

Paris has the largest and most complete sewerage system in the world.

A statistician estimates that Americans expend \$400,000 a day for amusements.

A statistical person has figured out that the average life of a cabinet under the present French Republic has been nine months.

By a new route which is proposed from England to Australia, across Canada, the trip from London to Sydney, it is believed, may be shortened to twenty-eight days.

The Chicago Record confidently admits that "of all sad words of tongue or pen a few of the saddest are those which would properly describe a view of the World's Fair grounds at the present time."

Of all the States New York has the greatest number of savings bank depositors, 1,516,389, and also the greatest amount of deposits, \$588,425,421. Massachusetts comes next with \$1,131,203 depositors, having on deposit \$369,556,386.

Twenty-two years ago there were 222 bearers of titles in the French Chamber of Deputies, where now there are but sixty-five. Only three marquises are left out of thirty, while the counts have declined from thirty-two to fifteen. At this rapid rate of disappearance a few decades more will see almost the entire extinction of titles in the Republic.

The recent use of the guillotine in Paris has started anew the discussion as to relative merits of methods of rendering the murder innocuous. It must be admitted, argues the San Francisco Examiner, that a man once beheaded is fully as incapable of acting on criminal impulse as though he had been hanged, and that an electrocuted person is at an equal advantage. Therefore all the methods have points of excellence.

A manufacturing company in Wilmington, Del., stopped its whistle thirteen years ago because it was complained of as a nuisance, and at the same time informed its workmen that a man who was late would be fined fifty cents. In all the years since then only two men have been tardy, and the question was asked by the Chicago Herald: "What need is there for a noisy whistle to call employes to work anywhere?"

In a little coffin about fifteen inches long and other portions of the body of a man, whose disgrace and suicide in the year 1892, brought about the overthrow of a cabinet, issued forth from the morgue in Paris a few days ago on its way to the Pere la Chaise cemetery. They were the remains of Baron de Reinach, who in the heyday of his power was one of the financial magnates of Europe, controlling even the destinies of ministers and influencing the policy of the Nation.

There have been great changes in the United States Government departments in the last thirty years. The first woman regularly employed was put on the rolls of the Navy Department thirty-five years ago. She was a young widow, and the officials considered it an awful problem how to dispose of her. Finally they hit upon a plan. They treated her as if she was a contagious disease and isolated her in an attic room. She received and returned her copying by a messenger. But the disease caught on, so to speak, and to-day there are 1000 women in the Treasury alone. There is one woman to every seven men.

Two or three recent railroad catastrophes, fortunately of the minor sort, have directed public attention to the fact, remarks the Washington Star, that the use of stoves for heating purposes and oil as an illuminant is still indulged in by ancient and moss-backed corporations, to which the safety of the passengers is apparently a minor consideration. Public sentiment should be strong enough to work the necessary reform, but the trouble about public sentiment is its failure to declare itself until some frightful combination of collision or derailment and conflagration arouses general indignation. The Pullman and Wagner companies—worried over even the small quantity of oil used for cooking purposes on the buffet cars—have completely banished the dangerous fluid, and will in future do their cooking with gas, thus removing every element of danger that can possibly be gotten rid of. The public should insist strenuously upon the universal adoption of every safeguard, and the time to insist is in advance of and not after a great railroad horror.

Of the 150 papers published in the interests of anarchy, the great majority are issued in Spain.

The German War Minister, Von Asch, has given a semi-sanction to duelling, in a speech in Parliament. Under the present circumstances of society, he said, duelling cannot be abolished, in spite of the law. The speech raised a storm of protests in the Diet.

Our State Department has instructed American consuls in European countries to report as to the standing of our wheat in the several importing Governments, what objections, if any there be, and in what manner the importation of our wheat may be stimulated abroad.

A scientific man says that he has made a discovery. It is that the worst air is found in two strata: One near the ground—everybody knows that—and the other at a height of about ninety feet. This height represents the average altitude of the discharge of gas, smoke, and offensive fumes given off by the factories and other industrial appurtenances of a city. It has also been found within a few years, that one is just as apt to get malaria if he lives of a dry, well-drained slope above a marsh or stagnant water as if he lived in the marsh.

The few steamboat men on the upper Columbia River, in eastern Washington, and others acquainted with the stream, express grave doubts of its ever becoming a safe and certain highway, although enthusiastic residents of that region count much on its utilization as a means of transportation for the development of the country. The principal trouble is in its erratic changes of course, its rise and its shifting banks. The boats of the one company navigating the river between Wenatchee and the Okanogan River are constantly meeting with mishaps, owing to the difficulties of navigation. Three were laid up in one week last month.

The experiment of putting carrier pigeons on Sable Island, that narrow, low, sandy island lying to the southwest of Cape Canso, Nova Scotia, which has been called "the graveyard of the Atlantic," has proved successful. The experiment was tried by the Canadian Government as a relief to the islanders, the Government steamer making only monthly trips. The homing lofts of the birds is at Halifax, nearly 250 miles from the island, and the flight is made over the stretch of sea in less than a day. One pigeon was out in the heavy storm on November 28, and lost part of its message, but enough was deciphered to show that all were well on the island that morning.

Says the Chicago Herald: The fleets of all the world are witness to the revolution wrought in naval ships by the American monitor. All naval powers were quick to see and adopt the armor idea, and they have ever since been engaged in rebuilding their navies, while we have been content to witness the results of their experiments, until it was necessary for us to rebuild our own navy. We waited wisely. The great guns, many weighing 110 tons, with which England and other Nations armed their monster ships, are now declared by Admiral Hornby to be failures. He says moderate-sized guns of about twenty-five tons each are the best. This is another American idea, developed in our new navy. Our new naval steel guns, long and comparatively light, are undoubtedly the best in the world.

To whom does a private letter belong when once it has been mailed? According to a judgment just rendered by the British courts of justice it is to the postoffice, in which the ownership is vested until its delivery to the addressee. It was a failure to appreciate this fact that led to the case which has resulted in this decision. A chemist at Preston having written a letter and mailed it, wished to get it back. With that object in view he went to the postoffice, specified the address of the envelope, pretended that he desired to send it by special delivery, at the same time putting down sixpence as the payment of the extra postage. Deceived by these proceedings the clerk hunted up and produced the letter to have the sixpenny stamp stuck on. No sooner did the writer get hold of the letter than he tore it to fragments, asserting that he had a right to do what he liked with his own property. His view of the matter, however, was not accepted either by the Postoffice Department or by the courts, and he was fined twenty-five dollars for his offence.

### THE CENTURY'S SONG.

(Read at St. Andrew's Society dinner, in New York December 1, 1893.)

One note from out the centuries vast,  
Which he who lists to-day may hear;  
One word on Judah's waters cast,  
With widening circle year by year;  
One song that thrills the patriot van—  
The crowning brotherhood of man.

'Twas this the peasant poet sang,  
By bonnie Doon and winding Ayr,  
To that dear harp by Colla strung,  
Whose music floats the noblest prayer,  
A choral link from shore to shore—  
'Of man to man the world o'er."

No grander utterance; "Man to man!"  
Behold the century's living voice!  
Those simple words the ages span;  
The Nations listen and rejoice;  
The plowman bard of Scottish blood  
Proclaims the song of brotherhood.

Our fathers struggled to be free;  
We have the freedom that they wrought;  
For lofty faith and liberty  
Brave martyrs died and heroes fought—  
'Nemo Impune' sternly sealed  
On many a fierce and bloody field.

We know by heart each hallowed name;  
We trace the turf by valor trod,  
The Bannockburns baptized to fame  
By men who spurned the tyrant's rod,  
Who scorned to wear a conqueror's chain,  
Who knew their rights and dared maintain.

As men who climb a mountain height  
By tortuous ways and pathless steep,  
O'er taken by the darkling night  
And riving blasts that round them sweep,  
To guide them on their arduous way,  
So up the slope, through rack and mist,  
Proud Scotland holds her steadfast way  
To granite peaks by sunlight kissed,  
While drifting clouds below her lay;  
No pioneer more bold and true  
Beneath the heaven's arching blue.

Till now from heights securely reached,  
With freedom won in every soil,  
And wasterful war's banner bleached  
On sunlit fields of honest toil,  
Hark to the strain: "All war shall cease."  
St. Andrew's song of love and peace.

The charity that knows no bound  
Is freedom's gift to every land;  
The richest gold in quarry found,  
Or fairest pearl on ocean strand  
Is naught to Saxon freedom now—  
The noblest crown on human brow.

And Saxon brotherhood to-day  
Means brotherhood all round the world;  
No restless realm would dare gainsay  
The edict of yon flags unfurled;  
A million soldiers useless then  
Amid the parliament of men.

Through yonder clouds behold the rift,  
The hour is ripe, the morn is nigh,  
The darkness fades, the Nations lift  
Their foreheads to a fairer sky;  
Above the Twentieth Century's door—  
'O, Nations shall learn war no more."

"O, fairest Queen! whose smiles entrance,  
Columbia! born of noble sire,  
With youthful vigor in thy glance,  
And hope that every land inspires,  
Thy mountain oceans and rivers free  
Proclaim thy power from sea to sea.

Thine be that power to guard and bless  
The millions vast who toil and wait,  
Till man no longer shall oppress,  
But Justice rule at every gate—  
One law, one love, one crowning good—  
The century's song of brotherhood.

—Wallace Bruce.

### UNDER SUSPICION.

JESSIE," said Anton Mosby, to his daughter, "why do you persist in your friendship for your boarder, Hayes, when you know I don't like him? I've warned you often enough. When a man is ashamed to tell his business it doesn't take much discernment to see that something is wrong. He has been in our house now about five weeks, and during the whole time he has not hinted a word as to the meaning of his trips into the woods. Yesterday I saw him prowling about the old quarry, but when I asked him what he was after he said he was looking for game. A likely place, indeed, to find anything to shoot."

"Father," said the daughter, "Mr. Hayes has always treated me like a gentleman, and, as there is no other company here, I don't see what harm can come from talking with him."

"I know that it is lonesome here, Jessie, with no one but me for company, and when we can afford it we shall go where you can have better advantages, but that fellow Hayes is not the right kind and I don't want you to have anything at all to do with him. I've left word with Dick to have his horse ready when he gets back, for he has got to leave this place to-day. Of course, I've got no proof that he is a bad one, but it is easy enough to see. Look at his brace of pistols. I tell you a rifle is good enough here against anything but the Sheriff's posse. But I must go; remember what I say and don't look for me back before night," and Mosby turned away.

Anton Mosby's occupation was to protect a large section of pine timber owned by an Eastern company from encroachments by rival firms and necessitated long tramps along the boundaries of the great forest estate. His home was located in a small clearing not large enough to escape the shadows of the trees for more than half the day.

The nearest village was a lumbering town about fifteen miles distant. From this village ran a narrow, scraggy road out into the forest, past Mosby's house,

and then at the distance of a mile or so divided, one branch turning south and leading elsewhere in the direction of civilization, the other running several miles northward and ending in an old quarry which was dug in the side of a rocky ledge.

After Mosby's departure Jessie went on with her work indoors with a heavy heart. Her father's suspicion that the man Hayes, who had been sojourning with them, was only a refugee from justice, pained her. He had always been very obliging about the house, had books in his saddle bags and sometimes read aloud to her, which was a matter of real entertainment, and, while she did not care for him, she felt extremely sorry for the treatment he received at her father's hands. She had to confess, however, on thinking it over, that it was a queer place for a man to come whose only occupation was pleasure. The hunting was poor, the woods damp and gloomy, and the ledge in the distance inhabited mostly by snakes.

Hayes was an ordinary-looking man of about five feet ten, hair brown, eyes blue, and rather quick and nervous in his speech. It was a suspicion of embarrassment in the latter respect when questioned as to his business that first led Mosby to observe his actions, and his preference for the old quarry road, which was rough and swampy and led through a tangled growth of underbrush, seemed evidence enough that he belonged to those who prefer darkness rather than light.

These suspicions made Mosby, naturally a hospitable man, cold and satirical, and many an arrow of sarcasm was plumed for his victim's breast, but Hayes usually seemed perfectly oblivious of their meaning, a fact which only further determined Mosby in the belief that he was a bad one.

The season had been exceedingly dry; for nearly a month not a drop of rain had fallen. The sand lay in drifts in the middle of the road and blew away from the roots of the trees.

During the previous weeks a great fire had been raging to the northward, several towns being razed to the ground and a wide stretch of timber rained. The ledge of rocks referred to ran in a crescent and acted as a barrier to the flames, so that the country over which Mosby presided was left unharmed, but the smoke spread its mantle of gloom over many miles of contiguous territory.

This great northern section, however, where the fire had been so destructive, was inhabited by wolves, which now, goaded by fire and hunger, sought safety to the southward. Mosby saw them frequently, and their baying could be heard at night while prowling through the woods in search of food, but they were a cowardly lot that ran at the sight of a man, and no one experienced any uneasiness.

When Mosby went on the tramp he invariably took his rifle with him, hoping to obtain enough pelts during the season for a robe.

"Wolves," he used to say to Hayes, "are about all the game you will find about these quarters, but if you want to kill any you'd better throw away your six-shooters and get a rifle, for all the things are good for is to kill men, and I reckon the people around here are a peaceable lot."

"Of course it might be a good thing if one wanted to escape from a constable, but we are presuming that you want to kill animals." But his arguments as to the relative merits and uses of the two weapons had little effect on Hayes, who still continued to carry the pistols and make excursions into the woods where Mosby ventured, "there might be a stray deer if one happened to see it," but toward the quarry and the hills.

Whether Mosby wanted to keep watch of his strange boarder's actions that day, or whether his business led in that direction, we cannot say, but he spent the afternoon exploring the timber abutting the highlands. His observations were quite minute, and the sun was beginning to redden the clouds in the west when he started for home, and by the time he reached the road it had become quite dark. He had about eight miles to cover, but the way was so rough that he made slow progress.

Here and there a moonbeam glistened on a sandy opening, but for the greater part of the time the foliage of the trees entirely obscured the light, so he slumped wearily along, musing upon the events of the previous weeks and wondering where Hayes had gone to spend the night.

A warm breeze swayed the tops of the huge pines; this and the sticks which crackled under his feet were all that broke the silence of the night—all until from the distance came suddenly to his ears the hoarse baying of a wolf. From time to time it was repeated until, from another direction, arose an answering howl, prolonged and mournful.

Mosby plodded along, giving little heed except wishing that he could get a sight on one of the "wurmints" in a bright spot of moonlight. The howling of the wolves gradually became more frequent and began to sound nearer and noisier. Mosby came to a halt and examined the condition of his gun, and then, although feeling that the rifle insured his safety, began to hasten his steps. By the time he had covered another half mile he knew that there was danger behind, for the weird sounds had increased into a din and an uproar. They were evidently on his trail and rapidly approaching, dozens of them, perhaps, courageous, at last, from the strength of numbers.

He realized that there would be scant time for reloading a gun after once fired, and looked about for a tree which he could climb and pick them off one at a time, but where there were trees the darkness was so deep

that the project had to be abandoned as impracticable, and he could not endure the thought of remaining a prisoner all night in the uncomfortable branches of a pine tree on account of a few wolves. This decision was scarcely reached when he would gladly have changed it, for a moment later the wolves reached the road behind him and were coming along at long leaps, filling the air with their mournful screams.

Mosby, still cool and collected, raised his rifle to his shoulder. A gray form flashed in the light a little distance away and he fired. The howling of the pack suddenly ceased as one of their number rolled in the sand, and Mosby, after reloading, started on a trot toward a small opening. Before he reached it they were in pursuit again, it seemed as if in greater fury than ever, notwithstanding they had first feasted on the flesh of a comrade.

Mosby fired again, but missed his aim. For a moment they hesitated, their eyes shining in the darkness, and then, gnashing their fangs, rushed forward into the light. Mosby's heavy rifle whirled around his head and descended upon the skull of the foremost wolf, but the beast, crazed with hunger, had lost all fear, and Mosby saw that he had met his fate. A wave of sorrow for poor Jessie, left all alone in such a country, welled up in his heart and then, gritting his teeth in anger, he grasped his gun stock tighter and struck again. This blow was his last, for the next instant he was borne to the ground.

Bang, bang, bang, suddenly rung through the forest. A wolf with his fangs buried in Mosby's arm released his hold; another tearing furiously at his breast fell dead. The air resounded with quick reports and Mosby, weak and almost dying, saw the suspicious boarder rush into the fray, a repeater in each hand.

When he next opened his eyes he was at home and Jessie by his side. "Where is Hayes?" he murmured.

"Here, father," she answered, and Hayes stepped forward from the shadow where he had been sitting.

The old man would have given him his hand, but his arms were limp and lifeless.

"You saved my life," he murmured gratefully, "and I reckon your kind of weapons are the best, after all, among wolves. You must stay with us the whole season and Jessie and I will do our best to entertain you."

Hayes smiled. "It was a lucky thing that you sent me away, Mr. Mosby, for otherwise I would not have been on the quarry road and saved you. I finished my work here yesterday, and so when Dick told me that I must go I started for the quarry to get some things. Jessie has told me what you feared I was and I do not blame you. It did look suspicious, and I often felt ashamed that I had to keep so quiet, but my time has been spent prospecting for iron and negotiating purchases of land."

"I am the junior partner in a firm which expects to establish a mine in this vicinity and come here enjoin to absolute secrecy. The business is now where this is no longer necessary, for we have contracted for all the land we want except one corner, probably the richest in ore, however, of all."

Hayes then opened his papers and showed a plan of the grounds.

"Why," cried Mosby, "that corner belongs to me, and is the most worthless piece of ground on the footloot. I've always been ashamed to claim ownership."

"Do you wish to sell it, Mr. Mosby?" asked Hayes.

"Sell it?" returned Mosby. "Take it for nothing. Bring me the paper and I will sign the deed."

Hayes acted with alacrity; he found a form, filled in some figures and held it in front of the old man.

"For and in consideration of \$20,000" gasped Mosby. "What does it mean?"

"It means," replied Hayes, "that I consider it a reasonable bargain for our firm at that price."

The old man recovered entirely during the course of a few months. Mr. Hayes the following year was frequently a boarder with Jessie and her father, but one August day there was a wedding and Jessie went to board with him.—Chicago News.

### Some Timber Strength Tests.

It would be difficult to convince the average man, especially the Missouri pioneer, that fir is a stronger wood than oak, but such has been proven by actual tests that were made by a fair and impartial committee appointed for that purpose. The timbers used were each 2 1/2 inches and four feet long, both ends solidly braced and the weight applied in the middle of the span. Yellow fir stood a strain of 3062 pounds, common Oregon oak, 2922 pounds. Fine grained yellow fir from near the butt stood a strain of 3635 pounds, and best Michigan oak snapped with a strain of only 2428 pounds. These tests were made by the Northern Pacific Railroad Company, at Tacoma, Wash.—St. Louis Republic.

### How the Egyptians Moved Great Stones.

A fragment of bas relief discovered in Egypt has shown how the obelisks and other large monoliths were transported from the quarry to their site. The stone is depicted upright on a great galley or vessel, which is being towed by a number of small boats, alongside. This method of detaching a monolith from the mother rock is also explained by a semi-detached block in one of the quarries of Syrene. After having been hewn clear on three sides a deep groove was cut into the side still attached to the rock, and the holes were pierced, into which wooden pegs were driven. The pegs were then wetted and the wood in swelling broke off the monolith from the quarry.

### SCIENTIFIC AND INDUSTRIAL.

The proposed Hoboken (N. J.) Bridge will have a single span of 5850 feet—the longest in the world.

The greatest depth recorded of Lake Michigan is 870 feet, or about one-sixth of a mile. The mean depth is about 325 feet, or one-sixteenth of a mile.

The flea is covered with armored plates very hard and overlapping each other. Each is set with spikes, and bends in conformity with the movements of the body.

The largest engine is at Friedensville, Penn.; its driving wheels are thirty-five feet in diameter, the cylinder is 110 inches, and it raises 17,500 gallons of water per minute.

A new process of rain making was recently brought before the Academie des Sciences, Paris, by M. Baudouin. His theory is that electricity maintains the water in clouds in a state of small drops, and that if the electricity be discharged the water will come down.

An instrument has been invented for sounding the depths of the sea without using a lead line. A sinker is dropped containing a cartridge, which explodes on touching the bottom; the report is registered in a microphone apparatus and the depth reckoned by the time at which the explosion occurred.

The air brakes on railroads are being built with a view to their use on trains of 100 cars. The plant on each train is being built so that it can be used in such a way as to bring the speed down from eighty to thirty miles per hour within five seconds. Great power has to be used, and every part of the apparatus has to be perfect to stand the strain.

Dr. Hughes, of Meriden, has received a letter from R. W. Sawyer, of Nassau, New Providence, one of the Bahama Islands, telling of the finding of a pink pearl in a conch shell there that is the finest ever brought to light. This pearl is nearly as large as a pigeon's egg and of the same shape, having no flaw or blemish, and of perfect color and marking. It was sold to the local agent of a Paris house for over \$2000, the largest price, it is believed, received for a pearl at the Nassau coast fisheries.

At the recent meeting of the chemical section of the British Association for the Advancement of Science the artificial diamonds that have been made by M. Moissan, of Paris, were exhibited and awakened much interest. These, as yet, are of hardly sufficient size to be marketable, but there appears to be no longer doubt that this and the cost are but questions of technical detail, and that another decade at most will suffice to reduce diamonds to the vulgar level of the amethyst or the Rhine stone.

### How Old is the Human Race?

The fullest answer that science can yet give to the three most interesting questions perhaps ever asked in the world are explained in an article in the Forum, by Dr. Daniel G. Brinton, the ethnologist. These questions are: "When did the first man appear?" "By what process did he appear?" and "Where did he appear?" Summing up all that geologists and anthropologists know he appeared certainly 50,000 years ago, and it may be as many as 200,000 years ago. The evidences of his existence which date back 50,000 years are unmistakable. By what process he came into being science has no definite answer. If it refuse to accept the doctrine of specific creation, it must refuse also, for lack of complete evidence, to accept the doctrine of gradual evolution—the old Darwinian doctrine. Dr. Brinton thinks the theory of "evolution by a leap" is as good as any other theory. According to this, man sprung from some high order of mammal, the great tree ape, perhaps, by a freak, just as men of genius are freaks, and as all the vegetable and animal kingdom show freaks. As to where man first appeared it is beyond doubt that his earliest home was in southern Europe, or Asia, or North Africa. No earlier traces of him have been found than those found in the area that is now England, France and Spain.

### Natural Curiosities.

Curious resemblances in Nature start with the cocoanut, in many respects like the human skull and almost a facsimile of the monkey's. The meat of the English walnut is almost a copy of the human brain; plums and black cherries like the human eye, almonds like the human nose, and an unopened oyster and shell a perfect likeness of the human ear. The shape of a man's body may be traced in the mammoth squash, the open hand in growing scrub willows and celery, the human heart in German turnips and egg plant, and dozens of the mechanical inventions of the present day to patterns furnished by Nature. Thus, the hog suggested the plow, the butterfly the door hinge, the frog stool the umbrella, the duck the ship, and the fungus growth on trees the basket.

### New Process for Enameling.

Fletcher, Russell & Co., London, have introduced a new process to supersede the use of Berlin black and black lead for protecting cast iron. The casting is coated with a film of enamel, which is so thin that even the finest details on the metal are preserved. This enamel is said to be absolutely proof against rust, and preserves its qualities at any temperature up to bright red heat. All colors are obtainable, including gold and silver, bright or dull, and as many as are wished can be produced on one casting. The process is said to offer great facilities for decorative work of all kinds.—Scientific American.