

The Normal Index.

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OUR latest exchanges will always be found on the table in the reading room where we hope they will be read and duly appreciated.

A member of the editorial staff has volunteered to take charge of the exchange column of the INDEX and to see that hereafter it is neither crowded out nor forgotten.

THE library is not so uncomfortably crowded as it was when the members of the newspaper classes were obliged to resort there to cram their minds with items from the dailies. The new reading room into which room F has been converted is a convenience to the whole school, though it adds materially to the cares of the librarian. We wonder when Miss Royce will demand an assistant.

HEARTILY appreciating the kindness of Prof. Holden's invitation to visit the Observatory at Mt. Hamilton on the 24th of last month, and earnestly feeling how much was learned from a glance through the telescope and from the trip in general, the Senior class presents the following resolutions which have been drawn by a committee appointed for that purpose;

WHEREAS, On our visit to Mt. Hamilton we were most heartily welcomed; and

WHEREAS, The Professor of the Observatory spared no pains in making our visit interesting as well as beneficial; therefore, be it

Resolved, That we offer a vote of thanks to those who so kindly showed us the different objects of interest.

Resolved, That these resolutions be published in the INDEX, and that a copy be sent to Prof. Holden.

MAX I. GATES.

E. MAX COGSWELL.

ADRIANE B. LATHAM.

THE morning exercises have been varied several times during the past few weeks by way of brief addresses from distinguished visitors.

Bishop Fitzgerald in reviewing the history of the Normal school compared it to a puny infant now grown into blooming maidenhood. This gentleman was State Superintendent of schools during 1867-71. His oration delivered at the time of the laying of the corner stone of the first Normal School building in San Jose has been published in the Historical Sketch of the school.

A few mornings after Bishop Fitzgerald's visit we were honored by the presence of Gen. John Bidwell who is one of the trustees of the Chico Normal school, and who gave to that school the grounds on which the building stands. He is the author of the article in the November Century entitled, "The First Emigrant Train to Califor-

nia," in which he incidently gives a short account of himself as a teacher in Missouri. Gen. Bidwell takes an active interest in educational progress, and is also a strong temperance advocate. The story is told that he used to heartily enjoy treating his political friends to melons from his cellar when he knew they expected something of a different nature.

IT is a pity that a portion of the Normal grounds has not been set apart and prepared as a place of recreation for the students. A public park is not the place for exercise in the form of lively games in which the majority of the young women of the school would gladly indulge if doing so would not excite unfavorable remark from outsiders. The young men are neither too dignified nor too advanced in years to enjoy the game of base ball, but there is no part of the grounds suitable for that sport.

SCIENTIFIC.

WHAT I SAW THROUGH THE LICK TELESCOPE.

At the Lick Observatory, there are two large telescopes. One of them is the largest in the world, the other contains the best achromatic lens ever manufactured. Visitors are permitted to look once through each of these telescopes, but the Normal students were allowed to look many times. If you will follow me for a while, I will tell you what I saw.

Imagine yourself sitting on an elevated seat made like a step-ladder with one of its steps broadened, carpeted, and adjusted so as to elevate or lower its position. This seat is in a movable circular room, covered with a semi-spherical dome lined with plated metal and constructed so that part of the roof may be moved or slid backward, exposing the telescope to the sky.

About six o'clock, near the western horizon, Venus may be seen rapidly traveling her majestic course. The telescope is turned upon her, because she will soon pass the horizon. How beautiful she looks to the naked eye, but how much more of her beauty is revealed by the telescope! Looking through you see a yellow crescent form, whose contour is indistinct and discolored, due to her position near the horizon, which makes the rays coming from her very oblique and gives the effect of spherical aberration.

This is a very beautiful view, but not a desirable astronomical one; and now we must await our turn for the next view.

Soon everything will be ready for us to look again, for the director has turned the floor and dome and pointed the telescope toward the moon, which is now not far from the zenith. When the whole surface of the moon is viewed the image is not satisfactory; so the director decreased the surface of the object lens, causing it to receive fewer rays of light, and then focused the telescope on a particular part of the moon. Look to the right of the top of the image formed and you may see a long hollow place, this is a crater. Below and to the left of this another, a circular crater, may be seen; and, if you look closely, you can see a peak projecting from its center. This crater is readily recognized and is known as Mt. Tycho, named after a Swedish astronomer. This is all you can see. One can see as much through the telescope in two minutes as in an hour, for the eye tires quickly.

If you will now pass with me through a long hall, whose walls are covered with astronomical photographs and then up a flight of stairs; we will look through the large telescope. It is constructed on the same principle as the smaller one, but on a plan much improved. When we stand by this renowned telescope, we feel as if we were transferred into an atmosphere of greatest intelligence; this is not due to the massiveness of this instrument, but to man's creative and constructive genius, which resulted in the invention and construction of this great telescope.

This telescope is now focused on Jupiter. Look through, and you can see a yellow disc-like surface with colored bands across it, corresponding to the torrid and two temperate zones of the earth. Between these bands are white, misty, circular surfaces joined together. On the lower right side, you see a black spot, this is the shadow of one of Jupiter's moons; and if you look on the opposite side and away from Jupiter, you may see the other three moons. This is what I saw through the telescope; and if you wish to know more about it, you must wait until I can see with a better astronomical eye.

T. J. R.

EARTHQUAKES.

What is more difficult to understand than the workings of Nature? We do not wonder that the ancients considered thunder and earthquakes supernatural visitations, when we consider how

many things there are about which, even at this day, we know but little. Probably there is no one thing of which we know less than of earthquakes, and nothing that excites greater interest among scientists.

John Milne, Professor of Mining and Geology in the Imperial College of Engineering, Tokio, Japan, has written a book on this subject, in which are shown much thought and careful observation.

In this work, the author has discussed four different movements of the earth, "Earthquakes," violent shakings of the ground, "Earth Tremors," minute movements which escape our attention in consequence of the shortness of the waves, "Earth Pulsations," movements that are overlooked on account of the length of their period; and "Earth Oscillations," movements that attract notice in consequence of their geological importance. As these various movements differ from one another only in degree, and, as what is true of the first is true of the others, they are spoken of together.

Before entering upon his discussion of earthquakes, the author has given us an account of the instruments used in the study of Seismology, as the science of earthquakes is called. This is followed by a description of earthquake motion, which, he says, is a wave like vibration.

One of the most interesting features of the work is the chapter on the effect of earthquakes, the destructive power of which is due to the nature of the underlying rock, and to the interference of waves. It is hard to realize that the same cause that has rained such dire destruction on mankind in all places and during all ages, could have guided the waters of the Yellowstone to the Atlantic, turned the Columbia into the Pacific, or made of the bed of the sea a fit place to build our homes. But this is what earthquakes have done.

Another very interesting discussion is that upon the distribution of earthquakes. The writer tells us that during the geological ages these phenomena came more frequently and were upon a grander scale than now. They seem to have occurred principally in volcanic regions. The bed of the Mediterranean is said to have been made by these gigantic disturbances in remote, pre-historic ages, and some of the greatest catastrophes recorded in history have taken place there, or near there.

The author also touches upon that much disputed question, the cause of earthquakes. He advances several theories, the most plausible one

being this: "As the earth cools and contracts, an immense strain is brought upon the crust, which must yield somewhere. The rupture occurs where the conditions and circumstances are most favorable." The tremor is produced by the concussion, the violence of which will depend upon the amount of force set free by the fracture."

Mr. Milne brings in a great many minor points, which all add to the interest of the book. On the whole, the book is very interesting, and, though a purely technical work, it holds the attention of the reader to the end. The author substantiates all of his statements by proofs, and gives illustrations which make everything so plain that we cannot fail to understand it.

He agrees in substance with several other writers that we have read upon this subject. In his introduction he apologizes for any inaccuracies that may exist in the book, saying that when writing the work he was not able to consult with eminent men or to read good books upon this subject, as he was then in Japan. He tells us, however, that he had much opportunity for observation which greatly aided in the accomplishment of his work. In that far off land they average about one earthquake a week.

The book is valuable to a student of science, especially to those interested in Geology. Geologists call Seismology the corner stone of all their work. In many other sciences, also, a knowledge of earthquakes is valuable, and the general reader will not feel any time lost that he may give to the work.

C. E.

ASTERIADS OR THE STAR-FISH.

One afternoon last summer, three of my old schoolmates and myself went rowing on Humboldt Bay. We had been in the habit of going to the beach for shells and to watch the medusa, but this time we rowed across the bay to an island, where the piles of the wharf were covered with star-fish. The boat was rowed under the wharf, and we began pulling the asteriads from their resting place. Having succeeded in getting about eight, we floated down the bay, at the same time examining these interesting little creatures.

The star-fish has five radiating divisions, and as its name implies, resembles a star. Its surface is spiny, and its color, yellow or brown. On the under side and near the center, is a mouth opening upwards. From the mouth are canals

running along each of the five rays. On either edge of the under side of the rays, are two rows of suckers, which are called ambulacral feet; *ambula* means to go round. By means of these, the star-fish moves over any kind of surface.

Near the center of the upper side, and between two of the rays, is a little sieve-like depression in the shape of a plate. This is called the madreporic plate, because it resembles in structure the skeleton of the madrepora, a genus of coral.

At the end of each ray is an eye-spot. Probably, by means of this, the asterias can distinguish between light and dark.

Their manner of locomotion is interesting. The madreporic plate opens into a tube that sends a branch along each ray. These branching tubes have many suckers, which extend into the grooves. Water admitted through the madreporic plate, enters and fills the tubes. The little water sac at the top of each foot, is called the ampulla. By means of muscular force, water is forced into the feet, stretching one or more of them out to many times the natural length. At the end of each sucker is a little disc, by means of which the foot adheres to some solid substance. When the water is drawn back into the body, the foot is shortened, and the star-fish is drawn toward the spot where the disc is attached.

We became so interested in the structure of the asteriada, that we each preserved one and determined to make a further study of these little animals.

An alleged chemist in Chicago has recently announced that he has discovered a process (carefully kept secret, of course) by which he can produce metallic aluminum at a cost of fifteen cents a pound. Such a claim is absurd upon the face of it to anyone acquainted with the chemical properties of this metal and its compounds. Every clay-bank is, it is true, a mine of aluminum ore; but the metal is so firmly united by the bonds of chemical affinity to the silicon and the oxygen, that an amount of energy is required to separate it which costs many times more than the sum mentioned above. Aluminum cannot be produced by any process at present known to us for much less than two dollars a pound, and, although the cost will undoubtedly be still further reduced, it is almost impossible that it should reach the extremely low figures quoted above.—*Science News*.

"Speech is the heart's expression, but melody remains its accents."

EDUCATIONAL DEPARTMENT.

MORAL TRAINING.

TEMPERANCE PHYSIOLOGY.

In school the attention is directed chiefly towards the development of the mental powers, but the physical and moral part of our nature should not be over-looked. It is well known that the body has great influence over the intellect and upon our moral nature; witness the inability of one in poor bodily health to think quickly and accurately, and the unreasonable irritability of the invalid. He very likely says, "I can't think to-day, I've been sick all the afternoon," or, "I haven't been very well and I feel cross." Usually the worst side of one comes out in the sickroom, and at least, one is never quite himself while in poor health. If the body has such influence on the mind, we cannot expect to have good control of the intellect and the temper till our bodies are in order. It is our duty, then, to keep ourselves in as perfect health as possible. One of the most important elements in this care is our food. Everything injurious to our health should be avoided.

Very common drinks are wine, beer and whisky, all of which contain alcohol in different degrees. Their effects on the body have been very carefully investigated by physicians and scientific men of late years, and with few exceptions their verdict is the same.

They all agree that alcohol taken into the system stimulates nervous energy. Many writers, Dr. Anstie among others, believe that alcohol not only stimulates nervous activity, but supplies the force necessary for such activity. In support of this theory, they argue that alcohol is oxidized in the body.

That a very large proportion is not oxidized or changed in any way may be made clear by bringing forward the highest authority. By many careful experiments, Dr. James Kirk proved that alcohol, pure and unchanged, may be taken from the brain of a drunkard. He says, "A few hours after death, I dissected a man who died in a state of intoxication. In two of the cavities of the brain, the lateral ventricles, was found the usual amount of limpid fluid. When we smelled it, the odor of whisky was distinctly perceptible, and when we applied a candle to a portion in a spoon, it actually burned blue, the lambent blue flame characteristic of the poison." Dr. Ogston, of Aberdeen, strengthens this by reporting a simi-

lar case of a woman who died in a state of intoxication. He writes, "In company with other medical men, I discovered nearly four ounces of fluid in the ventricles having all the physical qualities of alcohol." Dr. Percy's remarkable experiments followed a few years later. By distilling blood alcoholized through the stomach, he obtained alcohol that dissolved camphor and burned with a blue flame, and found it in larger proportions in the brain, from which he inferred "that a kind of affinity existed between the cerebral matter and alcohol."

And further, Prof. Otto says, "The greater part of the exciting influence of alcohol is directed towards the organs of the animal propensities; thus, following the law of nature, while it is imparting fresh vigor to these propensities, it is enfeebling the intellect and the moral feelings." It is not difficult, in the light of this evidence, to understand why alcohol so stirs up the lower nature of man.

The foregoing evidence seems to prove that alcohol is not a food. As the term is widely used, food is anything which taken into the system and assimilated will supply the worn-out tissues with new material. The quantity of food taken by different persons varies widely, but the same individual, with slight variations requires the same quantity from day to day. Not so with alcohol. The beginner finds that after a time he must increase the quantity to secure that pleasant exhilaration first felt. The alcohol already taken has acted on the nerves in such a way that they have an abnormal appetite for the stimulant, and more and more is taken to satisfy this craving.

If it could be proved that alcohol is oxidized in the body, and is therefore, a food, why is the temperature lowered, as almost any physician will tell you is the case? Directly after the temporary stimulating effect is over, the drinker's temperature should be above the ordinary. On this point we have the testimony of Dr. James Muir Howie, who says, "It is abundantly proved that alcohol decidedly lowers the animal temperature, a result that could not follow if it supplies as much energy as it calls forth."

If it stimulates nervous energy and does not give anything in its place, what must be the result? We naturally conclude that the nerves must become exhausted, and this is just what does take place. Everyone well knows the heavy sleep which follows the drunkard's debauch. Nature is simply trying to restore the wasted

energy by gentle measures. Every excess of nervous excitement must be followed by a corresponding depression until the balance is even again. If the drinker then resorts to spirits "to keep himself up" the already tired nerves are stimulated to exhaustion, and after the excitement is worn off the depression will be all the greater.

Dr. Howie enlarges upon this thought in his "Stimulants and Narcotics," and by a process of clear, strong reasoning paves the way to the great truth; namely, that every stimulant is a narcotic and every narcotic is a stimulant. He shows us that a narcotic produces sleep simply by a stimulation and rapid exhaustion of the nerve force, and that the heavy sleep following an excess in drinking is the narcotic effect of the alcohol.

With the testimony of these high authorities before us, our duty is plain. We, as teachers, have an almost unlimited influence over the youth of the land. We must use that influence for good, and how better, than to instruct and warn our boys and girls against the evil effects of alcohol on the body, and thus on the mind and morals?

R.

A PROTEST.

Of all the barbarous customs that, notwithstanding the filtering process of educational reform, still cling to the modern school, none can be more distressing to the spectators, nor more demoralizing to the actor, than the abuse of that infantile habit indulged in by some pupils of waving the hand in the air to signify that they are anxious to tell what they know?

Aside from the undignified positions that young women and young men assume in their sometimes frantic efforts to attract the teacher's attention; aside from the degrading influence upon themselves, let us look, for one moment at the effect produced upon the mind of her who (unless she also belongs to the family Pachydermata) strives, amid this sea of waving phalanges, to frame in articulate sentences, a sane answer to the question asked. She knows by sad experience that the slightest hesitancy on her part, to say nothing of an unhappy misstatement, will be the signal for the hands to jerk and pump, and the ordinarily non-elastic arms to stretch and stretch like the jointed antennae of some insects, till, her tongue cleaving to the roof of her mouth, in confused wonder she half expects to see them lengthen and lengthen until they, finally, by a

convulsive effort, suddenly and collectively clutch at her bewildered brains and thus end the mental pandemonium. And we could forgive her, should she so far forget herself as to exclaim, "Now, ye wise in your own conceit, rise up and bray!"

Such natures can hardly be expected to appreciate the timidity that sometimes characterizes finer organisms. Their own impulses, unless restrained, are apt to develop into the pushing, crowding, elbowing element that exists in every state of the society, from the aspirant for political and state honors, to the scrambler in the vulgar struggle for wealth and place; the originators of "strikes;" the grabbers and grinders everywhere. And who shall say but that this form of mental force, by due care in childhood, might have been, not suppressed, but turned into worthy channels of helpfulness in life?

Shall our schools, then, be the nursery for the cultivation of this germ of selfishness, already, in many cases, so abnormally developed; or shall we not, while endeavoring to inculcate the foundation principles of true politeness and good manners embodied in that highest of moral precepts—The Golden Rule—seek to pay a due degree of attention to its negative significance, interpreting it as we do the disciples of Confucius, "Do ye *not* unto others as ye would not that they should do unto you?"

SENIOR B.

LITERARY.

TROPICAL AFRICA.

Africa is one of the most deeply interesting subjects of the day, and has furnished matter for many books within the last few years.

"Tropical Africa," by Prof. Henry Drummond, author of the well-known "Natural Law in the Spiritual World," and "The Greatest Thing in the World," is a work that has attracted much attention. It is valuable above most other books on the same subject, because it is not too long, and is written in a particularly bright and entertaining style, so that in small compass one gets much valuable information in a delightful form. It has been said of this book that it contains the essence of a library, and that he who reads it will be well informed on men and things in the "Dark Continent."

The work is divided into two distinct parts, the first treating of the author's travels, and the second of his scientific researches.

After a brief and charming introduction, he describes his route into Africa. The reader is not held to a tedious description of the details of the journey, but is amused and instructed, not only by the main thread of the narrative, but by many deviations from the central thought, through which much information is given of the customs and general character of the country.

We are accustomed to think of the African traveler as wandering through an untrodden wilderness, forcing his way through tangled growths of tropical vegetation, entirely unguided except by the stars. Nothing is more unlike the truth as Prof. Drummond presents it. He pictures to us a country crossed and recrossed by footpaths made by the natives. Each village is connected with its neighbor by these paths, and the traveler has but to strike into one of them, and in course of time, it may be with some deviation but never off the beaten track, he reaches his journey's end.

In speaking of paths, the author gives us an amusing glimpse of the African's character. He says that for real directness in general, and utter vacillation in particular, these native paths are unique in engineering. The reason is not far to reach. If a stone is encountered no native will ever remove it. Why should he? It is easier to walk around it. It is not that he resents the trouble, it is the idea that is wanting.

One's ideas about the dense tropical vegetation of Africa are entirely overturned when he reads of its "thin weak forests which give no shelter from the burning sun."

Prof. Drummond calls the African "the genuine child of nature, thoughtless, careless, and contented, with practically no wants. One stick, pointed, makes him a spear; two sticks rubbed together make him a fire, fifty sticks tied together make him a house. The bark he peels from them makes his clothes; the fruits which hang on them form his food." At the same time, he emphasizes the fact that the native has many capabilities beyond what are usually credited to him.

The fourth chapter treats of what the author calls "The Heart Disease of Africa," the terrible slave-trade, which has for years been the shame of the civilized world. As a cure for "this open sore of the world," he proposes two things; that some one of the great powers shall make a firm stand at Zanzibar, the Arab capital, and that connected stations be established on the great lakes and the surrounding plateau.

All students are more or less familiar with

Darwin's theory about the important part earth-worms play in nature's processes. Prof. Drummond, by much careful observation, has come to the conclusion that it is the white ant, or termite, which performs this important function in Central Africa. A long chapter is devoted to this subject, and in reading it one is converted to the author's view long before the conclusion is reached.

One of the most interesting chapters in the book is that on "Mimicry in Nature." Mimicry depends on one of three things; imitation of color, imitation of form, and in connection with these, but going further, imitation of habit. Its purposes in the animal world are two, protective and warning. Imitations for protection form by far the greater proportion of the whole number. The discussion of mimetic insects is exceedingly interesting, and there is something very amusing in his account of the Phasmidae, insects so exactly resembling hay in color and form as to be indistinguishable from it.

The geological sketch is a careful record of the author's observations, and must prove valuable to scientific men. Even the average reader will find it full of interest.

The ninth chapter is devoted to a question of great interest to the world to-day, Who shall rule in Africa? The author says, "Why Africa should not belong to the Africans, I have never quite been able to see." But Drummond is a Scotchman and of course advocates the British claims; and, after all, England is the only power that has spent men and money on Africa. No one knows what the outcome will be.

Drummond's style is beyond criticism. Of its many excellencies, a few stand out pre-eminent. Those who have read his "Natural Law in the Spiritual World" will notice that in "Tropical Africa" there is the same strong, fearless expression of thought; the style is his own, but with an easy, conversational element thrown in. The author thinks deeply and strongly on a subject, and then, thoroughly master of rhetoric, expresses his thought with no apparent effort. His is the expression of beautiful thought in beautiful language.

In "Tropical Africa" one gets what is not found in his other works, a glimpse of the humorous side of his character. In many places, and especially in the extract from his diary, his pages sparkle with fun, while through the whole runs a vein of beaming light-heartedness. He says, in speaking of journals, "The contents of these mysterious note-books, however precious to those

who write them, are, like the photographs of one's relations, of pallid interest to others;" and in a little discussion of the ant pest, he says that the only things that have hitherto baffled the ants are the geological specimens, but he overhauls these regularly every morning, "in terror of one day finding some precocious creature browsing off his granites." Once, he unexpectedly comes upon a rhinoceros, and is disgusted that he has not his gun with him; afterward, recalling his disappointment, he is reminded of the saying of Punch's typical Englishman—"What a heavenly morning! let's go and kill something!" When one of the carriers wishes to leave his master's service on the plea of illness, Prof. Drummond uses these words: "My own impression is that he found the load which he carried—on his head, like all Africans—was spoiling the cut of his hair. At the best, the African's hair is about the length of a toy-shop poodle's; but vanity can make even a fool creative, and out of this scanty material, and with extraordinary labor, he had compiled a masterpiece." Again, speaking of the threatened disappearance of the elephants from Africa, he remarks, "It is said that the whale which all travelers see in crossing the Atlantic is kept up by the steamboat companies, but I vouch that these Shire valley elephants are independent of subsidy." It is sometimes difficult to pick out the exact word or phrase in which the humor lies; it is often an exquisitely delicate treatment of the whole subject in humorous fashion.

"Tropical Africa" abounds in beautiful figures drawn from nature. The author has carried his habit of careful observation through all his travels, and the knowledge thus gained from the animal world around him has been the source of many exquisite similes and metaphors. He speaks of the native villages as bird's nests hidden away in the wood, and he says, in speaking of nature's forces at work, "There is the disintegrating frost, that great natural harrow, which bursts asunder the clouds." Of the constantly increasing influence of the Arab, and the resulting horrors of the slave trade he writes, "Years ago an almost unnoticed rill from that great Arab stream, which with noiseless current and ever-changing bed has never ceased to flow through Africa, trickled into the country."

Throughout the work Prof. Drummond has taken care to be accurate, even in the smallest things. That his observations will be valuable to scientific men is unquestionable. The world

may well welcome this book, written as it is by one of the greatest thinkers of the day.

The purpose of the book is not only to give information and amusement about Africa; but also to rouse again in the world that truer interest felt in Livingston's time. Prof. Drummond says, "It is time the world ceased to look on Africa as a chessboard." B. M. R.

GEOFFREY CHAUCER

During the time that Chaucer was writing and for many, many years after his death, his works were read by the people, and followed by the poets. Then, like *Portia's* unsuccessful suitors, people passed by the casket which seemed a little old, hard to open, and dull, and went on to caskets more glittering, yet with not half the wealth of treasures within. There was no demand for a revision of Chaucer's works until about the eighteenth century, when Dryden began and Pope finished a most inferior translation. After this, for a hundred years or more, Chaucer was read mainly by literary students, and it was not until the time of Tyrwhitt, that greatest of Chaucerian students, that the true revival of the study of Chaucer began.

Some few years after Mr. Tyrwhitt had interested all people by his researches and criticisms, Mr. Wordsworth devised a plan for modernizing Chaucer's works. He brought together some of the best literary critics and writers of the day, Mrs. Browning, Leigh Hunt and a few others, and with as strict an adherence as possible to the old manuscripts, a most successful translation or rather modernization resulted. People now began to read Chaucer, both in the original and in the modernized form. They then saw what they might have seen before, that Chaucer had given us in his *Canterbury Tales*, a short history of the people of the fourteenth century.

The fourteenth century was a momentous time in England's history. Feudalism, with his troops of knights, was giving away to Learning with her army of scholars and teachers. The lower classes began to grow rebellious, and to question the right of the nobles to exact all and give nothing. The seventh decade of the fourteenth century, the time around which the *Canterbury Tales* center, finds England in a more prosperous condition. True, the church and state were both corrupt, yet the general state of the common people was improving. The language was in a rough state, different countries having widely

different dialects, and these constantly changing, but after Chaucer began to write, not in any one dialect, but in the English of the court, these peculiarities of speech slowly gave way to Chaucer's English, and by the end of the century England was 'one nation in language as well as in heart.'

It was fortunate for the language that Chaucer, besides being a genius, was a cultivated courtier. It is supposed his family were wealthy and of high rank, so he received the best of educational advantages. After attending both Oxford and Cambridge, he studied law. He was a student, a lawyer, a soldier, a courtier, an ambassador, a statesman, a gentleman, a poet and best of all, a Christian. Before his departure upon his embassy to Italy, he was married, after eight long years of faithful courtship, to one of Queen Philippa's maids of honor. The years were not long ones to Chaucer, if he reckoned time as did Jacob of old, who "served seven years for Rachael; and they seemed but a few days, for the love he had to her." While in Italy it is supposed Chaucer met Plutarch who told him the story of the patient Griselda. On his return from this embassy he was made Controller of Customs, and some years after was elected a member of Parliament. He held various positions of trust under Edward III. and Richard II., and received a liberal pension toward the latter part of his life. We see that Chaucer's life was a most eventful one, and it must have taken a strong body as well as a strong mind to accomplish all the work he did.

When a young man Chaucer was handsome and elegant in appearance, but toward the end of his life he grew corpulent, and walked with his head down as if in deep thought. Lowell thus describes his face,—"The downcast eyes, half sly, half meditative, the sensuous mouth, the broad brow drooping with weight of thought, and yet with an inexpugnable youth shining out of it as from the morning forehead of a boy, are all noticeable and not less so their harmony of placid tenderness."

It seemed that the joyousness and youthfulness shone out in his face. He is like a mountain thrush who sings to us out of the fulness and happiness of its own little heart, and sings of bright mornings, clear air, blue sky, green grass and springing flowers. Like the thrush, Chaucer sings most eloquently of Spring and her maidens. There was but one thing that would tempt him from his book—a beautiful day.

He lived so near to nature's heart, it seems a contradiction to speak of Chaucer's drawing material from this or that source. Chaucer drew his inspiration from Nature, but the general plan and plot of his stories from men.

Three influences were noticeable in his writings, the Latin, French and Italian. The general plan for his *Canterbury Tales*, he owes to the *Decameron* of Boccaccio. Whenever Chaucer borrows, he tells us so frankly. We can hardly call anyone a plagiarist who borrows a trifle and makes for it an immortal fame. Lowell says, "He prattled inadvertently away and all the while, like the princess in the fairy story, lets fall a pearl at every other word."

This is Chaucer's greatest charm, he is perfectly natural. He had the advantage of being Nature's first interpreter, and he told us of her just as she spoke to him, not as some one had said he must speak. As his tastes were simple, so were his words. When he has a gently satirical remark to make, it comes out quaintly rather than sharply, and leaves us with a faint smile on our faces. For instance, he says, "Who may not be a fool if that he love?"

Although the rivalry of Arcite and Palamon becomes a trifle ridiculous in some parts, yet when Arcite is dying and bidding farewell to Emeleye, it is hard to keep that strange lump out one's throat. To be sure, in the *Knights Tale*, one does not get a complete picture of Athens, any more than one could make a map of the journey to *Canterbury*, after reading the *Tales*. It is in the effective and accurate detail that Chaucer's powers rise. In the prologue to the *Canterbury Tales*, the mind-picture of each of those characters is so distinct it seems as if we were not reading at all, but that some one was placing in our hands, photographs, one by one, and then some one else was gently telling us a little of each story. This is why Chaucer's *Canterbury Tales* are so valuable. We knew before that *Knights Monks*, and *Ploughmen* lived at this time, but these were empty words to us then, now they are living pictures.

We are accustomed to think of Chaucer as a good poet for his time but one whom we study now merely from curiosity, since our poets far surpass them. This is a great mistake. Poets are rhythmical interpreters of Nature. There is no better interpreter of Nature than Chaucer. It is not that he writes in beautifully figurative language, for his figures are entirely for use, and not for ornament; it is not that he describes

the remarkable in Nature, but it is that he lets his soul speak. He has a way of describing the atmosphere, that no other poet I know of has. When he tells us of a spring morning, we can feel the air, with its fresh vigor, as plainly as one sees the green of the grass.

It seems almost a pity that Chaucer should be laid in Westminster Abbey. It would seem more appropriate had he been buried in some quiet English churchyard, where the fresh wind blows and the green grass waves. Chaucer's spirit must have left this earth on some beautiful morning, when each tiny blade of grass, each dainty flower-petal told him of the love of the Maker his great soul went out to meet.

M. E. C.

SKETCHES.

It is not by some one grand and noble reform that our characters are changed, but by a steady and gradual effort we are daily growing nearer to our ideals.

If we would but stop to consider how great an influence our habits have upon the formation of our characters, how much more careful would we be! It is so easy to take just one step downward, to neglect one of our good habits just once, yet we all know that afterward it requires a greater effort to take the step upward than if we had pursued the right course at first.

If we would have noble and lofty thoughts it is necessary that we should spend a part of our time in solitude. One who dreads being by himself may be assured that he is poor company. How often we spend in frivolous conversation time that could be more profitably spent alone in our chambers, or with good books as our only companions.

We do not wish to disparage the company of cultured persons whose ennobling influence over us we know to be invaluable, but we do feel that there is much good within us depending for its development mainly upon the power of meditation.

Let our efforts to attain to higher levels be untiring; let us believe that the highest pleasures this life affords are given to him who reaches the truest ideal of a perfect character.

Who that has ever seen a forest fire in the Sierras can forget the awful grandeur of the scene? Let us imagine ourselves on the top of a lofty

mountain, looking down upon the surrounding hill-tops, over which the fire-fiend is holding undisputed sway. The flames creep slowly through the undergrowth like writhing serpents, then suddenly leap to the top of some tall pine that has withstood the blasts of unnumbered winters. Clouds of smoke arise, through which, at intervals, we catch glimpses of the devouring flames, leaping from tree to tree and dancing among the foliage like a troop of witches holding high carnival. On and on they speed, leaving behind a smoking, desolate waste, robbed of everything that made it beautiful.

But at night the scene changes, and now we see it in all its glory. The hill-side looks like a great city, whose streets are lined with brightly lighted palaces; the blazing trees have become immense torches; the gleaming sparks are tiny lanterns; in short, the scene, that by day appeared so terrible, is now transferred into a veritable fairy-land.

O. A. A.

A question which is receiving some comment in our leading monthlies of late is, Has Stanley not received much undue praise and honor for his achievements in the recent Emin Pasha Relief Expedition? It is claimed that he has done nothing more than any other man could do, that his sufferings and privations have been exaggerated, that his line of march through the forests was a well beaten path from village to village.

But let us consider for a moment. As we know, his line of march was through the very heart of the jungles of central Africa. Surely no well beaten path were possible here. Perhaps after days and days of traveling he did reach some small village, hoping to receive aid and fresh supplies, but instead of this, he was met only by poisoned arrows, traps and treachery on every side.

Think of the miles and miles of impenetrable darkness surrounding him, the dense growth of tangled underwood hiding wild beasts seeking for prey; poisonous insects whose sting of death is as much to be dreaded as the terrible swamp fever, to which even the sturdiest native succumb. And as the carriers are overcome by the fever and one by one drop their load of provisions, those of the party who are able carry what they can. How long will this meagre supply last them? Bravely they struggle on, while starvation stretches forth her lean, bony hand grasping for them in the gloom of the great lonely forest.

They have endured all, they have conquered all, and the success of the undertaking is due wholly to Henry M. Stanley. Where is another? He has returned silver-haired and infirm, with the best part of his life spent, and it is but just that his remaining years should be crowned with all the glory that the world reserves for her most honored heroes.

SOCIETY NOTES.

Y. M. C. A.

The Normal Y. W. C. A. now numbers over sixty members, and it is hoped that one hundred names may be enrolled by the beginning of next term.

Mr. O. G. Hughson of the University of the Pacific addressed the association on the afternoon of the 14th inst. A large number of the Normal students were present and listened to Mr. Hughson's earnest helpful words with great interest.

ALL SORTS.

It is better to be right than to be left.

Tuning forks are not used to jam furniture with.

A favorite dish of the Junior B's—a mess of P's.

Junior reading becomes rather difficult when one can't *adler*.

Little things tell in this life—Little brothers, for instance.

A new department in drawing—learning to plan four roomed *cabbages*.

Visitors in the Rhetoric class will be kindly received. Come again, Pussy.

One of the Juniors remarked that "Philanthropy is often noticed in dogs."

Why is it that certain poplars in the Junior class like a flower called "*Daisy*?"

Bright Junior—*Sarcophagus* is the name of a flower in the Morning Glory family.

The first question a lawyer asks about a case is whether it is *feas-ible*.—*E.E.*

Which class is the most intemperate? Senior B's. Why? Because it has a *Brewer*.

"Is this ossified man *bona fide*?" "I don't know about the '*fy*,' he's mighty bony."

One young man has been sadly perplexed about the etiquette of walking with *two* young ladies.

Pedagogical views: "One of the best ways to teach Honesty is to relate *anecdotes* on the subject.

Normalites always have a place for everything, and the janitor's baby knows where that place is.

Notice to Geometry Class: Guiding lights to Mt. Hamilton furnished upon application to Prof. K.

Seniors studying chemistry, "What acid must you not use to clean O. generators? H₂SO₄ 2, 8-6 4 (bear).

"It is said that the reason why so few British dukes are now being imported is that yankee dude I doo."

Girls, do not hold your head sideways. It denotes sentimentality. Caution equally applicable to boys.

"Did you ever realize anything in the lotteries? "Yes, I tried five times, before I realized that I was an idiot."

Teacher—"Report." Monitor—"All present." Teacher—"All present? Does any body see any one that is absent?"

First boy (to second boy who has been fishing)—"Catch anything?" Second boy—"I haven't been home yet."—*Ex.*

"Why do you Americans use *sic* so much? I think it is such a nasty word." "And do you think *nasy* is a nice word?"

A bright Junior has been wondering what Miss W. means by asking the class to write out an "extract of the hygiene lectures.

We are anxious to learn why the reporter of one of the Middle Classes wished to have his duties "pressed on" to some one else.

Training School Teacher—"Johnny, how would you feel to be kept after school to study your spelling?" Johnny—"Spell-bound."

"John, dear, I wish you wouldn't get your hair cut as short as that." "Why?" "It looks like a reflection on my amiability."—*Ex.*

Some of the Seniors have discovered, to their sorrow, that Santa Clara street is not the only place where one may tumble off a "safety."

Prof. R. seriously informed this Mt. Hamilton party that they could not be in total darkness as they always had at least one Ray of light.

What brilliant Senior and teacher in the Training Department told the Pedagogy teacher that pupils should be taught to observe *web-footed dogs*?

Some of the young ladies of the school are interested in ornithology. The *crane* was the last subject discussed. They will next consider the *drake*.

First Normal Student—"Say, you burn your bangs, don't you?" Second Normal Student—"Why, where are they?" Why was the young lady so alarmed?

He—"I shouldn't think the arm of that setter was the most comfortable place in the world." She—"Well, there are arms that are softer and more agreeable.

Lord Stanley (now Lord Derby) once alluded to Lord Brougham as "the noble lord who had just taken his seat;" but chancing to look round, and seeing the chancellor jumping about like a cricket, begging pardon, he said he meant, "his noble friend who never took his seat."

Young ladies, if you contemplate riding a double tandem, let the one in front guide, or you may possibly be the sufferers from a smashup, as others have before you.

Senior—"We never take off or put on our hats any more." Junior—"What do you do with them, then?" Senior—"We doff them and don them, of course." Junior—"Oh-o-o!"

The young lady who, at the last Telescope Party, declared she was in love with the man in the moon is anxiously awaiting the next party, when she may be with him again.

Woman is as capable mentally of receiving a higher education as man is. Proof advanced by a brilliant Junior: "Are not their brains composed of the same kind of material?"

What a pity so many people in this great nation, and especially in the Normal School, should have Hypermetropic eyes. Why, you can tell at a glance whether they are civilized or not.

Boarding-house chicken soup recipe: Hang up a hen in the sun, so that her shadow shall fall into a pot of salt and water. The only trouble is that on a cloudy day the soup is liable to be weak.

If you have lost anything—find it. If you have found anything—give it to me. If you want anything—get it. But if you want to give anything, give it to the Business Manager—he needs your sympathy.

A peculiar misfortune has befallen one of our popular Middle B young men. He has become *now-blind*. A like misfortune may happen some of our young ladies if they persist in using their eyes on the study of *Maresh*.

QUANTITY AND QUALITY.

A marquis said to a financier, "I would have you to know that I am a man of quality." "And I" replied the financier, "am a man of quantity."

EXCUSE FOR A LONG LETTER.

In a postscript to one of the Provincial Letters, Pascal excuses himself for the letter's being so long on the plea that he had not time to make it shorter.

"If there's a man in the moon," she asked,

As through the park they were ranging,

"Why do they call it she?" "I suppose,"

He said, "from its always changing."

Teacher—"I don't see why you can't understand this rule in Arithmetic, Johnny. It didn't take me five minutes to understand it when it was first explained to me." Johnny—"Perhaps your teacher explained it better to you."

A few of the young men are devoting a good portion of their time to the study of geography. They can readily locate Ogden, the Isle of Wight, Fort Jones and several places of less importance that the ordinary pupil would never discover.

Senior girl to Junior—"You should never eat your lunch in less than half an hour.

Junior girl—"I never have enough to last that long.

Senior—"Well then, send a petition to your landlady to give you a larger supply.

"He who won't release anything he kan, t understand in't so wise as a mule—for they will kick at a thing they don't expect tew reach.

JOHN BILLINGS.

One of our Professors was explaining how he reckoned the standing on examination papers: "I just read the first three or four sentences. If they are good I mark you C; if they are poor, I give you P. You are not a true Californian, if you don't put the best on top."

For the benefit of the Senior B Rhetoric classes, we insert the following—

"A pun's a word that's played *afew*,
And has a double *use*;
But when I say a double sense,
I don't mean double cents."

Abbie had von lendle dog,
His hair vas long and shaggy;
His ears vere like der seal's soft skin,
His tail vas very waggy.

Und every vere vot Abbie vent
Dat dog he follow like von fule;
Und so the Normal to he came,
Ven Abbie came von day to schule.

"Vot makes dat dog to dis place come?"
Der buhls all did say,
"Ef I vas vree as ish der purp,
You bet I'd stay away."

Und den der hug-mun* turned him outt,
But still he dondt go vay,
But slunt bowled der outside round,
Till Abbie outt vent to blay.

Und den Mein Herr, dat vine oldt schap
Vot all the girls so lufe,
Oxused Miss Abbie vile she sendt
Dat dog to realms above.

*State Entomologist.

ALABAMA NOTES.

Miss Nellie Markell, Jan. '90, is teaching in Sonoma county.

Mr. Frank M. May, Jan. '90, is still teaching at Byron, Contra Costa county.

Miss Mahelle C. Thompson, Jan. '90, has charge of a school in Mariposa county.

Miss Ross Hannah, Jan. '90, has charge of the Fra Ridge school, Mariposa county.

Miss Motachlechner, June '89, is teaching in Vineyard District, Plainsburg, Merced county.

Miss Mary R. Daly, May '88, has charge of the Roberts school, Antelope, Sacramento county.

Since graduation, Miss Lucy A. Barrett, June '89, has been teaching at Roseville, Placer county.

Mr. F. H. Tebbe, June '90, is now teaching in the Vineland District, near Yreka, Siskiyou county.

On Monday, Oct. 13, Miss Mamie Houston, Jan. '90, opened school in Bear Creek District, Shasta county.

The Burns Vally School, Lower Lake, Lake county is under the supervision of Miss Clara A. March, June 1889.

Miss Lydia Adams, Dec. '86, is filling the position of principal of the Genoa Public Schools, Douglas county, Nevada, very successfully.

Miss Margaret Bowles, Jan. '90, has taught two terms at San Simon, San Luis Obispo county. She says that her school work has been very pleasant.

Miss Jennie C. Towns, June '90, has a school in Middle Fork District, Amador county. She has five classes, pupils ranging from five to seventeen years of age.

Miss Ollie Jarvis, June '89, is taking a tour through the New England States. She thinks that the information thus gained will be very valuable in her future work.

Miss Anna L. Leland is teaching the school in Mott, Siskiyou county. She writes, "My school house is very pleasant—surrounded by pines, and Mt. Shasta towering in front."

Since September, Mr. George Cosgrave, June '89, has been teaching as principal at Kingsburg, Fresno county. The school consists of three departments, with an attendance of over one hundred.

EXCHANGES.

Ann Arbor has about 2,500 students.—*Ex.*

The *Pharm* is always a welcome guest on our exchange table.

The library at Brown University contains 10,000 volumes.

Lynn, Mass., is to have a new High School Building.—*High School Gazette.*

The *Courtland Normal News* is a valuable addition to our list of exchanges.

Napa College is endeavoring to secure an endowment of \$25,000.—*Napa Chronicle.*

The exchange column of the *Georgetown College Journal* is delightfully interesting.

The highest salary paid a college or university professor in the United States, is \$5,000.

In American Colleges there are four thousand young men preparing for the ministry.—*Ex.*

The High School in Lawrence, Mass., publishes a wide-awake monthly entitled the *High School Bulletin*.

According to the latest statistics, the United States has 360 universities, 4,240 professors, and 69,400 students.

One hundred and seventy-five out of the three hundred and sixty colleges in the United States publish papers.—*Ex.*

Ground was broken on the 6th of October at Chicago, for the great Newberry Library. This library has a fund of \$5,000,000.—*Ex.*

The editorial staff of the *Normal News*, edited by the Michigan State Normal, is composed entirely of men. Where are the ladies of the school?

Other exchanges are: *The Occident*, *High School Times*, *The Politician*, *The Eastern Journal*, *The Times* and *The American Sentinel*.

THE NORMAL INDEX

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