though generally somewhat of the "mutual admiration" type serve to stimulate enthusiasm on both sides. We hope next year will bring us a still larger number of guests.

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A GLANCE at the *Prism* might lead one to think that there are clubs, etc., enough at the College now, which is true perhaps, yet the Easy Chair is very humbly of the opinion that as so many of our men teach during the winter months and as there is always something to learn about teaching, it might be of positive value to us to have during the next term a Pedagogical Club. The sessions might be held weekly or bi-weekly, and with the co-operation of the faculty to some extent, also having access to the best normal magazines and books, one might at a trifling expenditure of time and money get a good many points. It would seem that with a number of men who have had experience as teachers, to exchange ideas; some who have never taught perhaps, to tell us the methods of the best instructors of their acquaintance; if possible some members of the faculty to give us hints from their own experience; also several lectures on the legal rights of teacher and pupil, of which notes could be taken; perhaps a lecture on the sanitary and hygienic needs of the average Maine schoolhouse; the care of the eyes of the pupils, for eyeglasses are altogether too common on our young people; and the thoughtful reading and discussion of educational articles in the best magazines would be desirable. We see no reason why this or a similar idea might not be carried out very profitably to those interested, in fact we might have a very respectable little normal school all to ourselves, and the man who went into a schoolroom next winter as teacher



would not fail to receive help from this work.

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Owing to the "who in thunder is she?" expression that comes over the faces of some of our subscribers, who in answer to the question "whose picture is that on the cover of THE CADET?" are told complacently that it is that of Minerva, we would say that she was a

somewhat pugnacious literary individual who had a hobby of founding schools, and who also had a temper when anyone

attempted to molest them and fought for their preservation if necessary. As THE CADET is a school magazine with a warlike name it was deemed appropriate "in the eternal fitness of things" to have this lady's picture where it is.

## LOCAL NOTES.

"Master, Master! News, old news, and such news as you never heard of."  
—*The Taming of the Shrew*,—Act III, Sc. 2.

William O. Sawtelle, Tech. '97, who took a special course here last year before entering that institution, has of late, made several short visits to his old friends at M. S. C. Although his name is "Willie" this should not be set down as a serious thing against this popular individual.

The officers of the class of '96, during the Junior year, will be as follows: President, Palmer; vice-President, Hobbs; Secretary and Treasurer, Randlette; Manager of Base Ball Team, Farrell. The class will also try and keep up the good work begun, and so successfully carried out by the class of '95, of publishing an annual. The class has elected Gibbs as editor-in-chief, who will choose the board of editors.

At a recent meeting of the Freshman class the following officers were chosen to serve during their Sophomore year: President, White; vice-President, Fowler; Secretary and Treasurer, Merrill; Manager of Ball Team, Cowan; Manager of Foot Ball Eleven, Bird; For some unaccountable reason no Sergeant-at-Arms was elected.

Prof. Hart has obtained leave of absence from the college for a year, and left the 1st of July for Chicago University where he will pursue an advanced course in Mathematics. The Junior class in Calculus will be heard by President Harris, while Lieut. Hersey will probably take some of the other classes in Mathematics.

Students were bothered a great deal during Commencement week to pay their term bills, owing to the treasurer's office being closed. It seems as though the students should not be blamed for not settling promptly if they can't find any one with whom to settle. Quite a number had to stay over a day or two in order to settle up their accounts.

You will notice in the military appointments for next year that many of the Senior offices have been left vacant, owing to the difficulty in finding any one eligible to fill them. As the appointments are now made partly by rank in studies, no one having arrearages in any study can secure an office, and as many of the Juniors were excluded from examinations under the new ten per cent.

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limit rule, they have become high privates in the rear rank. No doubt when they succeed in getting a chance to take their examinations they will receive their appointments.

Probable the majority of Maine State students are now busily engaged in trying to earn an honest dollar to aid themselves in procuring their education. A good many are trying to follow up their line of study, either in engineering offices or on surveys, while others are canvassing, or helping about their homes, others being engaged in chasing ice-water or victuals in some large hotel. At any rate, a dollar is a dollar, however earned, and there is no doubt but that the M. S. C. students will turn a good many of them during this summer vacation.

The third in number of Farmers' Field Days which have been held at the college took place Wednesday, June 6th, and it drew the largest crowd of any of those held before. Half rates on all the railroads were given, and people came from great distances to see the college in its holiday attire. All the buildings were open for inspection, the machinery in the various buildings being in operation, enabling the visitors to see what the students at Maine State are taught to do. Lunch was served on the campus, and in the afternoon the Cadets gave an exhibition drill which was followed by speeches in Coburn Hall by some of the visitors and faculty. These Field days have become a permanent feature, and are sure to advertise the college to a great extent.

A new exhibition in the shape of a Fire Drill, has lately been instituted at the college, not simply as an exhibition, but for suitable means of protecting the buildings against fire. The organization of the old George H. Hamlin, which was made up of the students, and for

some time very prosperous, has long been in an idle condition, and none of the students who are now at college knew how to handle the apparatus in case of fire; so the several drills that have been had, have served to instruct them in this particular. When the fire call sounds the boys are seen running to get the hose and the ladder carts which are kept in the basement of Coburn Hall, squads being assigned for each. Then they run to Oak Hall, unwind the hose, and turn on the water. This has been accomplished in three and one-half minutes, which shows that no fire on the campus, if seen in time, will gain much headway. The remainder of the students form a bucket squad in the interior of the building. The students being so accustomed to military drill, and, consequently knowing how to give and obey commands, have learned very quickly to carry out this drill successfully, as was shown Commencement week.

"Steady," or rather Mr. Burpee, our janitor, has a cow! Perhaps you knew this and perhaps you didn't; it makes no difference. This noble animal, being constantly in the atmosphere of learning and of culture, at last overcome by the desire for knowledge, one dark night, took up her bed, or rather the chain by which she was tied, and took up her abode on the second floor of Oak Hall. No one could ascertain what course she wished to pursue, but all that was known was, that when the occupants of the building awoke in the morning, they found to their *surprise* the above-named quadruped comfortably encamped in the side corridor on the second floor, from which, at short intervals, terrific bellowings would arise that seemed to shake the buildings like peals of thunder. However, when "Steady" found out the mission of his cow, he did not feel that he had sufficient means to lavish upon

the pet of his household to afford to give her the education for which she so humbly begged and consequently went to work to get her down towards terra firma. But evidently she did not go down those narrow stairs as easily as she went up and it was with the greatest difficulty that after an hour's work with tackles, etc., that the poor beast reached the ground floor where she fainted from sheer exhaustion. "Steady" warns the boys by saying that they have not heard the last of it.

The tennis trophy won by Heywood, '96, in the Intercollegiate Tennis Tournament at Portland this year, has arrived and is on exhibition. It is a very pretty "mug" and is one that Maine State is particularly interested in, as it is the one offered for second place in singles by L. C. Southard, a Boston alumnus. The first year it was won by F. W. Dana, Bowdoin, '94, the present champion; last year it was won by J. H. Pierce, Bowdoin, '93, and this year it was brought to Maine State by Mr. Heywood's excellent playing. The deed of trust specifies that "It shall be the property of the Association, to be competed for each year as a second prize, as long as the M. S. C. is a member of the Association. Whenever M. S. C. ceases to be a member of the Association the cup shall become his property."

Prof. Harvey, and we may say Maine, has been honored by the invitation extended the Professor by the Gypsy Moth Commission of Massachusetts to come to that State and advise them concerning some very difficult problems that have presented themselves to the commission. We understand this commission is a very efficient and active one and they are at least keen enough to come to

headquarters when they are in need of the services of experts.

We are also informed that Prof. Harvey will make another trip along the Maine coast this summer for the purpose of collecting material for museum and class room use.

The following is not Volapuk neither is it English, but it is a copy of a postal received at the college: "The 'Symbals' was left at the armory up to the College." Like a certain well known medicine "It is peculiar to itself."

Haley, '96, returned to his home in Brownfield, several weeks before the end of the term. He will improve the summer vacation by teaching classes in botany in the surrounding towns. In North Conway, alone, he has a class of nearly forty pupils.

As Colby beat Bates in the final series of base ball games, and as the coffers of our association were not running over with silver, the trip to Lewiston to play with Bates on the 21st, was given up.

Mr. David Trine has resigned his position as assistant in Horticulture, and left for his home in Michigan the last of June. He intends to take up further studies at Cornell or Michigan University.

S. H. T. Hayes who has been taking a special course at the college in connection with his Experiment Station work, intends to go to Cornell University for a year to take up some advanced work.

Probably Folsom, '95, will not be seen at Maine State next year. "Blossom" has worked hard and spent lots of time in support of base ball this spring, and he deserves lots of credit.

Quite a delegation of students took in the production of "Charley's Aunt" in Bangor, June 16th.

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Nattie Buffum and his new department.

'96 and the new department. Everybody up. See?

"Professor, I am almost discouraged."  
(General weeping.)

The weather for Commencement week could not have been excelled.

It is reported that several telephones will be put in at the college soon.

The Orono races which were booked to take place in that place about the middle of June were declared off.—(*Bangor News*). Is that so?

June 16th, the date of our disastrous defeat by Colby, was a general holiday in Orono. What a pity we couldn't have obtained "better results."

Gilbert, '94, could not restrain himself from the temptation of giving the military department a few parting "slugs" in his Prophecy on Class day.

The *Prisms* are selling fast. It is a volume that every student feels proud to take home to his relatives, and it also serves as a first rate advertisement for the college.

We were sorry to learn of several cases of acute rheumatism among our professors, owing to the steady pull upon their legs during the recent examination period.

Did you ever notice what affinity water has for Freshmen, especially in a Fire drill? Somehow the hose becomes uncontrollable when any of them are in sight.

Good bye '94.

Au revoir '95.

Bis wir treffen, '96.

Till we meet '97.

Bienvenue '98.

Quite a number of applicants for admission to the college, have signified their intention of taking the new courses in Pharmacy and Electricity. A new instructor in the practical part of the Electrical course, a graduate of Cornell will be here in the fall to assist Professor Stevens, who will have direct charge of the department.

The Athletic Association have elected the following officers for the ensuing year: Moulton, '95, President; Calderwood, '95, vice-President; Gibbs, '96, Secretary; Randlette, '96, Treasurer. Calderwood has also been elected manager of the base ball team for next season, and Palmer, '96, has been elected captain. As we lose but three men from the nine, and with prospects of good material in '98, there is good reason to believe that Maine State will be in it in base ball another year. Colby, the pennant winners of '94, lose all but three men, but they expect excellent material in '98.



## ❀ ALUMNI NOTES ❀

### BIOGRAPHICAL SKETCH OF HON. LOUIS C. SOUTHARD.

LOUIS C. SOUTHARD was born in Portland, Maine, in 1854, and was educated in the common schools of that city, the Boston High School, Maine State College and the Boston University Law School. He studied law under the direction of Hon. W. W. Thomas, Jr., ex-United States minister to Norway and Sweden; Hon. Thomas Haskell, now one of the judges of the Supreme Court, and Clarence Hale of Portland, and was admitted to the bar of the Supreme Court of Maine in 1877. He soon afterwards took up his residence in North Easton, Mass., and the same year was admitted to practice in the courts of that state. He was nominated as representative to the General Court in 1884 but declined the nomination; being nominated, however, in 1886, he accepted and was elected to represent Easton, Mansfield and Taunton. His work was well done, his constituents were well satisfied and rather proud to know that he was appointed a member of the judiciary committee of the House.

Mr. Southard was chosen a member of the committee to represent the State of Massachusetts at the Centennial Convention at Philadelphia in 1887, and the same year he was elected delegate to the National Convention of the Republican League in New York city. He assisted in the organization of the

Republican Club of North Easton the same year and was chosen president, which office he held for some time after. He was admitted to the bar of the U. S. Supreme Court at Washington, D. C., May 13, 1889. Two years later he was elected member of the Republican State Central Committee and is now serving his fourth term as a member of the Executive Committee of the State Committee. He is also a member of his Town Committee and Secretary of the Bristol County Committee.

Mr. Southard is a 32d degree Mason and the present Master Mason of Paul Dean Lodge, F. and A. M., North Easton. He is also a member of the following clubs: Algonquin, Boston Press Club, Suffolk County Bar Association, Pine Tree Club, Middlesex Club, all of Boston, and the Queset Club of North Easton.

Mr. Southard has been connected with many important cases that have attracted the attention of the public, and is considered one of the brightest members of the legal profession, is quick to think, prompt to act, a ready talker and a strong debater. He comes of a stock which dates back to the days of the Pilgrims. William L. Southard, his father, was born in Richmond, Me., in 1820. He was a merchant in Portland and when he retired from business

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in 1867 had probably the largest whole-sale flour establishment in the State. He was a man of great influence and an alderman of Portland at the time of the war. He married Lydia Carver, a daughter of Capt. John Dennis, formerly of Taunton, and a lineal descendant of Governor John Carver. On her paternal side she was a descendant of Abraham Dennis, a member of an old aristocratic English family, who settled in Newport, R. I. He married Sarah Kirby, and one of his sons, Ezekiel, was killed in the first naval battle of the Revolution off the coast of Maine. Capt. John Southard, grandfather of Louis C., was a direct descendant of John Southworth of Plymouth Colony fame. The name Southworth was anciently pronounced South-ard and is still so pronounced by descendants living in Plymouth County, Mass. The branch of the family that immigrated to Maine changed the orthography to conform more nearly to the pronunciation. Capt. Southard was a thoroughly practical seaman and a pioneer in shipbuilding on the Kennebec. Hon. Thomas Jefferson Southard, the youngest brother of Capt. Southard, is still maintaining with his son, C. S. J. Southard, the reputation of the family as first class ship-builders.

#### COMMENCEMENT DINNER.

The commencement dinner took place at 1 o'clock in the dining room of the spacious town hall. When it is said that Landlord G. W. Stearns of the Bangor Exchange was the caterer and that W. E. Morton of Portland was his florist and decorator, no further description of the dining room would seem to be required. There were flowers everywhere, ranging from choice little boutonnieres at each plate to gorgeous centre pieces and here and there bits of foliage for a background. Mr. Morton is an artist, as Bangor people who have seen his Bar Harbor work well know, and given carte blanche by Mr. Stearns, he made a showing which delighted the diners. The dinner was served in courses, and while no printed menus were provided, this was about the collection of viands provided by Caterer Stearns for the feast:

Puree of Tomatoes  
Boiled Penobscot River Salmon—Egg Sauce  
Sliced Cucumbers      Saratoga Chips

Mixed Pickles  
Roast Sirloin of Beef  
New Green Peas      Mashed Potatoes  
Banana Rolls—Wine Sauce  
Lobster Salad  
Cold Boiled Ham      Cold Boiled Ox Tongue  
Harlequin Ice Cream  
Angel Cake  
Oranges      Bananas  
Tea      Coffee

At the post prandial exercises President Harris presided in a very easy, happy manner and brief congratulatory speeches were made by Councilors Harrington and Atwood, Hon. Edward Willets of Washington, D.C., Col. Chas. P. Allen of the Board of Trustees, Dr. M. C. Fernald, Ex-President of the College, Hon. B. Walker McKeen, Secretary of the State Board of Agriculture, Hon. Z. A. Gilbert, Prof. A. E. Rogers, Wm. A. Allen, '74, Chief Engineer of the Maine Central, Hon. Samuel Libbey of Orono, C. S. Bickford, '82, of Belfast, Mrs. Albert White, '79, of Orono, J. S. Ferguson, M. D., '89,



and E. B. Wood of the graduating class.

Immediately after this the meeting of the Alumni Association was held, Pres. Estabrooke in the chair. Little other than routine business was done. The officers elected for the ensuing year are: President, H. M. Esta-

brook, Orono; Secretary, Charles S. Bickford, Belfast; Treasurer, Walter Flint, Orono; Corresponding Secretary, R. K. Jones, Findlay, Ohio; Necrologist, L. H. Merrill, Orono. Resolutions in memory of the late Prof. Walter Balentine were passed.

R. W. Eaton, '73, is at present agent for the Cabot Mfg. Co., Brunswick.

Gould, '88, is engaged in the dry goods business at Caribou.

Vickery, '89, is with the Stout R. R. Dept., at Steelton, Penn.

C. E. Cobb, ex-'90, has a position with the B. & A. R. R.

Cal. Nealy, ex-'92, is in the banking business at Portland.

Frank Andrews, '92, has a position with the West End Street R. R., Boston.

Johnson, ex-'93, is with the sewer department at Malden, Mass.

Harry Robinson, ex-'93, has a position with the sewer department at Everett, Mass.

Among the alumni present at Commencement time were: W. A. Allen, '74; Chas. P. Allen, '76; E. H. Dakin, '77; A. L. Moor, '79; A. H. Brown, '80; Chas. S. Bickford, '82; Jane C. Mickel, '83; L. W. Cutter, '84; L. G. Paine, '85, Treas. Bellknap Motor Co., Portland; Geo. F. Lull, '86; H. B. Andrews, '88; Harry Butler, '88; T. G. Lord, '88; Dr. J. S. Ferguson, '89; Geo. M. Gay, '89; Eben R. Haggett, '89; Chas. D. W. Blanchard, '88, and Dr. C. Hamlin, '91, who has recently passed his state examinations and will go back to the Brooklyn Hospitals for a year.

#### REMINISCENCES.

TO the old graduate a visit to his *Alma Mater* at Commencement calls up a host of reminiscences and comparisons. He remembers things as they were years ago; he notes progress, and drops into prophecy. He acknowledges that the student of today enjoys far greater advantages than he himself did; but he doubts, for all that, if any better results are obtained. "Some of us older fellows will, I think, bear pretty good comparison with any turned out today," he soliloquizes, forgetting that the graduates of the later classes have had scant time to show their mettle. These comparisons, if "odious," are harmless. The recent graduate can afford to wait. His turn will come by and by, when

he can complacently compare his own achievements of a dozen years with those of the alumnus of as many months.

The writer is a "back number" among the graduates, and had an acquaintance with the Maine State College when it was in its swaddling clothes. And it was a very tiny infant, though at that time we did not so regard it. We called it, even then, the "*Old Maine State*," in spite of the fact that its alumni numbered just six persons, and its own existence not so many years, and fondly believed that its prestige was such that our diplomas would unlock any door to lucrative employment. I need not describe the awakening from that bright dream. Bolts and bars did

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not fall when that diploma was presented; we sawed wood in the back yard till the world was pleased to call us higher. We didn't know till later that the world had got past the habit of calling for diplomas and only called for efficient service. If we could render that, nobody asked for a diploma; if we could not, the diploma availed but little.

The Maine State College in the early seventies was a pretty crude institution. Instead of the beautiful campus of today with its trees, its walks, and its shrubbery, there was only a newly-seeded field on which the grass refused to grow, except in scattered patches. There were no stately trees along the river road; they were then growing in a nursery in front of what is now the Beta Theta house. Just in front of Oak Hall was a large flower garden planted and cared for by the members of the Sophomore class as an adjunct to the study of botany. This garden was a gorgeous affair, and the temptation to help one's self to flowers, was almost irresistible. But woe to the Freshman who did so—I remember that one who rejoiced in the cheerful name of "Death"—a title bestowed upon him because of his pallid complexion—gathered, in spite of warning and remonstrance, a large quantity with which to decorate his room. That night the door of his bedroom softly opened, and a dozen white-robed figures stole in. "Death" was rudely aroused from his slumbers and compelled to mount his study table. "Dance!" was the command. The victim swore furiously that he would not. Stimulants, however, were applied, and at length "Death" executed a sorry-jig, "Now sing!" and the poor fellow warbled a melancholy lay. Then, with a solemn warning never to trespass again, his tormentors stole out. The next day one of his classmates, not knowing the events

of the night before, rallied "Death" on his dispirited air. "Guess you'd look dispirited if you'd been out to a masked ball as late as I was," was the reply. "Death" was a good fellow, but he had a genius for getting into scrapes. He and his classmate, the "Wise Man," roomed in No. 12, Oak Hall. One evening he announced his intention to pay a visit to the boys on the fourth floor, clad only in his nightshirt. About half-past ten o'clock he set forth on his pilgrimage. I suspect that the "Wise Man" proved leaky, for when "Death" reached the fourth floor, he received a very cordial welcome, expressed in the form of a dozen pails of water. With a wild yell he started for home; but the spirit of Oak Hall was up, and by the time he reached his room he had the satisfaction of knowing that every drop of water in the building had been devoted to his entertainment.

One more yarn of the immortal "Death"—there's a paradox for you—and I close these rambling Reminiscences for this month. During the winter of his Sophomore year he and his classmate, now for many years a valued member of the trustees of the college, acquired the manly art of smoking. In the spring the Freshman class was increased by the admission of a tall, slender fellow of very quiet ways. He was so remarkably inoffensive that it was deemed best to "smoke him out." Accordingly a few choice spirits paid a visit one evening to his room, No. 38, fourth floor. Freshie gave his callers a cordial welcome, thinking, in the innocence of his heart, that he was becoming a popular fellow. Soon one of the visitors inquired of his host, "Is smoking offensive to you, sir?" "Not at all." Thereupon the company proceeded to load and fire. They expected to see him smothered, as they had taken position by the windows so that no air

could be admitted; but no such result followed. After about a half hour's steady pulling it dawned upon the smokers that their own stomachs were growing uneasy. At this moment the exasperating Freshman reached down into his hip pocket and pulled out a disreputable looking "T. D." blackened by years of hard service. "If you have

no objections," said he, blandly, "I will join you." Heavens! how he smoked! His pipe had an odor stronger than Limburger cheese. This was more than mortal man could bear. "Death" and the Trustee broke for the cellar, and there they threw up everything except their immortal souls. No further attempts were made to smoke Wiggin out.



## COMMENCEMENT, 1894.

THE Commencement exercises proper opened with the delivery of the Junior prize essays in Orono Town Hall on Saturday evening, June 16. The hall was decorated in a simple but effective manner, the center piece being the class shield of purple and white velvet on which is the motto and which has been used on every important class occasion since the ivy day last year. The music for the occasion was furnished by the Orpheus Club, seven pieces, of Bangor, and as the strains of a slow march were heard a door was thrown open and the feature of the evening was seen when the speakers, ten in number in caps and gowns, filed out led by the class marshal, W. W. Chase, and were seated in a body.

This is the first time in the history of the College that caps and gowns have been worn, and as the intention to wear them had been kept a profound secret a murmur of pleased surprise went over the audience when they were seen.

The committee of award consisted of Prof. H. K. White of Bangor, Prof. T. H. Burr of Oldtown, and Prof. S. H. Powell of Orono.

The program was as follows:

## MUSIC.

Our "Century of Dishonor,"

CHARLES ALBERT FROST, Monmouth.  
The Study of Psychology.

LE ROY ROWELL FOLSOM, Corinna.  
American Caricature.

WENDELL WYSE CHASE, Auburn.

## MUSIC.

The Problem of City Government.

EARL CLINTON MERRILL, East Eddington.  
Immigration.

MERTON EUGENE ELLIS, West Guilford.  
CORNET SOLO. - MR. E. C. ADAMS.

Industrial Schools,

ALBION MOULTON, Hiram.

The Duty of the Citizen in Municipal Politics.

OSCAR LLEWELLYN GROVER, Redlands, Cal.

## MUSIC.

The Industrial Army Movement,

FRANK DAMON, Hampden.

The Evolution of the Protestant Faith,\*

CLIFFORD JAMES PATTEE, Belfast.

The Educational Advantages for a Young Man in England,

JAMES WILLIAM MARTIN, Waltham, Mass.

## MUSIC.

\* Excused.

On Sunday evening, June 17, President Harris delivered the baccalaureate address in the Town Hall. Although prepared at almost a moment's warning, as the gentleman who was expected to be present was unavoidably detained at

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the last moment, Prés. Harris charmed the entire audience and gave an address which simply to hear would inspire one to strive for a higher plane of life. His thoughts were clothed in language so forceful and clear that even a child could not fail to grasp their meaning.

MONDAY, JUNE 18.

The exercises were continued to-day at 10 A. M. in the Chapel and consisted principally of reports of committees, departments, student organizations, publications, etc.

The report of the examining committee was unanimous in its hearty approval of the present policy and gave flattering showing of the progress under the new executive, President A. W. Harris.

One of the principal features of the report was the need, as stated by the committee, of increased facilities for instruction.

Secretary B. Walker McKeen, of the State Board of Agriculture, followed. He fully endorsed the preceding report and dwelt particularly upon the need and usefulness of an agricultural department. He was followed by Ex-Assistant Secretary of Agriculture Willis of Washington.

The awarding of prizes was as follows:

Prentiss prize for junior essays, O. L. Grover, Redlands, Cal.; honorable mention, J. W. Martin, Boston, and M. E. Ellis, North Guilford, Me.

Sophomore declamation, Prentiss prize, Mark L. Urann, Sullivan; honorable mention, P. B. Palmer, South Bridgton; J. L. Randlett, Richmond.

Libbey prize for the best agricultural essay, L. A. Rogers, '96, Patten, Me.

Sophomore standing prize, C. P. Weston, Madison, first, P. D. Sargent and H. S. Niles.

Freshman standing prize, W. T. Brastow, Rockport, first, H. A. White and H. E. Stevens.

To-day was the day of the "Commencement drill" and the weather was about as hot as the skirmish. The drill occurred from 2 to 4 o'clock and consisted of battalion and other movements, mock battle and a dress parade at which the orders were read, from which we take the following abstracts:

II. "In accordance with instructions from the War Department the first three graduates in the military department will be reported to the Adjutant-General U. S. Army, Washington, D. C., and their names will be inserted in the next annual Army Register.

The graduates thus to be honored are Edward B. Wood, Augustus D. Hayes and Herbert Murray."

IV. "By authority of the Faculty the following appointments of officers and non-commissioned officers are announced to take effect this date:

Captain, Harold S. Boardman; 1st Lieut., Quartermaster and Adj., Earl C. Merrill; 1st Lieut., Melville F. Rollins; 2d Lieut., Ora W. Knight; Sergeant-Major, Frank L. Marston; Quartermaster-Sergeant, Charles P. Weston; 1st Sergeants, Joseph W. Randlette, Edward E. Gibbs; Color Sergeant, Perley Walker; Sergeants, P. D. Sargent, Perley B. Palmer, Beecher D. Whitcomb, Harry C. Farrell, Gardner B. Wilkins, Everett G. Glidden, George W. Jeffery; Corporals, A. J. Dalot, H. A. White, S. S. Bunker, E. H. Macloon, Chas. S. Bryer, W. T. Brastow, E. A. Merrill, T. H. Bird, S. H. Cosmey and W. L. Holyoke."

This leaves several vacancies in the list of commissioned officers which will be filled at a later date, probably before the encampment.

At 4 P. M. occurred the presentation exercises.

The exercises at the presentation of the painting of Dr. Fernald to the College consisted of an opening address by Professor Estabrooke, president of the

Alumni Association, who introduced Mr. Blanding of Bangor, who made the address of presentation in a very feeling manner, speaking of the inseparable connection of Dr. Fernald with the inception and growth of the Maine State College, of the great efforts he has always made for its benefit and his sacrifice of all at any time if only the welfare of the College was assured.

The painting, which is of large size, represents Dr. Fernald standing with a Commencement program in his hand and is pronounced very life-like. This work of art is the production of Mr. Albert V. Currier, Hallowell's celebrated young artist, and will be hung in the library beside that of Dr. Allen, the first president of this institution. The painting was accepted in behalf of the College by President Harris.

In the evening, at the Town Hall at Orono, the Commencement oration was delivered. A very large and select audience was present. On the stage were seated President A. W. Harris, Ph. D.; the orator of the evening, Hon. Edwin Willits, ex-assistant secretary of agriculture, and other prominent gentlemen. "The New Impulse in Education" was the speaker's subject and he handled it in a masterly manner.

The idea of a commencement oration is a new one to be carried out here, but all who heard this one are agreed the idea is an excellent one.

TUESDAY, JUNE 19.

The exercises of to-day opened with the fire drill. The hook and ladder truck arrived in one minute and two seconds and the hose carriage in one minute and twenty seconds after the first alarm. The best time for getting the ladders up and hose on to the roof and water turned on is three minutes and twelve seconds from the first call.

The afternoon and evening of Tuesday will long be notable in the social

annals of the college. No better day could have been chosen, and as the guests drove through the college campus they were greeted by the melodious strains of the Orpheus Club Orchestra, stationed on the lawn in front of the Beta Theta Pi chapter house.

The decorations were very beautiful. Upon entering, the guests were cordially welcomed by Mrs. Hersey, Mrs. Stevens, Miss Harriet Converse Fernald and Mrs. Colby. Refreshments were served in the dining room.

The Q. T. V. reception, held in the house of that fraternity, was also a brilliant event. At this reception, Mrs. Hamlin and Mrs. Esterbrooke of Orono, and Mrs. Leslie Cutter and Miss Grace Chapman of Bangor, received, and music was furnished by Pullen's orchestra, of Bangor.

The President's reception in the evening was a charming affair. The house had been beautifully decorated under the direction of Mrs. Harris, the verandas hung with Chinese lanterns and these with the electric lights and the brilliant assemblage made a veritable fairy scene.

Among those who assisted President and Mrs. Harris in receiving were Mrs. Wathman of Philadelphia, Mr. Harris, brother of the President, Hon. and Mrs. Willits of Washington, Dr. and Mrs. Fernald, Gen. and Mrs. R. B. Shepherd of Skowhegan, and the editorial staff of the Prism.

Refreshments were served by Miss Grace Chapman of Bangor, and Miss Wathman of Philadelphia.

#### FRATERNITY REUNIONS.

The fraternity reunions commenced at 10.30 o'clock and ended in plenty of season this forenoon to allow the participants to attend commencement exercises.

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There was a jolly party of alumni members at the Beta Theta Pi reunion and the old timers did their full share in entertaining the undergraduates with stories of former days. Brief literary exercises opened the programme, but after that dignity was laid aside, J. E. Harvey, '94, made a pleasing address and C. I. Haines, of the chapter, contributed a song. L. G. Paine, '85, of Portland, read a poem. W. R. Farrington, '91, editor of the *Rockland Star*, was down for the annual oration, but wired his regrets during the evening at being detained.

A banquet followed and a delicious menu was discussed with the usual college enthusiasm. Charles S. Bickford, '82, of Belfast, was toastmaster of the evening and the following were the formal sentiments on the programme, which followed the lighting of cigars ;

The Diamond and the Rose,  
W. W. Crosby, '93  
Grecian Maids and Mothers,  
E. E. Gibbs, '96  
"The hand that spans the baby, rules  
the world."—(With apologies.)  
Chapter Life,  
J. E. Harvey, '94  
"More years have made me love thee more."  
For the Good of the Order,  
D. W. Colby, '87  
"A refuge from life's battle edge, a home  
when toil is over."

There were speeches by all the visiting alumni, while one undergraduate after another was placed on the rack and made to express his sentiments amid a running fire of interruptions which would have done credit to the Clover Club.

Q. T. V.

The twentieth annual reunion and banquet of Orono chapter was held in the chapter house.

The banquet was gotten up entirely

by the boys, and it would have done credit to a professional caterer. The members of the alumni from away were very much pleased with both cuisine and service.

After the banquet, songs and speeches and cigars were indulged in until a late hour in the morning.

All of the alumni expressed great pleasure with the condition of the society and with its future prospects.

Among those present were: Messrs. Eaton, Blanding, Haggett, Gay, Butler, Bartlett, Russell, Flint, Neally, Webb, Hart, Lord, Gould, Murphy, Buck, Gannett and Keith.

Following are the program and toasts :

Opening Ceremonies,	Herbert Murray, W. G. M.
Address of Welcome,	E. P. Cowan
Remarks by Alumni.	
Installation of Officers.	
Meeting of the Corporation,	Walter Flint, President
BANQUET.	
Herbert Murray, Toastmaster.	
Our Fraternity,	Dr. F. L. Russell
'94,	W. H. Jose
Maine State College,	H. M. Estabrook
Our Boarding House,	E. B. Wood
'95,	C. A. Frost
College Athletics,	Prof. Walter Flint
Address to Graduating Class,	E. M. Blanding
Parting Address,	I. G. Calderwood

WEDNESDAY, JUNE 20.

Commencement Exercises.

The exercises did not commence until 9.30 and at that hour the hall was crowded. Pullen's orchestra furnished music. Promptly at the hour named, President Harris ascended the speaker's platform, and the following order of exercises was commenced:

ORDER OF EXERCISES.

Music. Prayer. Music.

I. Forest Preservation,

Frank Gilman Gould, Orono



2. The Steel Industry of the United States,  
George Washington Rumball, Harrington.  
Music.
3. Natural Monopolies,  
Leroy Telford Durham, Monroe
4. Our Civil Service System,  
George Harry Hall, Bangor  
Music.
5. Military Education in the United States,  
Herbert Murray, Rockland
6. Torpedoes,  
Edward Butler Wood, Camden  
Music.
7. Progress in the Efficiency of Labor  
Saving Machinery,  
James Elmore Harvey, Readfield
8. Photogrametry.  
Leon Orlando Norwood, Union

## CONFERRING DEGREES.

## Music.

## Theses Submitted for Bachelor's Degree.

9. Pulp Manufacture,  
Frank Colburn Bowler, Orono
10. Our Brazilian Policy,  
Edward Henry Cowan, Orono
11. The Industrial Future of Maine,  
George Parker Cowan, Bangor
12. The After Effects of Business Depressions,  
Charles Edward Gilbert, Orono
13. Our Civilization,  
James Mayberry Kimball, Bangor
14. Relief of the Unemployed,  
Jessie Alexander Gray, Old Town
15. Commerce,  
Augustus Daniel Hayes, Belfast
16. The Balance of Military Power in Europe,  
Wallace Hight Jose, Newport

## Theses Submitted for the Master's Degree.

1. Description of the Intercepting Sewer  
of the Mystic and Charles River Valleys,  
Ralph Jesse Arey, Williams, Arizona
2. Sixty foot Span Plate Girder,  
Herbert Austin Hall, Williams, Arizona
3. Location and Construction of the Iola  
and Northern Railroad,  
Ralph Holbrook Wight, Green Bay, Wis.
4. Strength of Vitrified Pipes under Water  
Pressure,  
Allie Crosby Hardison, Santa Paula, Cal.
5. Design of Station Switch-board,  
William Alton Valentine, Philadelphia, Pa.

6. Public School System of Arizona,  
Jane Chase Michaels, Stillwater  
For the Degree of Ph. D.
7. Frank Eugene Kidder, Denver, Col.

As the orchestra commenced its first selection the members of the graduating class marched to seats in front of the hall, while Hon. C. A. Harrington and Hon. Fred Atwood, of the Governor's Council, Col. Charles P. Allen, of Presque Isle, of the board of trustees, Ex-President M. C. Fernald, of the college, and Rev. P. J. Robinson, of the Congregational church, Orono, joined President Harris upon the platform. Rev. Mr. Robinson offered prayer.

There were only eight speakers, the number being limited so that the programme might not be too long.

## Commencement Concert.

## WEDNESDAY EVENING.

The Town Hall was well filled by a fine audience to listen to the famous "Old Homestead" Quartette composed of Albert C. Orcutt, 1st tenor; Val P. Akerley, 2nd tenor; Albert Barnes Myers, baritone; Gus Kammerlee, bass, assisted by Mr. Felix Winternitz, the celebrated Austrian violinist and his accompanist, Miss Lida J. Low.

The following was the

## PROGRAM.

1. Jolly Blacksmiths, Geibel  
Quartette.
2. Tenor Solo—"Mona," Adams  
Mr. Orcutt.
3. "Orthello Fantasie," Ernst  
Mr. Winternitz.
4. The Water Mill, Macy  
Quartette.
5. Baritone Solo—  
"The Sailors Anchor," Newton  
Mr. Myers.
6. Duet—"Now the Silver Moon," Neven  
Mr. Orcutt and Mr. Myers.
7. Violin Solo { a. Romanza, Winternitz  
b. Scherzo,  
Mr. Winternitz.

- |  |   |
|--|---|
| 8. Tenor Solo—<br>"The Sweetest Story Ever Told," Stults<br>Mr. Akerley. | Through college life, we've been sowing<br>seeds,<br>That now the fruit we may reap;  |
| 9. "The Phantom Band," Thayer<br>Quartette.                              | And as the harvests are garnered in,<br>May each one his fortune meet.  |
| 10. Bass Solo—<br>"Good Bye, Sweet Day," Vannah<br>Mr. Kammerlee.        | Two places are vacant that once were filled,<br>By classmates dear to us all;   |
| 11. Violin Solo—Selected,<br>Mr. Winternitz.                             | And though we'll meet them on earth no<br>more,   |
| 12. "The Old Oaken Bucket,"<br>Arr. by Mullaly<br>Quartette.             | We'll cherish in memory still.<br>From us, they were called to their loved<br>ones above,<br>With whom they will be ever more;<br>Ready and waiting to welcome us home,<br>All their classmates of Ninety-Four. |
- THURSDAY, JUNE 21.  
Class Day.

These exercises were very interesting and were greatly enjoyed by the very large audience present. The program was as follows:

- |                            |                    |               |   |
|----------------------------|--------------------|---------------|---|
| Oration,                   | Overture.          | G. W. Rumball | As now we must say, "Farewell Alma Mater,"  |
| History,                   | Music.             | F. C. Bowler  | To teachers and college mates, farewell;  |
| Poem,                      | Music.             | J. E. Harvey  | A feeling of sadness creeps into each heart,<br>Where now only gaiety dwells.   |
| Prophecy,                  | Music.             | C. E. Gilbert | And may our class motto, "Aux Etats Unis,"<br>Always fresh in each memory dwell;  |
| Address to Undergraduates, | Music.             | E. B. Wood    | And now to each other in parting we'll say,<br>Farewell, dear classmates, farewell.   |
| Valedictory,               | Music.             | H. M. Murray  | The Class Day banquet was held at<br>the Bangor Exchange Thursday evening<br>and it is needless to say was a<br>very enjoyable time. The Toast-<br>master was G. W. Rumball, Jr., and<br>the following were the |
|                            | Singing Class Ode. |               |   |
|                            | Music.             |               |   |

Class Ode.

BY FRANK GILMAN GOULD.

Air, "Fair Harvard."

As now, we recall the four years we have  
passed,  
In study at Old Maine State;  
'Tis with regret that we know we must  
leave,  
Not knowing each other's fate.

TOASTS.

- |                          |               |
|--------------------------|---------------|
| President Harris,        | F. C. Bowler  |
| Our Alma Mater,          | F. G. Gould   |
| '94,                     | J. E. Harvey  |
| The Military Department, | C. E. Gilbert |
| Spencer's Cafe,          | G. H. Hall    |
| The Faculty,             | L. T. Durham  |
| The Ladies,              | W. H. Jose    |
| Now and Then,            | E. B. Wood    |
| Unser Lauf in Deutsch,   | J. A. Gray    |
| Our Duty as Alumni,      | J. M. Kimball |
| Remarks by Others.       |               |



BASE BALL.

M. S. C. 6; BATES 5.

The finest game of ball ever seen on the Bates diamond occurred Tuesday, June 5, when M. S. C. did Bates in a very hard fought game of eleven innings. The great feature of the game was the home run by Frost in the eleventh, when two men were out. In the box, Bass played the best game seen this year, striking out twelve men and making two assists. Berryman was batted out of the box in the seventh and Slattery finished the game.

Following is the score:

M. S. C.						
AB.	BH.	PO.	A.	E.		
Bass, p.....	6	1	1	2	0	
Frost, 1st b.....	5	1	10	0	0	
Haynes, 2d b.....	4	1	3	1	0	
Gilbert, m.....	4	0	1	0	2	
Farrell, 3d b.....	3	0	0	2	2	
de Haseth, c.....	2	1	16	1	0	
Cowan, s. s.....	5	2	1	4	1	
Dalot, r. f.....	5	0	0	0	1	
Durham, l. f.....	5	2	1	0	0	
Totals.....	39	8	33	10	6	
BATES.						
AB.	BH.	PO.	A.	E.		
Wakefield, 1st b.....	5	1	15	0	2	
Douglass, 2d b.....	5	0	1	7	0	
Pulsifer, 3d b.....	4	1	3	5	1	
Campbell, l. f.....	5	0	2	0	0	
Gerrish, c.....	5	1	8	0	0	
Field, r. f.....	5	2	1	0	0	
Brackett, s. s.....	4	0	2	3	0	
Berryman, p.....	3	0	0	3	2	
Slattery, m., p.....	4	0	0	0	0	
Files, m.....	1	0	0	0	0	
Burrill, m.....	0	0	0	0	0	
Totals.....	41	5	32	18	5	
Innings.....	1	2	3	4	5	6 7 8 9 10 11
M. S. C.....	0	0	0	2	0	0 3 0 0 0 1-6
Bates.....	2	0	0	3	0	0 0 0 0 0 0-5
Earned runs—M. S. C., 2. Home run—Frost.						
Runs—Frost, 2; Haines, 2; Bass, Durham, Wake-						
field, Douglass, Field, Brackett, Slattery. Two-base						
hit—Pulsifer. Sacrifice hits—Frost, Gilbert, Pulsi-						

fer. Stolen bases—Frost, Haines, Farrell, de Haseth, Wakefield, 2; Field, Brackett, Slattery. First base on balls—by Bass, Brackett; by Berryman, Farrell, 2, de Haseth, 2; by Slattery, Haines. First base on errors—Bates, 4; M. S. C., 4. Hit by pitched ball—by Berryman, de Haseth. Passed ball—de Haseth. Struck out—by Bass, Wakefield, 2, Douglass, 2, Gerrish, Field, 2, Berryman, 2, Slattery, 2, Files; by Berryman, Cowan, Durham; by Slattery, Gilbert, Durham, 2. Double plays—Pulsifer and Wakefield. Umpire—Kelly. Time—2h. 45m.

\*Winning run made with two men out.

COLBY 16; M. S. C. 0.

At Waterville, June 6, our boys tried hard to put up their good game of the day before, but it was plain to be seen from the first that they were not in condition to play good ball. In the first place, the men were tired out, due to the long, hard played and well earned game of the day before. Again, the diamond was in no condition to play upon, two of our infielders making assists at different times, slipped and fell flat. Both times, however, the ball reached the base in time to bring about the desired end.

For Colby, Patterson played a good game. In the eighth, deHaseth very narrowly escaped scoring on account of the fine throw from left by Whitman.

The score:

COLBY.						
AB.	R.	BH.	TB.	PO.	A.	E.
Purrington, 3d b.....	6	3	2	2	1	1
Hoxie, 2d b.....	4	2	1	1	5	1
Coffin, c.....	4	4	1	1	9	3
Whitman, l. f.....	6	3	2	3	3	1
Totman, c. f.....	4	1	2	2	2	0
Patterson, p.....	6	1	3	4	0	0
Latlip, s. s.....	4	1	1	1	1	0
Osborn, 1st b.....	5	1	1	3	4	1
Osgood, r. f.....	4	0	2	2	2	0
Totals.....	43	16	15	19	27	7

Bass, s. s.,  
Frost, 1st b.  
Haynes, p.  
Gilbert, c.  
Farrell, 3d  
de Haseth,  
Cowan, 2d  
Dalot, r. f.  
Durham, l.

Total  
Innings...1  
Colby...3  
Earned r  
Patterson.  
—Colby, 9;  
and Coffin;  
by Patterson  
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2h. 20m. U

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Hoxie, 2d b.  
Coffin, c....  
Purrington,  
Totman, c. f.  
Patterson, p.  
Latlip, l. f.  
Thompson, l.  
Osborne, 3d  
Osgood, r. f.

Totals.

Bass, p.....  
Frost, l. f....  
Haynes, 2d b.  
Palmer, c....  
Gilbert, c. f.  
Farrell, 3d b.  
de Haseth, 1s  
Cowan, s. s..  
Durham, r. f.

Totals.  
Innings...1  
Colby...0  
M. S. C...1  
Two base



M. S. C.							
AB.	R.	BH.	TB.	PO.	A.	E.	
Bass, s. s., p.....	3	0	1	1	1	4	0
Frost, 1st b.....	5	0	0	0	8	0	0
Haynes, p., 2d b.....	4	0	1	1	3	4	3
Gilbert, c. f.....	3	9	0	0	1	1	0
Farrell, 3d b.....	5	0	0	0	3	1	1
de Haseh, c. ....	5	0	0	0	8	1	0
Cowan, 2d b., s. s.....	4	0	1	1	1	5	2
Dalot, r. f.....	4	0	0	0	1	0	1
Durham, l. f.....	2	0	0	0	1	2	3
Totals.....	35	0	3	3	27	18	10
Innings...1	2	3	4	5	6	7	8
Colby ...3	2	0	4	0	2	0	4

Earned runs—Colby, 2. Two base hits—Whitman, Patterson. Three base hits—Osborn. Stolen bases—Colby, 9; M. S. C., 3. Double plays—Whitman and Coffin; Haynes and de Haseh. Base on balls—by Patterson, 6; by Haynes, 2; by Bass, 3. Struck out—by Patterson, 8; by Haynes, 1; by Bass, 4. Hit by pitched ball—Latlip, Durham. Passed balls—de Haseh, 3. Wild pitch—Bass, 1. Time of game—2h. 20m. Umpire—Kelley.

COLBY 14; M. S. C. 1.

The first game of the new schedule was played at Orono, Saturday, June 16, and resulted as above.

The visitors put up a very good game. In the second a very bad error broke up our boys and they did not get over it for the whole game. Cowan made a fine one-handed catch of a high liner in the middle of the game and Farrell played a fine game.

The score:

COLBY.							
AB.	R.	BH.	PO.	A.	E.		
Hoxie, 2d b.....	6	1	2	1	3	0	
Coffin, c.....	5	1	1	9	0	1	
Purrington, s. s.....	5	2	2	2	0	0	
Totman, c. f.....	5	2	3	2	0	0	
Patterson, p.....	4	2	1	0	2	0	
Latlip, l. f.....	5	2	1	1	1	0	
Thompson, 1st b.....	5	3	2	9	0	0	
Osborne, 3d b.....	5	1	1	2	1	0	
Osgood, r. f.....	5	0	0	1	0	1	
Totals.....	45	14	13	27	7	2	

M. S. C.							
AB.	R.	BH.	PO.	A.	E.		
Bass, p.....	4	1	1	1	4	2	
Frost, l. f.....	1	0	0	2	0	1	
Haynes, 2d b.....	4	0	1	1	1	1	
Palmer, c.....	3	0	0	3	2	0	
Gilbert, c. f.....	4	0	2	4	0	1	
Farrell, 3d b.....	4	0	1	1	1	1	
de Haseh, 1st b.....	3	0	0	12	0	0	
Cowan, s. s.....	4	0	1	2	6	1	
Durham, r. f.....	4	0	1	1	0	1	
Totals.....	34	1	7	27	14	8	
Innings...1	2	3	4	5	6	7	8
Colby ...0	1	2	2	1	3	2	1
M. S. C...1	0	0	0	0	0	0	0

Two base hits—Hoxie, Totman, Latlip, Gilbert.

First base on balls—by Patterson, 1; by Bass, 2. Passed balls—Palmer, 1. Wild pitches—Bass, 4; Patterson, 1. Struck out—by Patterson, 8; by Bass, 4. Double play—Cowan and de Haseh. Umpire—Kelley. Time—2h. 15m.

On Wednesday, June 13, Bates beat Colby at Waterville 12-8, thus making the three teams tie.

In consequence the following schedule was made out:

Saturday, June 16, Colby vs. M. S. C. at Orono; Wednesday, June 20, Bates vs. Colby, Waterville; Friday, June 22, M. S. C. vs. Bates at Lewiston.

The first two games were won by Colby, thus giving her the pennant.

M. S. C. forfeited to Bates, principally on account of the state of our finances.

#### LAWN TENNIS.

The third annual intercollegiate tennis tournament commenced at Portland, June 6, on the courts of the Athletic Club.

At a meeting of the representatives from the colleges the drawings in singles and doubles were made and Pickard, Bowdoin '94, was selected to take charge of the tournament.

Owing to the senior examinations at Colby their men were excused from entering the tournament until Thursday morning and therefore at the meeting Colby was not represented. The other colleges were represented as follows:

Bowdoin—F. W. Dana, '94, and P. Dana, '96, in singles; Dana and Pickard, '94, and Dana and Fogg, '96, in doubles.

Bates—Pettigrew, '95, and Wakefield, '95, in singles; Pettigrew and Wakefield, '95, and Boothby and Hilton, '96, in doubles.

M. S. C.—Heywood and Gibbs, '96, in singles, and these two will make the only team in doubles for Maine State.

The drawings resulted as follows:

Singles—Gibbs, second, Colby; Pettigrew, first, Colby; Dana '94, Heywood; Wakefield, Dana, '96.

Doubles—Dana and Fogg, first Colby team; Pickard and Dana, '94, Wakefield and Pettigrew. Gibbs and Haywood, second Colby team; Boothby and Hilton.

The tournament was opened by Dana and Heywood, and this was the score:

FIRST SET.	
Dana, Bowdoin, '95,.....	1 0 1 1 1 1 0 0 0 1—6
Heywood, M. S. C.,.....	0 1 0 0 0 0 1 1 1 0—4

SECOND SET.	
Dana, Bowdoin, '94,.....	0 0 1 0 1 0 1 1 1 0 0 1 1 0 1 1—9
Heywood, M. S. C.,.....	1 1 0 1 0 1 0 0 0 1 1 0 0 1 0 0—7

The next match was between Dana, Bowdoin, '96, and Hilton, Bates. This was also a Bowdoin and a Dana match, like the first, for the man from Bates, although a good player, was not fast enough for his antagonist. Young Dana was suffering from a lame thumb which bothered him considerably, as it was on his racquet hand.

He lost the first set to Hilton 5-7, but took the next two with great ease to the tune 6-2 and 6-1. Mr. E. E. Gibbs, of State College, refereed the match. The score:

FIRST SET.	
Dana, Bowdoin, '96,.....	1 1 1 0 1 0 0 0 0 1 0 0—5
Hilton, Bates,.....	0 0 0 1 0 1 1 1 1 0 1 1—7

SECOND SET.	
Dana, Bowdoin, '96,.....	1 1 1 0 1 1 0 1—6
Hilton, Bates,.....	0 0 0 1 0 0 1 0—2

THIRD SET.	
Dana, Bowdoin, '96,.....	0 1 1 1 1 1 1—6
Hilton, Bates,.....	1 0 0 0 0 0 0—1

On the morning of June 7 Berry of Colby beat Gibbs of Maine State College, 7-5, 6-8, 8-6. Pettigrew of Bates beat Foss of Colby, 10-6, 8-2.

In the afternoon P. Dana and Fogg of Bowdoin beat Foss and Berry of Colby in doubles, 6-4, 6-4. Gibbs and Heywood of State College beat Hilton and Boothby of Bates, 6-0, 4-6, 7-5. In singles Pettigrew of Bates beat Berry of Colby, 4-6, 6-3, 6-3. F. W. Dana and Pickard of Bowdoin beat P. Dana and Fogg of Bowdoin in doubles, 6-4, 2-6, 8-6.

June 8, the games were as follows: In the morning the finals in the singles were played. T. W. Dana, Bowdoin, '94, beat Pettigrew of Bates, 6-2, 6-1, 7-5. Dana thus wins the college championship for 1894.

In the afternoon Heywood of the State College beat P. Dana of Bowdoin, 6-0, 7-5, thus giving Heywood second prize. In doubles F. W. Dana and Pickard of Bowdoin beat Heywood and Gibbs of the State College, 6-3, 5-7, 6-4, 6-4. This gives Dana and Pickard the championship in doubles.

The following clipping from the *Portland Press* is a mild sample of the many press notices complimentary to Mr. Heywood:

H. H. Heywood of New York, Maine State College, '96, is by far the best man that the State College has yet sent to a tournament. His method of play was entirely up to date and almost equal to that of Champion Dana. He played coolly and skillfully throughout, and made a splendid fight against the long experience of his oponent in winning games, which of course counts for a good deal. Mr. Heywood has the making of a champion in him, and as he has two more years in college and this is Mr. Dana's last year, there are great expectations for him in the future among State college men.

At a meeting of the Athletic Association the following officers were elected for the ensuing year: Moulton, President; Calderwood, Vice President; Randlett, Treasurer; Gibbs, Secretary. The executive committee for next year is as follows: Moulton, Calderwood, Fernald, Farrell and Damon. Later at a meeting of the executive committee, Calderwood was chosen as manager of base ball for next season, and Palmer as manager of the foot ball team. Assistant managers for each team were talked of but none were elected.

PHYSICAL TRAINING.

We think the following statistics which we have fortunately been able to obtain will show something of what is being done at the College in the way of physical training and development under the direction of Lieut. Hersey.

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that entered College in the fall of '93, and the time covered is from October last to June, a period of eight months. The figures are for thirty-eight men of all sizes and conditions and they speak for themselves.

	Average gain.	Greatest gain.
Height,	.21 inches.	.9 inches.
Girth chest,	.34 "	3. "
" " full,	.92 "	2.50 "
" ninth rib,	.14 "	1.25 "
" " " full,	1.04 "	3 "
" waist,	.15 "	2. "
" hips,	.43 "	2. "
" thighs,	.20 "	2.125 "
" knees,	.29 "	1.125 "
" calves,	.27 "	1.06 "
" upper arms,	.33 "	1.45 "
" fore arms,	.18 "	.50 "
Depth chest,	.31 "	.90 "
" abdomen,	.07 "	.70 "
Breadth shoulders,	.61 "	1.80 "
" waist,	.22 "	.90 "
" hips,	.31 "	2.30 "
" nipples,	.18 "	.50 "
Stretch of arms,	.64 "	2.40 "

The record for base running was made in 1868 by Harry Berthony at Washington. It was 14 2-5 seconds.

At a recent meeting in Springfield, Mass., Rev. E. S. Ufford made all the fellows tired when he spoke to bicyclists.

Three hundred pace makers for twenty-six starters is not bad. This occurred lately in a veteran's race near Paris.

In a recent French road race six hundred and fifty entries were made, of which five hundred and ten started.

The U. of P. crew defeated the U. S. naval cadets in the three mile straightway race on Saturday, June 2, by seven lengths. Time, 19 m. 33 s.

#### ATHLETIC NOTES.

The shortest nine-inning game ever played was at Brooklyn, May, 1861. Time 50 minutes.

At the recent meet of the Maine Interscholastic Athletic Association, Bangor came out first with 35 points, Portland following with 30.

#### COL. HUGHES' REPORT.

After the hard work of the inspection of the Military Department of tation drill it is certainly gratifying to the Maine State College, at Orono, know the battalion is appreciated by Maine:

and satisfactory to the Inspector General.

Through the courtesy of President Harris we are enabled to publish in advance the report of Col. Hughes.

When we remember how concise the college, Dr. Fernald, has with military men are in their statements drawn from the institution and has we will at once see that in this report there is *multum in parvo*.

The following is the report in full:

GREENVILLE, ME.,  
May 30, 1894.

THE INSPECTOR GENERAL

U. S. ARMY,  
WASHINGTON, D. C.

SIR:—I respectfully submit the following report of the annual inspec-

The chair of military tactics is still held by Lieut. M. L. Hersey, U. S.

Infantry, and he does so to the eminent satisfaction of all concerned.

Although the former president of

the college, Dr. Fernald, has with been replaced by Dr. Harris, I find the change has not been detrimental

to the military department in any way. It enjoys all its rights and is granted many privileges.

During the year there have been, all told, 125 students under instruction, but 116 is the highest number that were in the battalion at one time.

At the time of inspection there were



107 present in line, and the number of instruction and practice in target present at college numbered 111. practice last autumn and they made The absentees were accounted for by a record for themselves of which the sickness and casualties. corps can well be proud.

All students are required to take A practice march and a week's the course of military instruction and encampment at Searsport was given in this case the requirement is fully the corps last October. During the enforced. march, the precautions customary in

Students who are excused from the an enemy's country, were taken, and more violent and trying work of exer- during the encampment the usual cises under arms on account of guards and formalities of camp life organic defects, etc., are put into the were adhered to. signal detachment where they are

Able to perform duty without injury. A course in natation has also been given during the spring and by the close of the term the battalion will be

The signal detachment is efficient in its work with both flag and helio-graph. able to cross any reasonable stream without the aid of a bridge. The authorities grant the military department five hours per week, which is an abundance to accomplish very valuable work.

The course in the theory and science of war is confined to the senior class, and is by lectures.

The Cadet captains also show themselves proficient in drilling the battalion and the lieutenants demonstrated their proficiency as company commanders. The property of the United States is properly cared for, and this is an exceptional case in which the arms and equipments are duly issued to, and taken care of by the students.

In the field the problem submitted was to pass a defile in face of an enemy, and the commanders of the opposing forces displayed a very fair appreciation of the conditions. (Signed) Very respectfully,

The battalion had a careful course

R. P. HUGHES,  
Colonel, Inspector General  
Department of the East.



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## COLLEGE WORLD



Richmond College awards a medal for the best literary article contributed to the college paper.

Yale and Brown have each two tennis players ranked among the first ten in the country, while Harvard has one.

Governor Flower, of New York, has signed a bill making hazing a misdemeanor, punishable by fine and imprisonment.

It is reported that Gov. Patteson, of Pennsylvania, will be made President of Lehigh University when his term of office expires.

Of Harvard's foot-ball team of last fall seven will graduate this year, while all of the Yale eleven are expected to return in the fall.

It is announced that \$150,000 has been left to Radcliffe College, the annex of Harvard, by the will of Mrs. Sarah Parker, of Roxbury.

President Eliot, of Harvard, suggests that the students should have ten hours for work, eight for sleep, three for meals, two for out-door exercises and one for minor details.

The San Francisco *Examiner* has offered a prize of \$200 for an oratorical contest between the Pacific Slope colleges. The college to own the trophy must win it three consecutive times.

A University glee club, composed of alumni of Harvard, Princeton, Yale, Columbia, Amherst, Union, Hamilton College, and New York University, has been organized in New York, with forty-eight members.

The Freshmen won the class base ball championship at Harvard.

At Dartmouth an annual prize of sixty dollars is awarded to the member of the athletic club who stands highest in his classes.

Miss Rose Cleveland, sister of President Cleveland, delivered the address at the commencement exercises at Ossining Seminary for Young Ladies in Sing Sing.

Prof. Clinton D. Smith, late director and Professor of dairy husbandry in the University of Minnesota, has accepted the professorship of agriculture in the Michigan Agricultural College.

Harvard's new dormitory, given by Albert Ross, the novelist, is to be one of the most complete and largest occupied by college students. It is to be built of brick and will have six stories and a basement. It will contain fifty-five studies and ninety-four bedrooms, and will be lighted throughout by electricity.

The Board of Overseers of Harvard has refused to give women graduates of Radcliffe College the degree of Bachelor of Arts, at Harvard; but it admits Radcliffe students to all courses in the Harvard curriculum which is intended primarily for graduates. In other words there will be co-education between Harvard and Radcliffe in the graduate school, with the understanding that the students who take the course offered will not be considered members of the university.

The trustees of Columbia College have passed a vote of thanks to W. T. Schermerhorn for a gift of \$5,000 for books on physiology. A vote of thanks was also passed to Mrs. W. P. Trowbridge, widow of Professor Trowbridge, who presented her husband's library of scientific works to the college.

Oxford has accepted Yale's challenge and her athletes will meet Yale's team at the Queen's Club Grounds, at Kensington on July 16. Nine events will be contested for: Flat races of a mile, a half-mile, a quarter-mile and one hundred yards; a hurdle race of 120 yards with ten flights; a broad and high jump, and weight putting and hammer throwing. No more than two contestants from each university can enter each event.

Yale has lost much in the retirement of Professor Dana from its active rolls. He is a very fine naturalist and his works on geology are recognized as the authority. Born in 1813 at Utica, he was drawn to Yale by the fame of the elder Silliman. He became Silliman's assistant; in time he came to marry his daughter. He succeeded him as editor of the *Journal of Arts and Sciences*, and finally he was the incumbent of the "Silliman's Professorship" founded to commemorate that earlier scientist. Before his marriage he was a part of the Wilkes Exploring Expedition and in the course of it he was shipwrecked. His great labors have been accomplished upon but a small supply of physical strength. Professor Dana is now 81 years of age.

The trustees of the University of Pennsylvania have elected Mr. Charles C. Harrison to the office of Acting Provost. The duties are numerous and modesty alone prevents Mr. Harrison from accepting the office permanently until he is satisfied that he is able to

discharge these duties single-handed. Mr. Charles C. Harrison is a son of the late George L. Harrison, son of John, the pioneer chemist of Philadelphia, and is a member of the great sugar refining house of Harrison, Havemeyer & Co. In connection with his brothers, the Messrs. Mitchell, William and Alfred Harrison, he has lately contributed \$50,000 toward the endowment of the John Harrison Chemical Laboratory at the University of Pennsylvania. He has been for some time Chairman of the Ways and Means Committee of the Board of Trustees of the university. Mr. Harrison was born on May 3, 1844. He entered the academic department of the university in 1858, and was a classmate of Dr. William Pepper, the retiring provost. He won the highest honors in his class, and upon graduation in 1862, he was awarded the Henry Reed Prize for English literature.

Pres. W. J. Tucker met the students of Dartmouth College this month, and announced the plans of the trustees of the proposed buildings. The trustees have carefully considered several building schemes, but the compact manner in which Hanover is laid out has proved a great obstacle to the locality of the new structures. The aim is not to separate the new Dartmouth from the old, but to keep the two closely allied. Fortunately, the college has uncovered a general building plan which has been adopted by the trustees and which meets all present necessities. The entire square north of the old campus will be purchased by the trustees. On this square will be built Dartmouth's new buildings, which will comprise a museum and art gallery, to be known as Butterfield Hall, a chemical and biological laboratory building, to be devoted to the department of mathematics and graphics, and a memorial hall. In memorial hall will be preserved all the fine old tradi-



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