WARMING MODERN SCHOOLS.

Some Thoughts on One of the Important Topics of Metropolitan Life.

SUGGESTION OF AN OMAHA EDUCATOR.

Now is the Time to Learn What is Good and What is Not—Result of a Scientist's Researches.

"Here is a matter to which I want THE BEE to direct the attention of the people," said a member of the Board of Education. "We are about to expend nearly $400,000 in the erection of new school buildings. These structures will be erected for all time. It is, therefore vitally essential that they are correctly constructed. A mistake in the plans will entail endless expense in the way of repairs and alterations; and then, no matter how much money we may put into the building for the purpose of correcting it, we can never make it right after we have once made it wrong. No sane person will dispute this. It is therefore obvious that we must be right from the beginning.

"There is no more vital point in a school building than its arrangements for heating and ventilation. Not alone does the health and comfort of the teachers and scholars depend upon this, but, directly following, the health and strength of future generations are entailed. For unless the children of today are given an opportunity to grow up in robust mental and physical health the children of the next generation will suffer as a result. There is a great deal of theory and fol-de-rol connected with this thing of heating and ventilation. Many absurd ideas have been foisted upon the public, and between the extreme positions taken by ardent advocates there is a wide range.

Omaha's Experience.

"Omaha has had a rather costly experience in search of perfection in this line. Various plans have been experimented with, and some expensive plants have been put in and failed to give the satisfaction sought. It is quite fresh yet in the minds of the people how Dr. Clarke Gapen reported, after an elaborate examination, that the sanitary condition of the Omaha schools was uniformly bad. I agree with the doctor in this, although I think he has set his standard of perfection rather too high. His figures on the amount of pure air demanded for consumption per pupil are, I think, considerably greater than warranted by actual experience. But his general idea is correct, and I know meets the hearty approval of the medical men of the city.

"It is scarcely necessary for me to particularize concerning the Omaha schools. In only two are there what I consider anything near efficient arrangements for supplying a sufficient quantity of warm, pure air. The Park school, supplied with a steam heating apparatus, and the Kellom school with the Smead furnace system, are the nearest right of any of our schools. I am a Smead advocate, though I think the direct and indirect steam heat with fan ventilation is the only absolutely correct way to warm and ventilate a large building.

"Why is it that Omaha is so unfortunate? Well, for the very simple but sufficient reason that the men who have hitherto and even now make up the Board of Education are not possessed of great experience in the matter. They know little or nothing of the subject save in a general way and depend almost wholly for information upon the statements of the agents who seek to sell a heating and ventilating plant to the board. This is, of course, simply the result of neglect to look into the matter.

Educate the Educators

"What I have to propose is that the members of the Board of Education be given a thorough education in this matter of heating and ventilation. There is only one way in which this can be done. That is to visit the different cities adjacent and examine into their plants. From their experience we can gain the knowledge we seek.

"Of course this will be met with the cry of 'junket.' But I hold it is not a junket. It is a duty. Whenever an agent seeks to sell the board a heating plant he offers to stand the expense of an investigating trip, assuring the board that if his especial brand of heating apparatus is not found to be the best, then no obligation to any is entailed. This is wrong. When the board has made a trip at the expense of a private firm, it is under a moral obligation at least to that firm, and it cannot ignore the fact. Therefore, I say that the only way to obtain this information is to select a competent committee and send it out to learn and report of the advantages and inconveniences of the various systems. Now is the time to do this. School is in session everywhere, and the heating and ventilating apparatus is in constant use. This affords the opportunity to learn from actual observation of their performance. What we want to learn is the cost originally of the plant, its expense in operation, including attendance, consumption of fuel and repairs, and its efficiency in providing constantly a sufficient supply of warm, pure air.

"Sioux City, St. Paul, Minneapolis, Milwaukee, Chicago, St. Louis, Kansas City, St. Joseph and Denver are in easy access of Omaha, and each has a different system of heating and ventilating. Let us visit these places and learn from them which is the best apparatus to install in the structures which we will erect during the next year or two."

Importance of Ventilation

Nothing has engrossed more careful attention during recent years that the question of ventilation. Time was when it was the least thought of any of the features of a school building. Now it is the first thing that secures serious consideration after the erection of a building has been determined upon. The sleepy, noxious atmosphere of schools, once well nigh universal, can no longer be tolerated. The work of education has largely increased, as has all other phases of modern life, demanding large reserves of vital force that cannot be had unless there be a constant supply of pure, healthy air. In no modern school will be tolerated the insufficient means once thought thorough and completely adequate for all purposes. What was thought all-sufficient thirty years ago in the way of heating and ventilation is as antiquated now as are the geographies of that time. While it is a branch of the applied sciences very little known, because in the hurry of life men and women overlook it, being encompassed by cares more immediate, few things bearing directly on the comfort and well being of the people have been the subject of more earnest thought or show greater scientific advancement.

And yet all that has been done in this line has been in such manner as to make the collection of data for the purpose of drawing scientific conclusions a most laborious and almost bootless undertaking. The manufacturers of heating apparatus have worked with an eye single to the sale of their immediate production, and the keeping of a careful record of actual experience has been almost wholly neglected. It is this very fact that has led to the mistakes made in Omaha and elsewhere in the selection and construction of heating plants for school buildings.

One great blunder seems to be universal, and that is the stress usually laid upon the item of first cost; this, and not what may be entailed in the way of repairs and alterations to secure satisfactory results in operation, generally receiving the most consideration, and nearly always determining the purchase.

Researches of a Scientist.

One of the most notable contributions to the literature devoted to school room heating is the paper of Dr. R. Harvey Reed of Mansfield, O., read in the section of State Medicine at the forty-second annual meeting of the American Medical association at Washington, D. C., last May. Dr. Reed was one of a committee consisting of Dr. D. F. Lincoln, Geneva, N. Y.; Dr. J. A. Schenck, Topeka, Kan.; Dr. George H. Rohe, Baltimore, Md.; Dr. J. G. Pinkham, Lynn, Mass., and himself appointed at Newport, R. I., two years before on "school hygiene." To Dr. Reed was as signed "Original investigations on the Heating and Ventilation of School Buildings." At the outset Dr. Reed learned that there was little satisfaction to be derived from the study of the many air analyses of school rooms of different cities, so he addressed himself to the task of collecting accurate data. He prepared a chart embracing the following details:

1. Date and time of day inspection was made. 4. Number of pupils present. 5. Number of cubic feet of air contained in the room. 6. Temperature outside the building. 7. Humidity outside the building. 8. Barometric pressure in inches. 9. State or condition of the weather. 10. Kind of heating apparatus in use. 11. System of ventilation employed. 12. Number of cubic feet of fresh air supplied per hour. 13. Number of cubic feet of impure air discharged per hour. 14. Temperature at the front of the room—(a) at the floor, (b) at the mouth, (c) at the ceiling. 15. Temperature at the rear of the room, same conditions as in 14. 16 and 17. Humidity at front and rear of room, same conditions as in 14. 18. Amount of carbon dioxide found in the air of the city per 10,000 parts. 19 and 20. Amount of carbon dioxide found in the air per 10,000 parts at front and rear of room, same conditions as 14.

Carbon dioxide, it may be explained, is the name given under the new chemical nomenclature to carbonic acid gas, the result of respiration of animals. These arrangements of Dr. Reed's given are only a portion of the plan he followed in making a very thorough and far reaching examination into the subject. His inquiry also embraced the manner of heating the school buildings, arrangements for ventilation, etc., the whole being carefully classified under appropriate subheadings. Dr. Reed was actuated solely by a motive of contributing a worthy paper to the annals of science on the topic under consideration.

His General Conclusions.

It is not intended in this article to give the result of Dr. Reed's investigation in extenso. His general remarks in conclusion will be found to be very interesting. After presenting a formidable array of facts and figures, all of which are extremely interesting, as showing the extreme difficulty of obtaining regular heat of a temperate degree together with a constant supply of reasonably healthy pure air, and the universal prevalence of carbon dioxide, Dr. Reed says:

"The next important question that confronts us * * * is how shall we proceed to heat and ventilate our school rooms in the most sanitary, economical, practical and scientific manner? In answer to this question I will say:

"First. That to heat and ventilate our school rooms in the most scientific manner will require a system of heating and ventilation which will avoid the necessity of having either open doors, windows or transoms, and which will at the same time supply each scholar with not less than 1,000 cubic feet of fresh warm air every hour, and which will remove a corresponding quantity of foul air at the same time, without subjecting any scholar in the room to an uncomfortable draught of either cold or overheated air. Sufficient warm air should be supplied to each scholar at an average temperature of about 70°, and an average humidity ranging from 40° to 50°; whilst the foul air should be removed sufficiently rapidly as to prevent an accumulation of carbon dioxide to exceed ten parts in 10,000 parts of air at any time, or in any part of the room, or a variation of temperature between the floor and the ceiling to exceed 10° Fahrenheit, or at any level of the same between the front and the rear, or either, to exceed 50° Fahrenheit.

"Second. To accomplish these results in the most economical manner will require an air warmer with sufficient capacity to heat the required amount of air to the desired temperature without superheating it (for under no circumstances should it be allowed to pass over red hot iron plates); and which fresh warm air will be discharged in a gentle current at the floor, and exhausted at the same level at the sides of the room, without the assistance of a top ventilation, or the aid of an open door, window or transom. But, if top ventilators are used at all, they should only be used to cool the room in the event it became overheated from any cause; outside of this they are of no value whatever, except to wantonly waste our heat and fuel without giving us any advantages in return for their loss."

From this may be gleaned some idea of the importance which attaches to the question of school room heating and ventilation. In another article THE BEE will have something to say in the abstract on the systems employed.

They wanted to get married, but had no money to pay the preacher. The girl was equal to the occasion. She took the preacher aside and stated the case. She had no money, but she did have a bottle of Haller's Sure Cure Cough Syrup. Would he marry them for that?

The preacher would and two hearts beat as one.

THE SEASON OF GOOD CHEER.

Bid Good Will Rule and Proclaim Another Year's Nativity,

AND WIPE THE TEARS OF WANT AWAY.

Turn on the "Fount of Joy's Delicious Spring" and O'er Woe's Wan Face the Flowers of Charity Fling.

Ah! there are songs of gladness,
Good will and peace for aye,
As in the distant dawn-time,
As on that Christmas day,
When from the angel chorus
Echoed the deathless strain:
"Glory to God in the Highest,
Peace be on earth again."

—*Augusta Hancock.*

***

Dr. Talmage says two things devolve on those whom these holiday times find in comfortable circumstances: "First, helpfulness to the helpless; and next, cheerful talk." "The poor ye have always with ye," is a truism as forceful today as when uttered eighteen centuries ago. Time but gives it emphasis. No matter how lavish are the annual bounties of nature, or how great the prosperity of a people, poverty shadows the sunshine of countless lives. In the joyous Christmas times those having an abundance should lend a generous helping hand and brighten the cheerless homes of misfortune.

Cheerfulness is the sunshine of life, the electricity of existence. "Happy Christmas, sweet herald of good will," is an annual current from heaven's storage batteries, refreshing and reanimating mankind, inviting all to forget the strifes and burdens of life, to throw aside dull care, and becomingly participate in the festal event that oringeth "tidings of great joy" and "on earth peace to men of good will."

***

Hail, Christmas Day! whose fair festivity,
With brightning glow of mirth, now comes to cheer
His lingering hours, ere sinks the dying year;
Time-burdened, down his dark declivity.

***

Home decorations are an essential feature of the festal season. A parlor can be turned into a fragrant, beautiful holiday room with very little trouble. There are the yards and yards of twisted evergreen, soft fragrant cedar and fir, which make the first decoration to put in place. This can be festooned from the picture moulding, fastening itu pon picture hooks by loops of bright narrrow ribbon—red somehow always seems the prettiest at Christmas time. The hooks should be about three or four feet apart and where windows intervene it should be looped across the curtains and fastened upon either side by a bunch of bright holly. It should hang in the middle of the curve from eighteen to twenty-four inches below the moulding, according to the height of the ceiling. In the corners it can be finished by a sheaf of dried grasses interspersed with asters or any convenient gay flowers that will keep.

Mother's picture deserves a touch of decoration from her daughters' hands to make her heart glad and pay her back for all the little stockings she has sat up to fill—and darn. The picture wire can be twisted with ivy; from the bookcase can be suspended by a knot or bright ribbons a holly wreath, which harmonizes with the ivy better than cedar does, and over the corner can be draped a transparent scarf of gray moss—such as one finds in the south or can buy at florists for the merest trifle, or failing in that get from an obliging dealer in southern fruit. The moss can be easily matted together and hung over the left hand corner of the picture, then trained over the top of the frame half way across and allowed to hang in tapering fashion several inches below the lower left hand corner of the frame.

Cedar or holly wreaths hung from the picture moulding on either side of the mantel are pretty and fill up nicely.

In the dining room the same arrangement can be made of ropes of evergreen, and instead of the ribbons fastening it up use a bit of twine, and over each hook put a bunch of holly, with plenty of berries on it. Finish the corner with large branches of holly, tops turned towards the floor and stems reaching to the ceiling, tied with ribbons as red as the berries.

***

Xmas comes but once a year—
I would that it came not at all.
For O it is hard to make good cheer
When friends are many and presents dear,
And funds uncommonly small.

—N. Y. Telegram.

***

If you entertain Santa Claus and have little ones in the family, be extravagant enough to have a Christmas tree. Fir or cedar with spreading branches not too close together are easy to trim. An ordinary kitchen table with a green felt cover is a wise thing to set it on. Plant it in a square box of earth and cover the earth with golden brown moss, such as you used on the dining room mantel. Swathe the box with pretty tinted cheese cloth, pink and green make a pretty combination. Put candles with little tin saucers on every available spot where they will remain erect and not set anything on fire. Tie on the presents for big folks and little, with number one ribbon instead of string, as so many people do, putting the little ones at the top and the heavy ones at the bottom, of course. At the apex put a rag Santa Claus, such a one as you can buy in a pattern, and stuff with cotton at home.

The Germans have a sensible fashion of putting things that can be used on their trees, instead of the bright, and in the long run expensive, baubles we use. They make a tree very pretty with fancy cakes, cut in all sorts of shapes and decorated with colored sugar. The gild nuts—English and black walnuts—and tie them on to give brightness. They wrap candies in gay fringed tissue papers and gold and silver papers and garland the tree with them, and they loop strings of popcorn, pink and white, all around it, and when Christmas is over let the little ones raid it. A few strings of the shiny baubles add much to a tree, particularly when it is lighted up, but the German example is a good, economical one to follow.

The children's toys, the family presents and the servant's presents (for it is well to divide one's Christmas with them instead of handing them over their presents) soon fill up a tree. Such presents as are too big for stockings or tree can be laid on the table around the box, and if there are none left to put there, dishes filled with bon-bons, nuts, fruit and little Christmas cakes take away the bare look and are good cheer.

***

On Christmas Eve a maiden strayed
The holly branch beneath;
I kissed her and so startled her
She swallowed her false teeth.

—New York Herald.

***

By the common people of England the holly is called "Christmas," from its use for so long a period at that holiday. It was known in ancient times as holly, holm or bulder bush. The name holly is supposed to be a corruption of the word holy, as it was once called holy tree, and by the Germans "Christdorn," the Danes "Christorn" and the Swedes "Christtorn," seeming to justify the supposition. The use of holly in this city dates back in very small quantities fifteen or twenty years, until now it has risen to several hundred cases, each case equaling about five barrels. The supplies come from Delaware and Tennessee, the latter, however, not being the best variety. It used to be obtained from New Jersey, but the long-continued cutting has shortened the supply there.

American holly is classed by Gray as an ilex—from a Latin word for the holy oak—rather than a true holy. The specific name of the true American holly is opaca, and it can be found wild in moist woods from Maine to Pennsylvania, but is more plenty from Virginia southward. It is a tree from twenty to forty feet high, the deep green foliage less glossy, the berries not so bright red and the nutlets not so veined as in the European holly; the leaves are oval and flat and the wavy margins scattered with spiny teeth. The other growths of American holly are without teeth to the leaves and not so desirable.

It is used to make wreaths, especially round ones, for general decorations in halls churches and dwelling the bright-red berries and heavy green of the leaves rendering it very attractive material.

The use of the mistletoe is supposed to be of druidish origin, probably by way of Scandinavia. At any rate, in early Scandinavian mythology it is related that Nana, one of the goddesses, took a shaft or stick of mistletoe to collect tears on, and he who examines will still find them on the fruitful bush of the mistletoe in the form of little white berries. So much for sentiment, and much connected with this peculiar plant is of a sentimental character. Unlike the holly and other decorative plants it has not much to recommend it. A few sprigs is all that is called for and the entire quantity demanded is not large.

The American mistletoe is called a phoradendron—composed of two Greek words, thief and tree—because these plants steal their food from the trees they grow on. It was classed as a viscum by Pursh, the same as the European variety, but by Nuttall as noted above. Its berries are white, while those of the English growth are yellow. It is a true parasite, growing on many kinds of trees. It is common from New Jersey to southern Illinois and southward.

***

Devout and most considerate,
His supplication tender,
For that sad youth who trusts his fate
To the Christmas gift suspender.

—Washington Star.

***

When flowers or other bright decorations for the church are hard to obtain, a most pleasing substitute is afforded by the cones of pine or Norway spruce, write Ellen E. Rexford, in the December Ladies' Home Journal. These, in their natural color are very pretty, but their effect can be greatly heightened by bronzing or gilding them. The liquid gold paints sold by all dealers in artists' goods, are cheap, and produce good results. Apply two coats so that the cone will be well covered. A cluster of them shining against a background of dark green, will stand out brilliantly by lamp light. For a good deal of decorative work about arches over the altar, and in making crosses and similar designs, they are much preferable to flowers or fruit, as they are more in harmony with the evergreens among which they are used. Provided your gilding is good, most pleasing results can be secured by giving cones such a covering. Try it, and you will be sure to be pleased with this new method. It is always well to remember that artistic effects do not depend upon elaborate designs. The simplest decorations, especially in a church altar are often times the most effective, and where taste is used rather than quantity, success is, as a rule, far more certain.

***

"What shall we buy for Christmas time?"
They sing it and they sigh it,
Nor pause to saw with thoughtful rhyme,
"With what are we to buy it?"

—Found Floating.

***

Judge hands down the following hints:

Rub the price mark off the present unless it is an expensive one.

Though money makes the mare go it makes Santa Claus come.

Don't ask your child what he wants unless you intend to give it to him.

If we don't have base ball on Christmas we have the cricket on the hearth.

When you have the Christmas tree up it doesn't mean that you have it axed up.

If you wish to surprise your girl, never ask her what she would like for Christmas.

At Christmas time it is well enough to ape the English as far as the plum pudding is concerned.

The bachelor who puts his thumb into the boarding house Christmas pie is apt to pull out a collar button.

Santa Claus would never make a school master. Whatever is good he puts at the foot of the stocking.

Some persons never wish you a merry Christmas unless they think they will get something for doing so.

Don't buy your best girl a present on the installment plan, as she might jilt you before you had made all the payments.

Louis XIII. after a year's time could draw from memory the plan of a country with all its details.

CONNUBIALITIES.

Bachelors are creatures who have consulted their female relatives before venturing on matrimony.

After the new year opens the young man who proposes to be married in Maine must give to the city or town clerk a certificate showing his name, age, color, occupation and place of residence; his birthplace, and, if widowed, the number of times he has been previously married.

The Buffalo woman who wants damages against the doctor who was responsible for breaking her engagement with a matrimonial correspondent will have difficulty in convincing a jury that she has a case.

License to wed was issued in Salt Lake recently to Charles Odd, aged 66, and Elizabeth Ray, aged 62. Rather an Odd-Ray combination.

Judge Hugg presides over a court in Camden, N. J. His namesake holds court the world over.

A truly wonderful "train" was worn by Miss Trelawny at her recent wedding in London. Dress in rich white satin, draped in old Brussels point lace. The train is bordered with a satin ruche, and the lace upon it is studded with bows of baby ribbon. The bridegroom's crest of five ostrich feathers ornaments the train. Long Brussels point lace veil and wreath of orange blossoms.

A correspondent who has been looking over some old files of the New York Tribune calls attention to this decidedly quaint marriage notice, which appeared in the Daily Tribune of September 15, 1854:

MARRIED.

INSLEE—BIRCH—On Wednesday, the 13th inst., by Rev. Mr. T. A. Eaton, Mr. William Inslee of New Orleans to Miss Theresa Birch of this city.

Strange! what he hated most when young,
He dearly loves in riper years;
And Birch, which once his boy heart wrung,
Now proves his solace, calms his fears.
In Birch he finds his early bliss,
Nor hesitates the rod to kiss.

It is a common thing for a woman to remind her husband, "If you only had some women," but it is not to be presumed from this that she is any hurry to give him the chance.

The man who is just going to be married never can understand how it is that any man can ever desire a divorce.

The marriage of a Boston spinster to a Chinese preacher was an event dear to the heart of the New England coolie lover, says the San Francisco Chronicle. In about a year we may expect to hear that the missionary has developed unlovely traits and that the fair bride has decided to try Chinese excision.

Jean Busha, a Frenchman living in a fishers' village in North Michigan, sold his wife to another fisherman named Chepeau, for $75, the woman consenting to the transfer, which was made in a formal manner, Busha passing a quit claim deed to Chepeau, the same as he would for the sale of a horse. The woman has borne Busha three children, and to all appearance has been a faithful wife.

Miss Enlu Hunt, daughter of Mrs. William Morris Hunt, was married to Mr. Samuel Slater of Providence, R. I., in Washington, on the 10th inst. The bridal dress was of white satin brocaded in tiny gold true lover's knots, and the beautiful lace that trimmed it was the Spanish blond that her mother and grandmother had worn before her. A diamond crescent, the groom's gift when she was bridesmaid last summer at her sister's wedding, held her tulle veil to her hair. Her mother's gift, an immense sapphire and diamond pin, glistened in her bodice.

BELIEVE AND TRUST.

John G. Whittier.

"Believe and trust. Through stars and suns,
Through all occasions and events,
His wise, paternal purpose runs,
The darkness of His providence
Is star-lit with benign intents."

Hortensius, the famous orator, attended a public sale lasting a whole day and recalled, in order, all the objects sold and the names of the purchasers.
