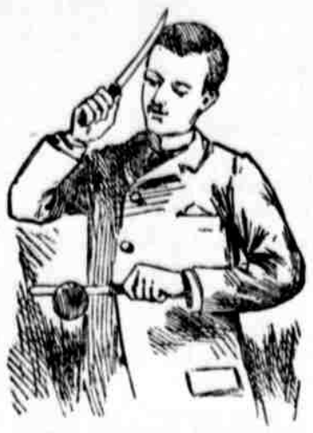
SCIENCE AND PROGRESS.

THE COLOSSAL STATUES DISCOVERED IN AFGHANISTAN.

That New Anæsthetic Stenocarpine. Americans Ahead of the English in Electric Railways—A Simple Illustration of the Principle of Inertia.

A pretty illustration of the principle of inertia can be shown by taking a peach or other soft, ripe fruit and inserting a knife blade a short distance into the flesh. If a peach is the fruit selected the edge of the knife should be in contact with that part of the stone where the two halves are joined together, forming an edge or angle.



A SIMPLE SCIENTIFIC EXPERIMENT.

Take another knife in the right hand, and with its back strike the first knife a sharp blow at a point as near the fruit as possible (see Fig. 1). The shock of the blow, says Nature, instead of pushing the fruit away, will drive the knife completely through it before the force can be transmitted to the fruit; and in the case of a peach the hard stone will usually be split in two. Only common, cheap knives should be used for this experiment, as they are liable to be broken or damaged.

The Hudson Bay Expedition.

It appears from Lieut. Gordon's report of the last expedition of the Alert to Hudson bay that all hopes of establishing a trading route from England to the west coast of Hudson bay must be abandoned. The navigation of Hudson strait proved extremely dangerous on account of the prevailing fogs, the strong tides and the narrowness of the waters, but principally on account of the heavy ice of Fox basin, which frequently obstructs the western entrance of the strait, and of the faulty working of the compass. These results of Lieut. Gordon's experience agree exactly with what was maintained by all experts when the scheme was first propounded. Although the principal object of the expedition has failed, its scientific results are considerable. These consist chiefly of the meteorological and hydrographical observations of two years, from the fall of 1884 to the fall of 1886, and other occasional remarks of the observers.

The New Anæsthetic.

Professor F. G. Novy, of Ann Arbor, Mich., in a discussion and analysis recently published, shows that the new anæsthetic stenocarpine or gleditschine, which has attracted considerable attention, is nothing but a mixture of cocaine and atropine. More exactly, Professor Novy determines it to consist, essentially, of 6 per cent. of cocaine hydro-chloride; 50 per cent. of atropine sulphate, and about a third of 1 per cent. of salicylic acid, the latter being used as a preservative.

Electric Lighting in the United States.

In a public lecture on "Electric Lighting," delivered during the meeting of the British association, Mr. George Forbes, after remarking that there were probably more than 300,000 arc lamps in the United States, said that the Americans were also getting the start of the English in electric railways and tramways, and generally in the application of electricity to motive power.

Remarkable Monuments.

Near the small town of Bamian, in Afghanistan, at the foot of the Hindoo Koosh chain of mountains, several colossal statues were discovered about a year ago, which in point of size, The Popular Science News avers, excel any representation of the human form ever carved by the hand of man.

The valley in which Bamian is situated is bordered by precipitous cliffs of a hard conglomerate rock; and in the sides of one of the cliffs five immense statues have been cut out of the solid rock, the largest of which is no less than 173 feet in height. The cut gives a view of the town of Bamian, with one of the statues standing in its niche in the rock. The interior of this niche was covered with paintings of human figures, some of which are still well preserved.

THE LARGEST STATUE IN EXISTENCE.

Rude staircases are cut in these figures, by which access can be gained to the heads, the same as in our modern colossal statues. Some time after the completion of the statue, its draperies were formed by masses of stucco molded into their proper shape and fastened to it. The general appearance of these statues indicates that they were the work of the Buddhist monks, who were very numerous in this region about the time of the Christian era. The largest one at least was doubtless meant to be a representation of Buddha. They were probably made about nineteen hundred years ago.

These remarkable monuments were rediscovered by modern English and Russian explorers.

PHYSIOLOGY AND HYGIENE.

What to Do for a Fainting Fit—The Antiseptic Properties of Coffee.

When a person faints he should be immediately laid on his back so as to favor a flow of blood to the brain. The clothing about the neck, chest and waist should be loosened and an abundance of fresh air provided by opening the windows. Dashing a small quantity of cold water in the patient's face usually excites a gasp and hastens the return of consciousness. If within reach, ammonia may be held near the nose for a moment, but must not be too strong or applied too long. Smartly slapping the left side over the heart may hasten reaction. Sometimes passing the forefinger back into the throat will also have a stimulating effect upon the respiration. Beside the above directions, The Journal of Health states that one who has fainted should never be allowed to remain in a sitting position, or to have even the head raised, for there is danger in so doing. The patient should be kept flat on the back till entirely recovered from the attack. As consciousness returns, a little strong coffee or a small quantity of alcoholic stimulants may be administered if necessary. Those who faint easily would do well to have the aromatic spirit of ammonia always near them. Of this half a teaspoonful may be taken in a little water as soon as an attack seems imminent.

Coffee a Powerful Antiseptic.

Professor Heim has recently demonstrated by careful experiment that roasted coffee has powerful antiseptic properties. He claims that caffeine is death to micro-organisms; that infusions of animal matter in coffee may be exposed to the air without gathering mould, that the bacilli of cholera cannot live in coffee, and that under its influence the microbes generated in pus perish forthwith. Good effects have been ascribed to the use of coffee in cases of typhoid and malarial fever, but these were attributed to its tonic power on the nervous system. By Heim's showing such results seem largely due to the antiseptic property of caffeine.

Drinks for the Voice.

Tea, coffee and cocoa are three admissible drinks, but not in excess. For the voice, The American Druggist recommends cocoa as the best. A cup of thin cocoa, just warm, is more to be recommended between the exertions of singing than any alcoholic beverage. Tea must not be taken too strong nor when it has been drawn too long, for it then becomes acid and has a bad influence upon the mucous membranes of the throat. There is always a sensation of dryness after taking a cup of tea that has been allowed to draw too long.

Treatment of Sprained Ankle.

In severe sprain of the ankle a medical authority advises to immerse the joint as soon as possible in a pail of hot water and keep it there for fifteen or twenty minutes. After removing it keep it bandaged with hot cloths wrung out of water or rum and water.

A Cheap but Effective Gymnasium.

The subject of our cut is the cheapest and simplest gymnasium in the world—one that will exercise every bone and muscle in the body.

THE CHEAPEST GYMNASIUM IN THE WORLD.

As high authority as The New York Medical Times recommends this comparatively little used health machine. It is a flat piece of steel, notched on one side and fitted tightly into a wooden frame. Before exercising, grease it well on both sides with a bacon rind; then rub it into a stick of wood laid lengthwise of a saw buck. Result, "Good digestion waits on appetite."

Carbolic Acid as a Disinfectant.

Carbolic acid was for a long time trusted above all other disinfectants. It is now claimed that experiment has proven it of but moderate value for disinfecting purposes, having very little power to destroy bacteria and other minute organisms.

SOCIAL ETIQUETTE.

The Excusing Hostess—Unpleasant Truths Usually Give Offense.

If you are fond of careless housekeeping it is entirely your own affair, but to impress it on your guests is an experiment you will not find successful, for they will not stand it often, says Good Housekeeping. The excusing hostess is particularly annoying at meals, and often obliges her guests to eat of unsavory or ill cooked dishes in the effort to save the feelings of one who deserves little consideration. Unless you eat extravagantly she is sure the meal is "badly prepared," "not to your taste," "overdone," "underdone," or she "just knows you will starve."

Don't make people at your table eat more than they wish to; particularly don't urge on them anything that is one atom questionable by debating its merits, and so challenge a polite person to accept more of it (as a proof of its superior quality) than is agreeable.

Truth Without Courtesy.

The fact that unpleasant truths cannot be told without giving offense, unless conveyed with the kindest manner and in the most courteous of phrases, is illustrated by the following incident. If girls will play with each other's fire their hands should be encased in asbestos:

Two young ladies, who were confidential friends, resolved with each other to point out their mutual faults with a view to improving. They were seated, cozily chatting, when one said to the other:

"There is one thing, Clara, love, I have often noticed in you, and that is a habit of interrupting people when"——

"I interrupt, Laura, dear! Why, you must be mistaken! I have always considered it the rudest thing in the world. Now, you have a habit of contradicting that is very disagreeable."

"I don't cross my feet, if I do!" said Laura, tartly.

"I don't use violet powder!" retorted Clara.

"You're not very polite, miss!"

"Quite as much so as you!"

"I think you're very mean!"

"I think you're horrid!" (Tears.)

"You needn't ever speak to me again!" (Sobs.)

"Don't you recognize me till I do you!"

And the two friends parted in enmity.

YOUNG FOLKS' COLUMN.

A SHORT STORY IN RHYME ABOUT LITTLE MISS MARY M'GEE.

A Brief Account of the First Balloon Ascension—The Remarkable Armor of Henry VIII Now in the Armory of the Tower of London.

Among interesting objects found in the Tower of London by travelers is the curious armor used in ancient times for protection by warriors. One of the most remarkable armors in the armory of the Tower of London belonged originally to Henry VIII. This armor, as will be seen from the cut, was designed to protect both rider and horse.

ARMOR OF HENRY VIII AND HIS HORSE.

This armor was made in Germany and was originally richly gilded. On the surface of the armor appear in various places the rose and the pomegranate, the emblems of the king and his wife Catherine of Arragon, to whom Henry had been a short time married. Henry's badges, the red dragon, the fleur de lis, and the portcullis, also appear. Various legends are engraved on this suit; on the breastplate is St. George and the dragon, and on the backplate is St. Barbara and her emblems. The armor of the horse is richly embellished. Around the lower edge of the armor is engraved, in many places, in French, the motto, "God and my right," and there are further adornments in the way of heraldic devices, arabesque work, and curious figures of men and beasts. Nothing can exceed the richness of this armor, which from the circumstances of its having a female figure on it, on the front of whose bodice is engraved the German word "Gluck" (good luck, health, prosperity), is supposed to have been presented to Henry by the Emperor Maximilian.

The First Balloon Ascent.

It was on the 5th of June, 1785, that the small town of Annouay, near Lyons, France, was in a state of great excitement, as Joseph Montgolfier and his brother had promised to exhibit a balloon ascent—an unheard of thing, incredible, as most thought. At the appointed hour a crowd gathered to witness the novel spectacle. Nothing, however, was visible but immense folds of paper, 1,110 feet in circumference, fitted to a frame weighing 500 pounds and containing 22,000 cubic feet. To the astonishment of all it was announced that this balloon would be filled with gas and would rise to the clouds on the application of fire underneath. The mass gradually unfolded and assumed the form of a large globe. At length it rose with great rapidity, and in less than ten minutes was at an immense elevation and then gradually sank. This balloon contained nothing but heated air rarefied by fire, the receptacle of which was attached underneath the globe of paper, which had an orifice opening downward.

There have been many stories related as to what gave the first idea of such a machine as the balloon—some asserting that it was Joseph who first caught the notion by watching the smoke as it ascended the chimneys.

Various experiments were afterward made in Paris previous to the time when men freely trusted themselves to these hazardous conveyances.

Joseph Montgolfier died on the 26th of June, 1810, having survived his brother eleven years. When Bonaparte, then first consul, distributed crosses of honor to citizens who had contributed to the advancement of arts and sciences, the decoration was bestowed upon Montgolfier.

The Newfoundland Dog.

The present rage for pet dogs has served to put in the background the noble breed of Newfoundlands. This ought not to be, for a first class Newfoundland dog is not only a handsome, noble animal, but is a useful one as well, and as a companion and guardian for children is unequaled. They seem to take to guarding their master's children as a matter of course, accompanying them on their rambles, and their skill in rescuing children from the water is proverbial. They are very cleanly in their habits, and at night will carefully guard the premises. They can readily be taught to pull children's wagons, giving the little folks a chance to "play horse" on a small scale, while they soon learn to carry bundles and baskets to and from market or store. They attain a weight of from 125 to 160 or 170 pounds. First class pups readily bring from $25 to $30 each. In color the Newfoundland is either solid black or black in main color, with ring of white around neck, or with white on breast and toes. The hair should be strong and wavy and the coat heavy.

Mary McGee's Happy Disposition.

Now if you or I on a windy day,
Were hanging out clothes like that,
I'm afraid we should be just a little provoked.
If the wind blew off our hat.

WORKING AGAINST THE WIND.

But Mary McGee
Is wiser, you see,
When it blows you will hear her cry,
"Never mind, Mr. Breeze,
The more you tease,
The quicker my clothes will dry."

—St. Nicholas.

THE CURIOSITY SHOP.

The Last Struggle for Protection in England.

In January, 1846, the government of England (Sir Robert Peel, prime minister) introduced a bill to wholly abandon (with some limitation of time) the protective duties on grains, and gradually to apply the principles of free trade to manufactures and every description of produce. With the support of the Anti-Corn Law league, headed by Cobden and Bright, the bill passed the house of commons May 15, and on July 25, 1846, was successfully carried through the house of lords, chiefly by the influence of the Duke of Wellington. It was the last great pitched battle fought by the protectionists in Great Britain.

Does Friction Increase with Speed?

In reply to the query, does friction increase or decrease with speed? Grimshaw answers: Both. When the speed is slow, increasing it may decrease the friction per turn; but where the speed is fast, it may be found that increasing speed increases the friction per turn also. There are two sides to almost every question, and particularly so in this case. The more viscous the lubricant, the greater pressure can be carried upon the bearing.

The President's Abode.

The "White House" is so called from the color which it has always been painted. The structure is of freestone. The bulk of the expenses of the White House are paid by the president out of his salary. There is a "contingent fund" appropriated by congress, which provides for the care of the grounds and the salaries of the public employes about the place.

A Peculiarity of 1888.

Next year (1888) will be a peculiar one in this respect—that the last three numerals which compose it will be the same figures, a circumstance which can occur only once in a century, or, more strictly speaking, once in every 111 years, as it will be 111 years before another "three of a kind" (1999) will be reached.

Reynard the Fox.

"Reinaert de Voss," or "Reynard the Fox," a satirical poem, written about 1250 by William Van Utenhoven, a priest of Aerdenburg, was for centuries the most popular work ever written. It was translated into many languages.

Rose and Violet.

The violet is the emblem of modesty, the white rose signifies silence; so that when a young lady, in her reply to a written declaration of love, sends those flowers she evidently intends it to be understood that she is to be won—that she must be sought after.

An Old Dance.

The 100th anniversary of the waltz occurs on the 20th of this month. On Dec. 20, 1787 Vincent Martin presented an opera in Vienna which contained a new dance which at once became popular. This dance was the waltz.

Birthplace of Homer.

It was the poet Homer whose birthplace was contested by seven cities.

Seven wealthy towns contend for Homer dead
Through which the living Homer begged his bread.

Financial Panics.

The dates of the great commercial and financial panics are 1763, 1783, 1793, 1797, 1825, 1837-8, 1847, 1857, 1861 and 1873. The earlier of these, of course, refer to England.

Population of American Colonies.

The population of the American colonies at the beginning of the French and Indian war in 1754 Mr. Bancroft estimates at 1,165,000 whites, 260,000 colored.

Charing Cross.

"Charing Cross," Eng., was so called from the erection of a memorial cross at Charing, to the good Queen Eleanor, who died on an expedition to Scotland in 1290.

Mr. Holmes' Masterpiece.

The "One Hoss Shay" is not, as some suppose, an allegory. It is a chronicle of an absolute triumph of pure logic.

The First Lager.

Lager beer was first brewed in the United States in 1842, when a German named Wagner made it in Philadelphia.

The Father of History.

Herodotus, the first Greek historian, and father of history, lived, according to Cicero, about 450 B. C.

Invention of the Balloon.

Air balloons were invented by Gusmac, a Jesuit, in 1729, and revived by Montgolfier in France in 1783.

First Use of Bricks.

Bricks were first used in England by the Romans, and in 1625 Charles I fixed their regular size.

The Inventor of Postage Stamps.

The inventor of the postage stamp was Rowland Hill, the founder of the English postal system.

Alaska.

The area of Alaska is 53,409 square miles, or about one-fifth the area of the United States.

The French for Dry.

The word "sec" or "seche," as applied to wines, is a French adjective meaning dry.

The Small Boy's View.

"Ah, my son," said the minister; "I'm glad to see you in the Sunday school at last. Is this your first Sunday?"

"Yes, sir."

"How do you like it?"

"Oh, guess I kin stand it until after the Christmas tree."—Tid Bits.

In a Big Hurry.

Dennis (to street car driver)—O'im an a big hurry to rache Farty-sicond strate, Kelly.

Driver—Thin Oi wud advaise ye, Dennis, to take the nixt car behoind. Thim harses O'im drivin' be no good.

Dennis—Be gobbs, Oi wull, Kelly.—New York Sun.

Not Feeling Well.

Gentleman (to messenger boy)—How is this, boy? I should have received this dispatch hours ago. Are the wires in bad condition?

Messenger boy (feebly)—No, sir; the wires are all right, but I am in bad condition myself.—The Epoch.

An Oriental Tale.

There once was a gay Turkish Pasha,
Who winked—what on earth could be rasha!—
At the sultan's best wife,
And for that lost his life.
The moral is: Don't be a masha!

—Life.

The Lewiston (Me.) Journal asserts that Nathaniel Hawthorne spelled his last name "Hathorn" when he was in Bowdoin college.