

PUPILS IN PUBLIC SCHOOLS

Twenty Per Cent. of Entire Population of the Country Are in the Schools.

The report of the commissioner of education for the fiscal year ended June 30, 1904, made public recently by the secretary of the interior, shows that 16,009,361 pupils, or 20 per cent of the entire population of the country, attended the public schools during that year.

As compared with the previous six years this percentage shows a slight decrease in the number of pupils as compared with total population. The total cost of the public school system is given as \$251,457,825. This is an increase of \$16,000,000 over the previous year. It amounts to \$15.75 per capita of total population and \$22.75 per capita per pupil.

Since 1870 the proportion of male teachers has decreased from 39 per cent of the entire number to 26 per cent of the entire number in the last year. The average compensation for male teachers last year was \$19.94 and \$19.51 for females. This is a slight increase over the previous year.

The enrollment in the private schools for the year is given as 1,093,878. By the addition of pupils in elementary schools, academies, institutions for higher education, evening schools, business schools, private kindergartens, Indian schools, state schools and schools for defective orphans, the grand total of 18,103,246 pupils is reached.

The report shows that last year 1,578,632 colored children were enrolled in the common schools for that race in the former slave states and the District of Columbia. The enrollment in 1877, the first year statistics were taken for the colored schools, was 571,506.

Since 1875 it is estimated that \$130,000,000 has been expended in the education of the colored children in the former slave states and nearly \$600,000,000 for the same purpose for the white children in the same section.

Ninety-six reform schools are recorded, with 11,695 inmates, 61,603 of whom are learning useful trades.

NEW SEASONING STRATEGIES.

To Be Established in Timber Regions by the Government Bureau of Forestry.

The bureau of forestry has recently signed an agreement to make extensive timbering seasoning tests in two western states in cooperation with two telegraph and telephone companies. Experimental stations will be located at Marinette, Wis., and Escanaba, Mich., and probably a third station will be established at Ashland, Wis. The expense of the experiments will be borne jointly by the bureau and the companies. Cedar and tamarack telephone and telegraph poles will be furnished by the state of Wisconsin free of cost, and two railroad companies have agreed to haul them to the experiment stations without charge for freight.

The object of the experiments is to determine how many years can be added to the life of each pole by proper seasoning. Since millions upon millions of poles are used along telegraph and telephone lines, even one year's extra service for each pole will amount to a tremendous saving in expense. Unseasoned cedar poles last from 12 to 15 years. Seasoning experiments have shown how to increase this time by three or four years, and it is now expected to improve on this increase. Past methods of seasoning have effected a drying out of 20 per cent of the original weight of the poles. The better seasoned the pole the less chance there is for decay, which is promoted by moisture.

Such experiments are of large importance not only to telegraph and telephone companies, but to all users of heavy timbers which come in contact with the ground, at which high decay goes in its most deadly work. It is believed that still greater economies can be secured by the use of proper methods of preservative treatment. The latter is a subject which the bureau of forestry has for some time been investigating, as set forth in its bulletin No. 41, "Seasoning of Timber," and other publications. Further bulletins dealing with different aspects of the same problem will be issued later.

Women's Appetites.

Our athletic women of the present day have no scruples about eating heartily, and the small appetites which were the correct thing for ladies of the early Victorian era are quite out of the world. But in spite of all their open anorexia and pastimes, the girls of today are "poor eaters" compared with their ancestors. Their appetites were positively amazing, judged by modern standards, and three-rump steaks for breakfast was the allowance made for the maids of honor at Queen Bess's Chicago Daily News.

Before and After.

As the population of Ireland has decreased the demand for prison has become less and less, and they have been used by the army, while the famous Harbord Cross prison in Dublin, occupied in the 40s by Daniel O'Connell, has been turned over to the war office for barracks. Springfield (Mass.) Republican.

No New Jails in Ireland.

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Deadly Insect.

The insect is just hopping mad at all shapes.

He Didn't Sculp.

"Mr. Jones you said you were connected with the fine arts. Do you mean by that that you are a sculptor?" "No, miss. I don't sculp myself, but I furnish the stone to the man that does." -Smith's Weekly.

INTERIOR OF THE EARTH.

Calculations of a Scientific Nature Upon the Inner Center of the Globe.

Experiments to be tried in the Washington monument by officers of the geological survey to try to determine the compressibility of the earth's mass, has awakened widespread interest in scientific circles says a Washington letter. Coming next door on the heels of a project broached by Charles Algernon Parsons of Pasadena, to bore a hole 12 miles into the earth, the scientific world has much food for speculation.

Prof. Parsons estimates that to sink a shaft 12 miles deep would cost \$25,000,000, and that it would require 85 years to accomplish it. This shaft, out down into the earth, would represent the equivalent of a hole one foot deep in a mass 666 feet thick. It would solve many questions that the scientific knowledge of the world has left unanswered, yet it would investigate only the crust and leave thousands of miles of the interior mass still untouched.

No man has gone down into the earth's interior beyond the distance of one mile and lived to tell the story. The deepest boring is the "crust" of the planet is 5,000 feet—less than one-fourth of the distance to the center of the globe.

The earth's interior is a vast unknown, beside which, in the realm of mystery, the heavens are an open book. The most daring explorer seeking new fields of heroism in unraveling the mysteries of nature has halted even before he could plan to surmount the obstacles that lie in the pathway of the secrets of the earth's mass.

The amount of compression at the globe's center should, to some extent at least, define the character of the mass of which it is formed.

Within the Washington monument, which is 550 feet high, is to be stretched a wire 500 feet long, on the free end of which will be hung heavy weights. Survey experts, who will conduct the experiments, hope by this means to gain a knowledge of the force of gravity at equal distance toward the center of the earth.

It is argued that the great mass of the interior of the earth is solid. Against the contention that the planet, under a crust 25 miles thick, is a mass of fiery liquid is arrayed the fact of the known density of the globe.

That density in the earth's interior is about 35 times the density of the water that covers three-quarters of the surface.

FEARFUL WASTE OF ENERGY.

Loss of Power in Coal During Transmission Into Electric Light.

Ninety-nine percent of the sun-power or energy stored up in a ton of coal is lost on its way to the electric-light bulb. This we get only a hundredth part of the possible light contained in a ton of coal. The other 99 parts are lost on the way, dissipated in heat, and used up in friction in the engine or the electric apparatus, and never become light.

To discover some way to prevent this fearful waste of energy is one of the great problems confronting scientists to-day, writes Orison Sweet Mason, in Success.

Just as fearful a waste of energy goes on in man's use of his own powers. Instead of the 99 per cent of his energy appearing in results that are worth while, often not more than one per cent of it gets into his real work, the rest being thrown away, dissipated in scores of ways.

A young man starts out in life with a store amount of force and vitality stored up in his brain nerves and muscles. He feels an almost limitless supply of energy, and he will do wonders with this energy, and that he will attain achievement, all of it into light-achievement.

In the pride of his youth and strength he seems to think that there is practically no limit to his power to throw off energy, and so he often flings it out of every side, with reckless prodigality. He burns it up here in a cigarette or a pipe, there in whisky or wine, here he drains it off in heavy suppers, and late hours, there in vicious living, idleness, shiftlessness, and hotted work, until he finally comes to himself with a shock and asks: "Where is the electric light I meant to produce with all my energy?"

"Where is the electric light I meant to produce with all my energy?" is his flickering candle flame all that is left of his superabundant vitality. He has scarcely produced light enough to illumine his own way, and has nothing left for the world. He who had boasted of his strength and felt confident of shedding a light that would dazzle the world, stands along himself in semi-darkness. The energy which should have been transmuted into achievement has been lost on the way.

Where He Could See.

A waitress in a restaurant in a northern city is known to the members of the establishment for her ready wit. An elderly customer went in the other day or dinner. After receiving his order the waitress handed him a newspaper to read while the time that would elapse while dinner was served. He looked up for a few minutes and said: "I say, miss, have you nothing to come to look at?" "Well, sir," replied the waitress with a smile, "there's a book on the shelf in front of you, sir." Come Cut.

Foretelling Winter by Leaves.

"Heard a new rule for making predictions of winter weather," said a statesman last night. "Looks reasonable, too, more reasonable than the old rule of them, anyhow. It says that if the leaves fall suddenly and all at once, the coming winter is to be a severe one. For contrast, if they fall slowly and the trees are a long time in dropping their foliage completely, the winter is to be a mild one." It will be noted that according to this, the coming winter is to be a mild one. -Columbus Dispatch.

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ATHLETES EASY PREY.

RECOVER MORE SPEEDILY TO PNEUMONIA THAN OTHERS.

No Reserve Lung Surface to Resist Onsets of Disease—Typhoid Fever in Robust People.

It has been a frequent source of wonder that strong, healthy men and women should be more liable to have typhoid fever, and when they do have it they should be more liable to die as a consequence of it.

As is well known, athletes are more liable to die of pneumonia than people who are not highly developed physically. The reason for this, states the Chicago Chronicle, is that in the case of athletes the breathing capacity of the lungs has been greatly increased by athletic exercises. Nearly the whole of the available lung has been brought into constant daily use. All of the latent air cells have been developed and when acute disease attacks the lungs it has greater area over which to spread, and the pneumonia is of a more virulent and active type.

Another reason why athletes are not so liable to recover from pneumonia is that they have no latent lung to call into action after the disease begins. In the case of ordinary men and women at least one-third of the lung surface is in a latent or unused condition. When disease sets in it attacks only the active portion of the lungs. This leaves the person with a little reserve lung, which may be whipped into action after the disease has been developed.

Not only do the inflammatory processes of pneumonia have less surface presented for their ravages, but there is latent lung which can come to the rescue of the patient in the later stages of the disease.

Something similar to this is true in the case of robust people having typhoid fever. It is a curious fact, not generally known, that the small intestine differs in length in different people. Gray gives the average length of the small intestine to be 20 feet, but anatomists who have given this subject special study have found the average in the adult male to be 22 1/2 feet and in the adult female 23 1/2 feet. In an analysis of 100 cases the shortest small intestine observed was 12 1/2 feet and the longest 31 feet 10 inches, a difference of over 19 feet.

This surprising variability, when properly considered, is a significant fact. The small intestine is important to digestion. It is here that the digested food is mainly absorbed by the blood vessels and lacteals. As the dissolved food slowly moves along the tortuous canal the nutritious portions are gradually absorbed by the blood vessels of the mucous lining. It is easy to see that the length of the tube has an important bearing upon the absorption.

Other things being equal, the longer the tube the more perfect the absorption will be. A tube 30 feet long folded and coiled upon itself, would present more than double the obstruction to the passage of food than a tube 15 feet long would, and thus would become more than twice as valuable as a digestive organ.

It is a fact that some men have double the length of a small intestine that other men have, and also a fact that women on the average have a greater length of small intestine than men. This would at least help to account for their differences in vitality, which every physician has noticed. As a rule women will bear long strains and longer hours than men. Some men can go twice as long without food as others can. Some persons are hungry and faint if they miss a single meal, while others can go without food for 24 hours or longer with little or no inconvenience.

The vitality in the length of the small intestine would certainly go a long way to account for these differences. The blood vessels and lacteals of the intestine perform the same functions for man that the roots do for plants. The roots absorb the earth's nutritive material. The tree is strong and of rapid growth in proportion to the number of its roots.

Fortunes in Broken Glass. The waste from glass furnaces is now made useful. Into a fire-resisting mold are placed fragments of glass of various colors, which are then raised to a high temperature. The coherent mass thus produced can be pressed and cut into beautifully mottled blocks of decorative surface. Designs in relief can be obtained by pressure while the material is still plastic. From broken glass a "stained glass" window can be made by firing without the ordinary slow process of leading. A fusion soda water bottle in the final fulfillment of its destiny may dazzle the eyes as brilliant "diamonds" or other "precious stones." This does the "waste" come to resemble the most precious commodity if properly handled and utilized. -Industrial Journal.

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WILD RIDE IN MOUNTAINS.

Terrifying Experience of a Mining Engineer with a Drunken Stage Coach Driver.

For genuine wild west experiences John T. Breckon, the well-known mining engineer, is prepared to recommend to the tenderfoot a trip over the state line which runs from Ketchum to Stanley, on the middle fork of the Salmon river in Idaho. Mr. Breckon, having just returned from that country and having made the trip one way alone with a drunken stage driver and the other with plenty of company as drunk as the driver, is peculiarly qualified to speak on the subject, says the Salt Lake Tribune. The mining engineer makes many trips to wild parts of the country, but he declares that he has never encountered anything quite so wild as that particular stage ride.

"In the first place you must know," said Mr. Breckon, "that there isn't a rougher stretch of country anywhere in the Rocky mountains than the 50 or 70 miles traversed by that stage route. It is simply a succession of precipitous mountains with deep canyons between, and the road is continually describing almost impossible angles. Austin Tiernan, John H. McChrystal and Otto Bossert had just come out of the country as I was going in, and they gave the stage driver a tip to give me the ride of my life over those mountains.

"I imagined, however, that they had rather overdone the matter of preparing the driver for his stunt, for we had no sooner started than he insisted that I should do the driving while he took a nap. I handled the lines all right until we reached Galena, which is at the summit of the divide, and when I looked over and saw the almost sheer descent of five or six miles ahead of us I balked and awoke the driver. He felt a little grouchy over being awakened from a sound slumber, and when I gave him the lines he swung his whip over those four horses in a way that sent us fairly rolling down that rocky slope—that is, we were rolling when we weren't sliding.

"I never will know how we reached the bottom without some over some of the perpendicular cliffs, but we did, and it took us less than 15 minutes to travel five miles. For hair-raising rides it certainly beat anything I had ever experienced up to that time.

"But on the return trip we had one even more thrilling. There were seven on the stage, and all were drunk except another man and myself. The keeper of a saloon at one of the stations started out after us in a light rig and succeeded in passing the stage. This feat hurt the professional pride of our driver and he watched for a chance to get ahead again.

"He saw it when we came to a place where the road had been built around a deep canyon. The saloonkeeper kept on the road and the stage driver cut across the canyon at breakneck speed. When the saloonkeeper saw what was going on he whipped his own horses into a run. It was plain that when at the point of the mountain either the stage must go into the river or the saloon man's must go up the mountainside.

"As the stage had the better of the argument in weight and strength the other team took to the mountainside. The saloonkeeper's buggy was smashed to pieces and he and his companion were thrown out on the jagged rocks. They were too drunk to be seriously hurt, but the saloonkeeper's under lip was badly cut, fully an inch square of flesh and skin. Someone took a pocket knife and cut off the lip and threw it into the road.

"After this we proceeded to our destination without special incident, the experience having served to sober the crowd somewhat."

WOMAN EXPERT IN MINES.

The Husband's Partner in Hydraulic Placer and an Adept at Piping.

One of the very few expert woman pipers of the west is Mrs. M. E. Moore. She is not a piper such as the Scotch Highlander knows, but a piper of the western hydraulic placer mines, the operator of a hydraulic giant.

At present Mrs. Moore is her husband's partner in the working of the Judson placer mines of southern Oregon. And Mrs. Moore is a partner in every sense of the word, says the Sunset Magazine. Every day she is at her post, taking her stand beside the big monitor long before the sun clears away the shadows from the mountain canyons, and there she remains through the shift directing the shaft of white that the monster buris with a dash of spray against the towering gravel bank tearing mountains away and robbing them of their gold.

Few men pipers, who are proud of their long records of years in western placer fields, are more dexterous with the giant nozzle than Mrs. Moore. She knows just how to swerve the deflector to drive an avalanche of boulders down the gulch, scattering them as wildly as a handful of bullets shot from a rattling gun, and how to bring that long, deep growl from the aqueduct monitor, and cut deep at the base of the red clay bank, till a great slab of a thousand tons topples and falls with a crash from the mountain side and is washed away through the sluice boxes.

PREACHER KEPT HIS WORD.

Awakened His Slumbering Wife in Church to Mollify a Sleepy Elder.

"Down in Oregon—I won't say just where—there is a settlement of Scotch Presbyterians, who retain all their old country habits," said a gentleman the other day. "Not long ago the minister while in the midst of his sermon noticed one of his parishioners peacefully sleeping. The divine suspended his discourse and addressed Willie in a loud tone, waking him up, and then gave him a severe rebuke.

"Willie was very angry and after services were concluded went up to the pastor and made an indignant speech, protesting against the humiliation which had been put upon him. He concluded by saying: "You ain't wife was sleepin' at the time. I saw her before I went to sleep myself."

The pastor tried to smooth the matter over and told Willie that if he should ever see the pastor's wife sleeping in church thereafter to raise his hand, and she should receive the same correction which had been imposed upon Willie.

The next Sunday, when the sermon had reached about fourthly, Willie's hand went up. The minister looked over at his family pew and there, sure enough, his spouse was wrapped in slumber. Mindful of his word, the preacher then addressed the wife of his hearer.

"Susan! Susan! I dinna marry ye for your fortune, for ye had none. I dinna marry ye for your beauty, the whole congregation can see that, an' if ye had nae grace I've made a sair bargain."

Cleanly Japanese Stables.

In Japan horses are backed into their stalls, and the door is closed at the head, and to it the animal is secured. When needed, the door is swung back and the horse led forth. No one gets kicked, no refuse matter is visible to the visitor, and it seems to be a sensible way to construct a place for a horse.

Ambiguous.

De Style. What did your rich uncle leave you when he died? "Gambusia." "Nothing." "Didn't he say anything to you before he passed away?" "Yes, he said nothing was too good for me." -Criterion.

GOLD MINE DREDGE.

OPERATED WITH GREAT POWER. SCOOPS CUT OUT SOLID ROCK.

One Automatically Separated by Machinery—Prodigious Labor Performed by New Invention.

A gigantic dredging machine is the latest device used in gold-mining. A great steel ladder extends in front of the vessel, like an inverted barge. Up and down the ladder march in endless procession bucket-shaped plows, with mouths of forged manganese steel. The chain that carries them will support a weight of 500 tons. These keen-edged scoops will cut through solid rock. A marine engine drives them with irresistible force. They delve into the banks ahead of the ship, literally eating up the land, reports a western paper.

Gorged with rock and sand, the buckets mount the ladder again and along a huge gantry are carried back to a rotary cylindrical screen, into which they discharge their contents at the rate of 13 buckets a minute. Each one of these steel carriers contains five cubic feet of earth, so that an amount of material equal to the contents of three city dump carts is poured every minute of the day and night into the whirling cylinder.

Other machinery separates the gold automatically. The total expense in a day in the operation of one of the great gold-mining vessels is sometimes less than \$30. The ships cost from \$50,000 to \$500,000, according to size. The first year's cruise will pay for the monster itself, will pay the cost of the land, even at \$500 an acre, will meet all expenses, including repairs and depreciation of machinery, and still net the owner more than \$100,000.

These are figures of actual operations, and regarding land carrying a low proportion of gold. It is little wonder that the men who own these mining fleets do not advertise. Many of them are reaping a profit of more than 60 per cent on their investment. The industry is, of course, legitimate in every sense, but it has all gotten-quick schemes absolutely exposed.

One of the gold ships will dredge an acre of earth every month. At there are now 10 vessels in the unique Pacific coast fleet. 100 agricultural acres are being permanently destroyed every 30 days. In the valleys thus far prospected and probed by the operators there is an assurance of at least 20 years of mining activity, so that at the end of that period, even if no additional boats were launched in new sections, fertile acres will have been deducted from the tillable acres of western America.

Of course, no amount of yellow metal can actually offset the amputation of the fairest valleys. Humanity has made its bloom. As these ships tear up alluvial areas at a cost of three and four cents a ton and can work a profit, and that contains a very small proportion of yellow sands, it means that few valleys whose rivers rise in the mountains are safe from invasion.

And in the western states in America have reason to regard with serious concern the coming of these semibarbaric squadrons, which can rather yellow nature's most precious gift, the human eye cannot detect them, and in reaping this profit have not an atom of remorse, fertile dominions into perpetual desolation.

The brakeman came up with a suggestion that he could run up to the engine and get a crowbar to pry off the plank, but a bookie who had joined the group thought it would be easier to get into the basement, and thence under the platform, where a crawl on hands and knees of about a hundred feet would bring him to the right spot. A passenger with a long piece of twine tried to pass the bookie with a slip noose, but without success.

There were at least a score of persons drawn to the scene by this time, and the young woman had given up all thought of her breakfast and was wishing that her train would pull out so that she might have an excuse to leave.

Without undue haste, the colored brother returned with a chew of gum and 20 cents' worth of the gum, and placed on the end of a stick and low end of the unseasoned broom.

The gum adhered to the plank. In fact it got matted on the plank and covered its connection with the axle. All efforts to remove it were fruitless and the drummer finally appealed to the brakeman to get the job done. To bear up a station platform out was your must needs have a permit from the station master. After that gentleman had sanctioned the proceeding, by his own presence, the drummer, an additional crowd, the plank was finally raised.

The tenacious drummer, having ruined a clean shirt and a pair of trousers in his endeavor was in at the death, and it was he that raised the much sought for object to the glare of the sunlight.

His face lost that benign expression as he passed the broom to the brakeman and disappeared through the crowd. The brakeman looked disgusted, said something worse than "Oh filthy beast!" and handed it on to the porter. That worthy rolled his big round eyes a couple of times and gasped so that all might hear.

"Law me, ef it ain't brass, jest brass!" Then he turned to hand it to the owner, but she had fled into the sleeper and hid her head under a pillow.

No Hunting in Palestine.

The late Bishop Beckwith, of Georgia, was fond of his gun, and spent much of his time hunting says a representative from that state. One day the bishop was out with dog and gun, and met a member of his parish who he supposed for attention to his religious duties.

"You should attend church and read your Bible," said the bishop. "I do read my Bible, bishop," was the answer, "and I don't find any mention of the apostles going a-shooting."

"No," replied the bishop, "the shooting was very bad in Palestine, so they went fishing instead." -Nashville Banner.

Travels of Odor.

Experiments have been made recently to determine the speed with which odors travel. Ammonia was sprinkled into one end of a pipe about ten feet long and the door is closed at the other end of the pipe until two hours had elapsed. Sulphuric acid, camphor and other similar materials, all having a powerful scent, were also tested, and it was found that the various odors required about the same length of time to traverse the pipe. -Science.