

THE RESISTANCE OF THE ATMOSPHERE.

From Professor Langley's illustrated paper on Comets and Meteors in the *January Century*, we quote as follows: "Everybody has noticed that if we move a fan gently, the air parts before it with little effort, while, when we try to fan violently, the same air is felt to react; yet if we go on to say that if the motion is still more violent, the atmosphere will resist like a solid, against which the fan, if made of iron, would break in pieces, this may seem to some an unexpected property of the 'nimble' air through which we move daily. Yet this is the case, and if the motion is only so quick that the air cannot get out of the way, a body hurled against it will rise in temperature like a shot striking an armour-plate. It is all a question of speed, and that of the meteorite is known to be immense. One has been seen to fly over this country, from the Mississippi to the Atlantic, in an inappreciable short time, probably in less than two minutes; and though at a presumable height of over fifty miles, the velocity with which it shot by gave every one the impression that it went just above his head, and some witnesses of the unexpected apparition looked the next day to see if it had struck their chimneys. The heat developed by arrested motion in the case of a mass of iron moving twenty miles a second can be calculated, and is found to be much more than enough, not only to melt it, but to turn it into vapor, though what probably does happen is, according to Professor Newton, that the melted surface-portion is wiped away by the pressure of the air and volatilized to form the luminous train, the interior remaining cold, until the difference of temperature causes a fracture, when the stone breaks and pieces fall—some of them at red-hot heat, some of them, possibly, at the temperature of outer space, or far below that of freezing mercury.

"Where do these stones come from? What made them? The answer is not yet complete, but a part of the riddle is already yielding to patience. It is worthy of note, as an instance of the connection of the sciences, that the first help to the solution of this astronomical enigma came from the chemists and the geologists."

LITERARY NOTICES.

THE CENTURY, for January, is an excellent holiday number. It deals with subjects of great interest from a historical and social point of view,—such as Lincoln and life in the west in the last generation, the great events of the civil war, the labor question, the prohibition movement, and others of world-wide interest. In a paper on "Comets and Meteors," in the "New Astronomy" series, Professor S. P. Langley, the astronomer, gathers up the most recent scientific knowledge of his subject, illustrating it by graphic comparisons which quickly awaken the imagination of the reader. Among the pictures are wood-cuts of comets and of a meteoric shower "Fencing and the New York Fencers," by Henry Eckford, relates to a sport which has lately had a marked growth in New York and which the writer denominates "the fine art of athletics." The history and the different schools of fencing are discussed, and the paper sparkles with illustrative drawings by Birch. The fiction comprises the opening chapters of Mr. Cable's new Acadian story, "Caracro," the scene of which is located in the Teche country of Louisiana, and which has the attractiveness of dealing with love and war, and the continuation of Mr. Stockton's novel, "The Hundredth Man." "Open Letters" are contributed by William C. Wilkinson on "Greek and Latin—Shall they stay or go?" and "Shall Young Men go to Vassar? If not, Why not?"

St. NICHOLAS is more excellent than usual, and is really a continuation of the Christmas number. Its pages glow with the brilliancy of its illustrations, and the sprightliness of its pages make it difficult to imagine anything to equal (it could not be excelled) this magazine for young people. The two Eton papers, "A Glimpse of Eton School," by Edwin D. Mead, and "A Visit to Eton," by Elizabeth Robins Pennell, forming the second of the "Four Great English Schools" series, give a keen insight into the manners and customs of boys to-day and long ago in the greatest of all the English schools. Frances Hodgson Burnett's new short serial, "The Story of Prince Fairyfoot," is continued, with the clever and characteristic illustrations by Alfred Brennan; Roso

Hawthorne Lathrop, also, has a timely and amusing story, "With a purpose," and the number opens with an old-time poem by Edith M. Thomas, called "Ye Merry Christmas Feast," charmingly engrossed and illustrated by Reginald B. Birch, the work of whose clever pencil is also seen in the drawings for two bright poems, "The Pincey Cat," by Margaret Vandegrift, and "When Grandpa was a Little Boy," by Malcolm Douglas. Published by the CENTURY COMPANY, New York.

DRUGS AND MEDICINES OF NORTH AMERICA.—Among the many useful publications for teachers who may be interested in practical botany and for physicians, is the above named work, which is published quarterly for the small sum of \$1 a year. It gives the history of every plant used in medicine, its properties, its effects, etc. Each plant is fully described with illustrations that render it impossible for any one to mistake the original. It is published by J. U. and C. G. Lloyd, Cincinnati, Ohio.

The holiday number of the SUPPLEMENT Magazine was one of more than ordinary interest. This is one of the brightest of educational and family periodicals. Published by the Supplement Company, Toronto and Detroit, Mich.

A TEST OF PRONUNCIATION

A copy of Webster's Unabridged Dictionary was offered at a teacher's institute in Pennsylvania to any teacher who would read the following paragraph and pronounce every word correctly according to Webster. No one succeeded in earning the dictionary, although nine made the attempt. Any one will be surprised upon looking up each of the test words here given to find how many are commonly mispronounced:

"A sacrilegious son of Belial, who suffered from bronchitis, having exhausted his finances, in order to make good the deficit, resolved to ally himself to a comely young lady of the Malay or Caucasian race. He accordingly purchased a callosio and a coral necklace of a chamaleon hue, and securing a suite of rooms at the principal hotel, he engaged the head waiter as his coadjutor. He then despatched a letter of the most unexceptionable calligraphy extant, inviting the young lady to a marriage. She revolted at the idea, refused to consider herself sacrificable to his desires, and sent a polite note of refusal, on receiving which he procured a carbine and a bowie-knife, said that he would not forgo fetters, hymeneal with the Queen, went to an isolated spot, severed his jugular vein, and discharged the contents of his carbine into his abdomen. The debris was removed by the Coroner."—Centre Tub.

PERSONAL.

Mr. T. T. Davis, the genial head-master of the Mt. Allison Male Academy, Sackville, took advantage of the holiday season to become a benedict. The fair bride was Miss Minnie Bishop, of Greenwich, N. S.—another proof that the sentiment in favor of Maritime educational-union is growing.

The Canadian Club of New York has proposed to do honor to the few Canadians most distinguished in letters by assigning an evening to each at which papers are to be read by those thus honored. Two New Brunswickers—Geo. Stewart, D. C. L. editor of the *Quebec Chronicle* and Prof. C. G. D. Roberts of Kings College, Windsor, have occupied the post of honor with credit to themselves and with the appreciation of their auditors.

Chief Supt. Crockett delivered an address before the Maine Pedagogical Association, at Brunswick, last Friday, on the "Functions of the Public School," during which he gave an interesting account of the school system of New Brunswick.

TEACHERS' BUREAU.

WANTED—a school. The applicant a 2nd class male teacher, of considerable experience, who expects to obtain a 1st class license in the December examination. References given. Apply to H. F. in care of editor "JOURNAL OF EDUCATION," St. John, N. B.

WANTED.—For School District No. 1, Grand Manan, N. B., a second class male or first class female teacher, to take charge of intermediate department next term. None but experienced teachers with good references need apply.

Address EDWARD DAGGETT,
Sec. to Trustees, District No. 1,
Grand Manan.
Grand Manan, N. B.,
December 18th, 1886.

These regulations in some cities, says the *New England Journal of Education*, make corporal punishment effectively a lost art, by merely throwing around its practice so many requirements as to give the teacher so much trouble that she uses it only as a last resort. We were recently in a city school, and it is a sample of many in this day, in which the teacher was required to send the superintendent a report of each case of corporal punishment on the same day in which it was inflicted, the name of the pupil, age, the kind of punishment and extent, and also the number of cases of corporal punishment she has had during the school year. These are placed in a memorandum book, so that the school committee can trim and at a glance know the record of each teacher in her punishments for the year. Most teachers will resort to every other device in the world before running the risk of having their reports accumulated against them. There are some methods of punishment much worse than corporal.

When an old farmer's daughter first left her good old country home in Queens county, with its quiet simple ways, for a year in a fashionable boarding school, she signed her name "Sarah Jane Smith," and took no offence at being called "Sally." Three months later her letter came home signed "Sadie J. Smith." Six months elapsed, and she had become "S. Janie Smith." Time rolled along, bringing its wonderful changes, and when the June days came she blossomed forth as "S. Jeannie Smythe." Then her father latched his old blind horse to the vegetable cart, and said, "I'm goin' to bring that ere Gal home, and let 'er know that she can't bring ojeum on the good old name o' Smith by ringin' in any more 'y' an' 'o' changes on it. There can't nobody say a word o' harm agin my branch o' the Smith family. I'm proud o' it, an' glad I'm one o' 'em. I reckon a month o' hard work in later time 'll let Sary Jane know 'J-a-n-e' don't spell no 'Jeannie.'"—Sun.

MATTHEW ARNOLD, who has occupied a position in England as inspector of schools for the past thirty-five years, believes the time has come for the appointment of a British minister of education. Considering the importance of public instruction and the immense sums devoted to it, a minister of education would be a desirable representative in the cabinet, but unfortunately there is the element of politics which would in a great measure destroy the usefulness of such a cabinet official.—Ez.

Genuine dignity and genuine fun are not at all incompatible. Pupils love a teacher who has the element of humor. But woe be unto him who, lacking this fine sense, puts on a make-believe of nonsense to win a ready smile from his class. The most absolutely deplorable High School master we ever knew was a man who took occasion, now and then, to speak of Shakespeare as "W. S." or of Victor Hugo as "Vic." Cheap wit cheapens personal influence.—N. E. Journal of Education.

SYMPATHETIC INK.—An ordinary solution of gum camphor in whiskey is said to be a permanent and excellent sympathetic ink. The writing must be done very rapidly, as the first letters of a word have disappeared by the time the last are written. Dipping the paper in water brings it out distinctly, and it becomes invisible again when the paper is dried. It can be brought out repeatedly without affecting its vividness.

QUESTION DEPARTMENT.

Question 215, Lesson xi, of Hotze's Physics is as follows: "Explain the action of the 'Thief.'" What is the "Thief" here referred to, and explain its action? C. E. B.

(1) What trees incline toward the north and the reason therefor, and (2) Napoleon Bonaparte was made Emperor of the French in 1804. Please distinguish between "Emperor of the French" and "Emperor of France."

BARBARA ADAMS