

Scientific.

ARTIFICIAL STONE.

Making stone is a business in St. Louis. There is a concern there which makes, out of common sand, a mantel equal to one of white marble, and sells it for about ten dollars. The sand in a few hours is converted into rock precisely similar to the strata and ledges beneath the earth, that have required ages of aqueous and igneous action to form them. The process is strictly scientific and chemical. The materials used are common brown or white sand, soda, flint, chlorine, and calcium. The flint, which is the cementing agent, is melted by being subjected to heat in connection with soda. Flint, in its chemical constitution, is an acid, and like all other acids readily combines with an alkali. Combined with soda, the flint (silica) forms a silicate of soda—a thick, viscid, transparent substance, very much like glue. If it is too thin when first made, it is reduced by evaporation in pans till it reaches the proper consistency. It is then mixed with sand in a mill, from which the mixture comes forth a good deal like wet brown sugar. The substance is called "pug." It is very plastic, and works as easily in the hand as wet clay or putty. Each molder has a quantity of the "pug" placed in a box on the end of his work-bench, from which he takes handfuls as he requires it to press into the mold. It matters not whether the mold is a rosette, a diamond, a flower, or a leaf ornament—a keystone, a vase, a pedestal, or the section of a mantel-piece—he molds anything and everything with equal ease, beauty, and accuracy: and when the form is taken from the mold, the product is a plastic ornament more perfect and beautiful than a carver could execute in a week of constant and patient labor.—*New York Sun.*

WEARING FLANNEL.

In our climate, fickle in its gleams of sunshine and its balmy airs, as a coquette in her smiles and favors, consumption bears away every year the ornaments of many social circles. The fairest and loveliest are its favorite victims. An ounce of prevention in this fatal disease is worth many pounds of cure, for when once seated, it mocks alike medical skill and careful nursing. If the fair sex could be induced to regard the laws of health, many precious lives might be saved, but pasteboard soles, low-necked dresses, and liliplian hats, sow annually the seeds of a fatal harvest. The suggestions in the following article from the *Scientific American*, if followed, might save many with consumptive tendencies from an early grave.

Put it on at once: winter or summer, nothing better can be worn next the skin than a loose, woolen flannel shirt; loose, for it has room to move on the skin, causing a titillation which draws the blood to the surface and keeps it there; and when that is the case no one can take cold; red is best, for white flannel falls up, mats together, and becomes tight, stiff, heavy, and impervious. Cotton wool merely absorbs the moisture from the surface, while woolen flannel conveys it from the skin and deposits it in drops on the outside of the shirt, from which the ordinary cotton shirt absorbs it, and by its nearer exposure to the exterior air, is soon dried without injury to the body. Having these properties, red woolen flannel is worn by sailors even in the midsummer of the hottest countries. Wear a thinner material in the summer.

KEEP IN THE SUN.

A writer in *Harper's Bazar* has the following sensible remarks upon the health-giving properties of the sun's rays:

Every one is familiar with the process of growing celery. A deep trench is dug, in which the seed are sown or sprouts set, and with the growth of the plant the earth is carefully heaped up until the whole is nearly buried. By this means the light is excluded almost entirely, and the vegetable becomes the pale and tender esculent of our tables.

Paleness and tenderness are always the result of depriving an organized being, whether a plant or an animal, of the light of the sun, but these qualities, however desirable in a sprig of celery, are indications of an artificial and unwholesome condition. The human being soon loses in obscurity his color and toughness, and with them all brightness of intelligence and vigor of body.—children brought up in mines and cellars are blanched, dwarfed, stupid, liable to diseases of all kinds, and short-lived; and grown people, however vigorous they may have been previously, will soon, when deprived of light, become pale and feeble.

There cannot be a greater mistake than for our delicate dames, who pass so much of their lives indoors, to sit or lounge in dark rooms.—They require all the sun's light they can get. It is true that whatever defects of toilet and complexion they may have will be better concealed from a chance visitor by obscurity, but this small gratification is too dearly purchased at the cost of health.

The sunlight is not only essential to the preservation of the natural vigor of the body, but acts very beneficially as a remedy in disease. The French make great use of it in their hospitals. To the windows of these are attached inclined planes, upon which the sick are laid, and exposed on every clear day to the sun's light. This has a more powerful tonic effect than all the iron, quinine, porter, wine and spirits which are so much used with us.

Weak and sick children are especially benefited by exposure to the sun's light, and mothers would do well to reverse the usual order of the nurse, "Keep in the shade." We say, and we have science and experience on our side: Keep in the sun.

A PENNY IN THE WEEK.

BY THE REV. W. LANDELS.

I sometimes dream in the daytime, and while musing on the fact that the entire sum contributed by our churches for the purpose of sending the gospel to the heathen does not amount to so much as a penny in the week for each of the members, I dreamed a dream, which I will now relate.

I saw a crowd, composed of many thousand persons, in great distress, to which some gave expression in tears, and others in mournful cries. They had rebelled against a bountiful benefactor, who was also their Creator; and by his righteous law were condemned to death, and to suffering after death, which they deemed more awful. I saw one appear clothed in shining raiment, whose form was that of a man, but a dignity in his countenance showed that he was more than man. He bore the mark of wounds in his hands and feet; and a tear, which spoke of tenderness mingled with sorrow trembled in his eye. He told them how he had humbled himself, and suffered and died on their behalf, and then proclaimed a full and free pardon for all their offences. At first their faith was staggered by the graciousness of his words, and for a few moments they were silent. But when they saw the sincerity which was manifest in his countenance, tears rolled down their cheeks, not such as they had shed before, but tears of gratitude and joy, such as strong men weep when they are filled with glad surprise. Simultaneously they fell on their knees, and with one voice exclaimed, "What shall we render unto thee for all thy kindness?" In reply he pointed them to the world; told them there were millions there as miserable as they had been just before; that he loved those millions as truly as he loved them, and had died for their salvation. He then charged them to go and proclaim pardon to them in his name: intimating that they would thereby manifest their love to him, promote the fulfillment of his desires, and, at the same time, secure for themselves an abundant reward in his kingdom and glory. He also stated that their efforts must be purely voluntary. He would fix no standard. They must be regulated by their love to him, and their desire for the salvation of others.

Having charged them, thus, he immediately disappeared; and I saw that they began to deliberate on the best method for fulfilling their Lord's command. They spoke of how much they owed him. They remembered their past misery; how unlike to the position in which they were placed, and the prospect which opened before them now. Nor were they unmindful of the fact, that all they possessed were his. It did become them they acknowledged, to render some service which would express their sense of, though it could not sufficiently meet, his extensive claims. They could not all go out as missionaries to the heathen, but some of them might, and the others could contribute to their support; or they might all contribute to the support of those who had already gone. Accordingly, they brought their contributions,—some weekly, others monthly, and others yearly, as was found most convenient; some giving one sum, and others another, and others declining to give, as their circumstances or their inclination determined. And at the end of the year, when the proceeds were appropriated, they were found to amount to something less than a penny in the week for each of the number.

To some, the amount appeared strangely disproportionate to the wants of the world, the claims of Christ, and their own ability; and one here and another there remonstrated with their neighbours, and urged them to greater liberality. Their arguments, however, were met by the plea, the claims were so numerous, they really could not give more. Accordingly, another year passed, and another, and another, without any perceptible increase.

There was much truth in the plea that the claims were numerous; and I thought it might be true that they could not give more. But when I looked, I could not see that many of them partook of coarser food, or dressed in plainer clothing, or lived in a less expensive style, or denied themselves any of the luxuries to which they were accustomed previous to their conversion, in order that they might be able to give more than a penny in the week. And I wondered if he who died for them did not mean that they should exercise self denial.

In my dream the scene was changed. I stood in a far distant land, where the beauty and glory of nature contrasted strangely with the vileness and misery of man. The soil yielded its fruits almost without the labour of the husbandman; and from every grove spicy odours were wafted on the evening air. The sky was of a more crimson hue than that which bends over my native land; and the sun shone more brightly, but it looked on idolatrous temples, on fires where living women were burned with the dead bodies of their husbands, on aged parents left by unnatural children to expire alone in the desert or jungle—on scenes of superstition and cruelty too horrible to be described—on myriads of men living in darkness, and dying without hope.

In the suburbs of a populous town stood an unpretending chapel, with a mission house adjoining. In a room of the house there lay or rather sat on his bed a man comparatively young, but his frame so wasted, and his countenance so pale, so wan, and ghastly, as to show that his end was near. His wife sat at one side of the bed, pale with watching and sorrow—an infant on her knee, and two children by her side. At the other there stood listening to his parting counsels and blessing, a few swarthy-coloured natives, who had been converted through his teaching—the only christians in that idolatrous town. More than a year ago his failing health had rendered a change necessary,

but unwilling to leave the few sheep in the wilderness uncared for, he had waited in the expectation that some one would be appointed to take charge of the station in his absence; until the heart-sickness which results from hope deferred, combined with an unhealthful climate, had deprived him of his little remaining strength and thus rendered his removal impossible. As they stood around him weeping that they should see his face and hear his voice no more, a letter was placed in his hands. His eye brightened as he opened it, for he saw that it was from the Secretary and might announce the approach of his successor. His countenance however suddenly changed as he read—"The Committee are sorry, that, after duly considering the case, they cannot send another Missionary to your station. Their limited income and large debt render it necessary that they should diminish rather than increase their agency. They had hoped that the churches would place a larger sum at their disposal, and enable them to meet the increasing claims of the mission; but they regret to state that few signs of improvement appear. From some of the largest towns in the kingdom they do not receive more than a penny in the week for each of the members of our churches."

The shock occasioned by this intelligence was too great for his feeble frame. He clasped his hands, and, raising his eyes to heaven, exclaimed, "Lord, must it be so? Is there no hope? Must these few sheep be left without a shepherd? Must these benighted thousands be left without one ray of light? Must the lamp which has just been lighted amid this darkness be so soon extinguished? A penny in the week! Is that all thy people can give? Is that the measure—" I suppose he would have added, "of their love to thee?" but, before the sentence was finished, his strength failed. He sunk back on his pillow, and, with one deep and long drawn sigh, his spirit passed away.

Again the scene changed. "I saw a great white throne, and him that sat on it, from whose face the earth and the heaven fled away; and there was found no place for them. And I saw the dead, small and great, stand before God; and the books were opened; and another book was opened, which is the book of life; and the dead were judged out of the things written in the books." Among those who stood before him, I saw many who had been heathens, but were now redeemed by his blood, and sanctified by his spirit; and I also saw the thousands of whom I have told you. Being anxious to know if they still formed the same estimate of their contributions, I narrowly watched their motions, and was struck with the fact, that, as those converted heathens entered with joy and gladness on their reward, and others passed into outer darkness, very few of these thousands congratulated themselves that they had done what they could for their conversion. The time came when they, too, had to render their account, and receive their reward. And I noticed, that in speaking of what they had done, some of them blushed and looked confused as they mentioned a penny in the week for the purpose of sending the gospel to the heathen. I have also an impression, that when the judge asked if that was all they could give, some of them were speechless; but this impression is not very distinct, for here, by the excitement of the moment, my dream was abruptly closed.

There is one thing, however, which I have not yet mentioned, that must not be omitted. I saw that in that crowd of many thousands there was something which I had seen before. Now and again indeed, I met with a familiar face, which suddenly changed into another that I did not know, and again the well known countenance would speedily reappear—as is frequently the case in dreams. And it might be on this account that I found myself instinctively muttering, "Perhaps—perhaps these thousands are the members—but I need not tell you of what church."

Missionary Intelligence.

NOTES OF A TOUR TO MANDELAY.

(From the *Missionary Magazine*, January, 1869.)

BY REV. A. T. ROSE, RANGOON, BURMAH.

Setting out.—Nov. 30, 1867.—After long delays we are off for Mandalay. The new and powerful steamer, "Col. A. P. Phayre" (named in honor of the late Chief Commissioner), commanded by Captain Antrem, with two large flats, the "Promé" and "Pegu," in tow, left her anchorage off Rangoon town for Mandalay, at about two P. M. Among the passengers were Mrs. C. Bennett, Rev. Geo. Hough, Rev. J. N. Cushing, Mrs. Calogreedy and four children, and about a hundred and fifty native passengers. Mr. Hough has attained a ripe age, being about eighty. It is now about fifty-three years since he arrived in Rangoon as a missionary, and joined Mr. Judson, who had been on the field two or three years before. Mr. Hough has never been obliged to seek a change of climate for health, at least has not been out of the "tropics" for fifty-two or three years. He is still quite active, can walk a mile or so, retains well his mental faculties, is cheerful and hopeful, and much respected by all who know him. Probably those who attended his ordination, and those who waited upon his ministry, and those who joined in the "farewell and God speed," as he and his wife and little son left our American shores for this heathen land, are nearly all gone—gone. The few that may remain will be glad to hear what I have mentioned.

Mrs. C. Bennett, though nearly forty years have passed away since she first left America, is fresh in the memory and high in the esteem of our people at home, and beloved by all who know her for her goodness and untiring devotion and manifold labors for Christ.

The steamer moves off down, down the Rangoon river, though it is up we want to go. A strong tide and wind are against us. Many eyes involuntarily, but not unnaturally, turn to take lingering looks at Rangoon.

Fellow Passengers.—On that flat are about a hundred Maulmain people, mostly of Taling stock, wealthy, and of much worldly intelligence. They have been long engaged in the teak timber trade, and some of them have amassed wealth, and by the wealth have built and are building extensive works of merit. The most noted among these people for large offerings is the "Kyoung-ta-gah" (one who builds and consecrates a kyoung or monastery), Mung Taw Yike. This man completed a few years ago, at Kado, ten miles above Maulmain, a magnificent and expensive kyoung, costing, it is said, Rs. 200,000; besides this, half as much more was expended at different times in feasts and entertainments, gotten up on an almost kingly scale. Taw Yike is about forty-five or fifty, has a pleasant countenance, modest bearing, sharp business talents, but not great argumentative or reasoning powers; at least, his mental faculties have not been exercised and trained to defend his religious notions. He "has worked hard to make money, and his earnings are now invested in the 'bank of merit,' which, according to the religion and philosophy of his ancestors and those of surrounding nations, is not only the safest, but the only safe investment. If he has erred, be it so; the consequences of that error will be more tolerable than the odium of condemning and opposing the wisdom of ancestors."

Character of the People.—All these people are very polite and intelligent; some of the young women are good readers. They have felt the power and influence of western civilization longer and stronger than Burmans of any other community. They admit and admire the vast superiority of western science and art and literature; in short, almost everything the white ships bring to this country is better than their own, except religion. That, they are free to say, is inferior to theirs, or, "if it be better for us, it is not so good for them." Under the term religion, they place social morality, temperance, purity, honesty, etc., etc. We do the same. In thought we connect the revolting cruelties and immoralities of the Hindus with their religion. The Burmese connect arrack and opium, drunkenness and licentiousness, with the religion of those who have done so much to fill the land with these deadly poisons and loathsome crimes. How hard it is to get these people to turn their eyes off from the vile vestments in which many merely nominal Christians choose to robe themselves, and get them to come near to Christ and look on Him and hear His words. Many of these people have heard a good deal in Maulmain, and have read our books, and say our Law is good. Christ is holy, and his doctrine pure and good; no bad man can keep the law or follow Christ; no one can follow Christ and not be good, etc., etc. But then, as for real, earnest, honest hearing, it is not to be found in one of these people. They are leaving their homes and business for two months on a trip of religious pleasure and profit on the old "Shin Gaudama" line; that is, they go to enjoy themselves and to get merit by she-ko-ing to every pagoda, temple, idol, and priest they meet with, and they would sooner be plunged to the bottom of the river than be "turned from the track."

Still, we talk and discuss points; we shall be better acquainted before we get to Mandalay; some are reading our tracts and portions of the Scriptures.

On our flat, "Promé," is a mixed multitude,—up-country merchants, Burmese, Chinese, Mussulmans, Hindus, etc., etc. Here we find a number of champions, who with burning zeal put themselves forward to do battle for Gaudama. We shall find work enough on board the flats to keep us busy.

Life on Board—Karen Villages.—Have worship with the native Christians on board morning and evening in my cabin. There are two Burmese disciples, two Karens, one Shan, and one Chinese.

At nine, A. M., we pass the large fishing town Thong-Kwah, where years ago some appeared well, but no fruit has yet matured. The villages are numerous. It looks to me that many new villages have sprung up since I was last along this stream; but it may only be that now on the upper deck of a steamer I can see many villages lying off from the river that I could not see in a small boat close to the water.

At Fingdau, twenty-five miles above Henthada, on the east bank, is a broad opening during the rains that help to swell the Hlaing river; but this is a dry bed of sand in the dry season. We passed Nyong dong at sundown, the river broad and deep, beautiful islands, many fine villages, boats in all directions, large and small. How sweet and calm is nature in all her forms here presented! Loud and discordant sounds of Burmese music tell of feasting, merry-making, and "Koo-tho" getting at different points on shore.

Tuesday, Dec. 3.—Pass S'gah-gee, where there has been for years a flourishing Karen church, with a good ordained pastor. The country looks rich and beautiful; the river is more than a mile wide at places, with many islands and sandbanks visible at this season. Some of these islands are charming spots; they seem to have a vain and self-complacent look, a little proud of their situation. No people in the world could more easily get a good living, it would seem, than those of this valley. Rice, vegetables, fruit, fish, and fowls can be procured in no country for less labor than here, if the people would only be industrious. Cheap clothing and cheap dwellings are all the people need for their comfort; and for these very reasons, doubtless, the Burmese are an indolent people.

Henthada.—About noon pass the large Burmese town of Zalung, where is a small Burmese church, and inland, some eight or ten miles, is