

SCIENCE IN A NUTSHELL.

Results of Many Interesting Experiments Described in a Few Lines.

The movements of glaciers in summer is found to be four times that made in the winter.

The preservation of rails in use is due to the formation of magnetic oxide produced by the compression of the rust on the metal.

In testing forty-two boys between nine and sixteen years of age for color blindness, not one made an error in matching the colors.

Cryolite for making candles is brought from Greenland, where important and little known mining operations are carried on.

Experiments carried on at Astrakhan show that the culture of the silk worm could be carried on as far north as the mouth of the Volga.

Recent researches show that the electrical organs are really modified muscular organs or the termination of nervous structures in muscles.

The vegetable matter in the sea to the westward of the Azores has been found to contain a large amount of fish and other life sustaining substances.

The New England Meteorological Society proposes a loan exhibition of astronomical apparatus, photographs, etc., in connection with its fourteenth regular meeting in Boston.

The danger from gases only in connection with house drainage are said to be comparatively easy to avoid, the main consideration being a continuous thorough ventilation of the pipes.

There are propositions in France to construct canals from Bordeaux to the seaboard of the Atlantic and from Narbonne to the Mediterranean; total length, 330 miles; cost, \$130,000,000.

To the changed condition of a vessel's magnetism by induction during a lengthy voyage may be attributed the loss of more vessels than is usually thought to be the case among mailmen.

Dr. Rutgers, of England, after an extensive series of dietic experiments, declares that a vegetable diet can easily be lived on, and that vegetable albumen is, weight for weight, equal to animal albumen.

Professor Gaddes calls attention to two tendencies in organic evolution—the vegetative and the reproductive—and asserts that evolution is the result of the universal subordination of the former to the latter.

In the new process of metal plating the inventor does away with batteries and dynamos and depends upon a double electric composition; in copper plating cast iron an alkaline bath is used in place of an acidulated one.

One of the chief features of the use of paper for building purposes is the ease with which it can be worked into sheets of any required width or thickness that will not be affected by changes of temperature or humidity.

At a recent meeting of the Academy of Sciences the Prince of Wales read a paper demonstrating the susceptibility of shipwrecked people, who have taken to the boats and are without provisions, being able to sustain life with what they could catch in a drag net trailing overboard over night.—Rome Sentinel.

ETIQUETTE WITH VARIATIONS.

Funny Little Tricks Ruled Out of Order at the Table.

Whitening between courses is not allowable. No well bred person will eat cayenne pepper with a spoon.

It is not the proper paper to take your pet moustache out to dine with you.

Never ask your hostess for "the check" at the conclusion of dinner.

It is not deigner to want more than three napkins in the course of a single meal.

If it is served do not offer the apple core to the waiter or throw your banana skin on the floor.

Pie is no longer fashionable in society. No member of the charmed circle ever thinks of substituting pie for fish.

Do not ask for more than five plates of soup, no matter what your politics may be or what kind of soup may be served.

Keep your food on the table. It is not deigner to drop roast beef, or, indeed, any other edible on your hostess' carpet.

No matter how your corns may ache you are not justified in slipping off your pumps under the table during the progress of the meal.

Thick soups are very common. It must be remembered that it is vulgar to attempt to out your soup with a knife, no matter how thick it may be.

Avoid personalities, and do not perpetrate the old joke of asking an oyster patini to "sing Home, Sweet Home" in her own inimitable way for you.

Should your friend invite you home to a real home made dinner, do not advise him to try Browne, the caterer, if you wish to remain a friend of his wife's.

If you do not happen to care for the same course let it go, and under circumstances give your portion and wrap it up in paper for consumption later on.

Gifts of dinners should avoid practical jokes. Such old-time customs as putting hairpins in the soup and sweeping machine oil in the salads have gone out entirely.

It is not proper to throw olives at the waiter in order to attract his attention, nor is it at all polite to thistle your wine glass with your knife for the same purpose.

Do not put your host's silver in your pocket. He may have hired it for the occasion, and such thoughtless behavior on your part might lead to embarrass him.

Avoid politics at dinner. If you are unwillingly drawn into the heated debate rather admit yourself in the wrong, than throw a plate of ice cream at your adversary's wife.

Do not complain of the cooking when you do dine at the house of a friend. His wife has prepared the meal and you certainly have no wish to hurt the feelings.

At public banquets it is considered very witty to hit the after-dinner speaker in the back of the neck with bread balls, cherry stones or Malaga grapes, but under no circumstances is it proper to substitute charitable cause or filth for these objects.

If your host tells you that the soup is called cream d'artois take his word for it. It may seem like pea soup, and it probably will be pea soup, but some people like their soup better in French than in English, and you must remember that every man is entitled to his own taste.

THE CANADIAN FUTURE.

The January issue of the Cosmopolitan magazine contains brief expressions of public opinion in the United States on the question of Canadian annexation. Mr. Battersworth and Mr. Kelly, of the House of Representatives,

are unreservedly in favor of it, as is Senator Sherman, Senators Ingalls and Morgan, Mr. Speaker Carlisle and Mr. McCrary, chairman of the House of Representatives Committee on Foreign Affairs, and Mr. Breckinridge for it, but they are more reserved than those first named. Senator Hiscock is opposed to it, but he says that conditions might arise under which it may be desirable. Mr. McKinley, of the House of Representatives, declares that he cannot answer satisfactorily. It is too large a question on which even to "guess." Doubtless the public opinion of the United States can never directly affect the question. The future of Canada is a matter to be settled by the Canadian people, and by them alone. Mr. James Bryce, M.P., in his new work on "The American Commonwealth" correctly assumes this. He believes that annexation should ever take place it will be at the wish and by the act of the Canadians themselves rather than as the result of any external force.

A PROFESSIONAL OPINION.

Rev. F. Gunnar, M. D., of Litchfield, Ont., says regarding B.B.B., "I have used your excellent Barodock Compound in practice and in my family since 1884, and hold it No. 1 on my list of sanative remedies. Your three busy B's never sting, weaken or worry."

LEGAL GROUNDS FOR DIVORCE.

CAUSES RECOGNIZED AS SUFFICIENT TO SEPARATE UNHAPPY COUPLES.

"Attempt on life," Illinois.

"Fugitive from justice," in Virginia.

"Unreasonable temper," Kentucky.

"Parties cannot live in peace and union," in Utah.

"Any gross neglect of duty," in Kansas and Ohio.

"Mental incapacity at time of marriage," in Georgia.

Willful desertion for five years is a cause in two States.

"Gross misbehavior or wickedness," in Rhode Island.

Fraud and fraudulent contract is a cause in nine States.

Imprisonment for felony is a cause in all States except ten.

"Refusal of wife to remove into the State," in Tennessee.

Absence without being heard from is a cause in several States.

Willful desertion for three years is a cause in fourteen States.

Physical inability is a cause in all States and Territories except ten.

Willful desertion for one year is a cause in fifteen States and Territories.

"Habitual indulgence in violent and ungovernable temper," in Florida.

Habitual drunkenness is a cause in all States except ten.

Settled aversion which tends to destroy all peace and happiness, in Kentucky.

"Husband notoriously immoral before marriage, unknown to wife," in West Virginia.

"Three years with any religious society that believes the marriage relation unlawful," in Massachusetts.

"Such indignities as render life burdensome," in Missouri, Oregon, Pennsylvania, Washington Territory and Wyoming.

The violation of the marriage vow is cause for absolute divorce excepting in South Carolina and New Mexico, which have no divorce laws.

"Cruel treatment, outrage or excesses such as to render their living together insupportable," in Arkansas, Kentucky, Louisiana, Missouri, Tennessee and Texas.

Cruel and abusive treatment is a cause in all States and Territories except New Jersey, New Mexico, New York, North Carolina, South Carolina, Virginia and West Virginia.

Failure of the husband to provide, no time specified, is a cause in five States; for one year it is a cause in five States, and for two years it is all that is necessary in two States.—Exchange.

A BOON AND A BLESSING.

A boon and a blessing to mankind is Haggard's Yellow Oil the great pain destroyer and healing remedy for external and internal use. Yellow Oil cures all sores and pains, rheumatism, lame back, sore throat, croup, deafness, cramps, contracted cords and lameness. Procure it of your druggist.

A PROMISING BOY.

A St. Louis dry goods house advertised for a "smart boy," and they got him. They put him behind the counter. The following conversation passed between him and his first customer:

Customer (picking up a pair of gloves)—What are these?

Smart Boy—Gloves.

Customer—Yes, yes; but what do you ask for them?

Smart Boy—We don't ask for them at all; customers do that.

Customer—You don't understand us. How do they come?

Smart Boy—Why, they come in pairs, of course.

Customer—No, no! How high do they come?

Smart Boy—Just above the wrist, I believe.

Customer—But what do you get for them?

Smart Boy—Me? I don't get nothing for them. Boss pockets all the money.

Customer (losing patience)—What is the price of those gloves per pair?

Smart Boy—Oh, that's your try, is it? Why didn't you say so before? One dollar.—St. Louis Magazine.

WOMEN OF THE NILE.

THE PECULIARITIES OF LOOKS, DRESS AND CUSTOMS AMONG THE GHOPIATRAS OF TODAY.

In youth the women of Egypt, writes a correspondent of Truth, generally have lovely features, plump, supple and elegant. An excess of flesh is rare among them. Graceful curves and upright carriage and finely-modeled hands and feet are common characteristics. Their faces, too, are usually pleasing and often beautiful, with the richly tinted softness of the South. So weak is the expression of these faces, so bewitching are the glances of their dark eyes, that an experienced traveller declares they are the most perfect women in the world.

The eyes of nearly all are large, black and almond-shaped; their soft expression, still further heightened by long lashes and the universal use of "kohl," with which they blacken the edges of the lids. They have oval faces, sometimes a little broad, and clear olive complexion. The lips are usually quite full. The nose is straight, though a little wide. Glossy black hair, with eyebrows that form a lovely arch, complete the features of these sirens, famed since Cleopatra for beguiling beauty.

They dress the hair in an elaborate fashion. It is cut short over the forehead, but on either side of the face hangs a full lock, often curled or braided. The rest of the hair is arranged in numerous braids, usually from eleven to twenty-five, but always an odd number. Three black silk cords, bearing little orna-

FACTS FOR THE FIRESIDE.

Pleasing Information for the Home Circle—Instruction and Amusement—Nature's Storehouse Yields Up Treasures for the Mind.

GAS VS. COAL STOVES.—A series of tests have recently been made by Dr. Fischer, the well known German chemist, showing that in ordinary domestic stoves in use not more than twenty per cent of fuel consumed is really used for warming the rooms, whereas, with stoves burning gas, eighty per cent and more of the possible effect is obtained.

PUBLICATIONS IN JAPAN.—A gentleman writing from Japan says that although it is only eighteen years since the first newspaper was published in Japan, there are now 575 daily and weekly newspapers. There are thirty-five law magazines, 111 scientific periodicals, thirty-five medical journals and an equal number of religious newspapers.

USELESS PERPETUAL MOTION.—The authorities of the Patent Office say that perpetual motion is certainly a thing no longer to be laughed at. Chief Clerk Liscomb insists that they have now at the Patent Office models that do go until they wear out, and they have the power to run till doomsday. But they are all, so far, practically useless, because they can do nothing else but run themselves. They have no surplus power to run something else. But he thinks the machine will come that will be of practical use by running other machines.

ENGINES AND MACHINE TOOLS.—Never in the history of the country has the production of steam engines and machine tools been so active as during the past year. The rapid advances made in the electric lighting and the extended application of cables and electric motors to street railroad work undoubtedly has much to do with the increasing demand for engines and boilers, yet it is also true that new shops are also being erected and old ones enlarged and refitted in every quarter. The Southwestern and Western States show a very marked growth in mechanical lines, and the amount of machinery lately shipped into that section from the Northern States is surprising. It is a notable fact that a number of manufacturing agricultural machinery are lately giving considerable attention to the construction of steam engines for general purposes.

SCENES OF A FAMOUS POEM.—The Vale of Cashmere, where Lalla Rookh was married, and many of the scenes of the famous poem are laid, is 200 miles from the last point of the railway, travelling north from India. The "Happy Valley," as the name signifies, is an independent State. It was purchased from the British Government by Gulab Singh for £750,000 sterling. Until recently it could be visited by foreigners only with permission obtained from the Maharajah. Now, however, foreigners can live in Cashmere and own property there.

NEW PARIAN INDUSTRY.—A new Parian industry is the manufacture of hoar frost glass, which is covered with feathery patterns resembling those naturally produced upon window panes in cold weather. The glass is first given a ground surface, either by the sand blast or the ordinary method, and is then coated with soft varnish. The varnish contracts strongly in drying, taking with it the particles of glass to which it adheres, and this reproduces very accurately the branching crystal of frost work. A single coat gives a delicate effect, and several coats yield a bold design.

WATER ABSORBED BY PIANOS.—A piano tuner who says that pianos frequently deteriorate because they are allowed to become too dry, prescribes this remedy.—"Keep a growing plant in the room, and so long as its plant thrives your piano ought to, or else there's something wrong with it. Just try it, and see how much more water you'll have to put in the flower-pot in the room where your piano is than in any other room. Some people keep a huge vase or urn with a sopping wet sponge in it, near or under the piano, and keep it moistened just as a cigar dealer keeps his stock. They keep this up all the time the fires are on."

A TEST FOR TEA.—A Russian analyst, writing to the papers, gives the following as a test by which tea can be proved to be genuine or not. Take a pinch of tea in a glass, pour upon it a little cold water and well shake it up. Pure tea will only slightly color the water, while a strong infusion is quickly got from the adulterated or painted leaf. Now hold both sorts separately, and let them stand till cool, and the difference between them will be most marked. The false tea will become still stronger after long standing, but will remain transparent. Whereas the pure tea will become muddy or milky. This last appearance arises from the tannic acid which is a natural property in pure tea, but which in artificial teas is entirely absent.

A FREE RAILWAY LIBRARY.—Arrangements are being made by which travellers on the Austrian and Hungarian railways will from next spring be enabled to borrow books at railway bookstalls to be read during a journey. The conditions are, says the Times Vienna correspondent, to be a deposit of one or two florins to cover the value of the book, and a fee of ten kreutzers (about 33) for the loss of the volume. The deposit will be returned to the borrower on his giving up the book wherever he may alight. This circulating library system applied to travelling has not yet been tried on the Continent. Its chief originator is an Englishman, who proposed to lay in a stock of popular works in all languages.

ICE MADE BY A REFRIGERATOR.—A Boston inventor claims to have perfected a process by which ice may be manufactured in an ordinary refrigerator. He has exhibited his invention to a gathering of capitalists. In the room was a refrigerator. There was a stove, and the temperature of the room was 72 deg. Fahrenheit. In the locked and sealed department of the ice-chest was a small tin case filled with the "mixture." There was no ice in the chest. The temperature of the rest of the chest was 25 deg. All was clean and dry. A gentleman placed a tumbler of partly melted ice in the chest, and in fifteen minutes it was frozen solid. The inventor claims by his process to be able to produce cold from any degree down to zero. The annual cost to an ordinary household would be about \$7.

Holloway's Pills.—Nothing preserves the health so well as these alterative Pills in changeable weather, or when our nervous systems are irritable. They act admirably on the stomach, liver, and kidneys, and so thoroughly purify the blood, that they are the most efficient remedy for warding off dysentery, and other malarial and giving tone and energy to enervated invalids. All who have the natural and laudable desire of maintaining their own and their family's health, cannot do better than trust to Holloway's Pills, which cool, regulate, and strengthen. These purifying Pills are suitable for all ages, seasons, climates, and constitutions, when all other means fail, and are the female's best friend.

WM. ROWAN OF ST. LOUIS, MO., MADE RICH.

He tells us of his recent drawing in The Louisiana State Lottery of the winning ticket that drew the capital prize of \$300,000. His share was one twentieth of the whole amount, or \$15,000. At the time of his good fortune he was a ship carpenter employed at the St. Louis Siphon Docks, but has since retired. He stated that he will continue to buy tickets the same as usual, in the hope of striking the capital prize again.—St. Louis (Mo.) Star-Sayings, Dec 2.

The latest case of absence of mind is that of a young lady who, on returning from a walk with her lover, stepped into the face and back good night to the door.

Sio Transit—Crossing the ocean.

WIT AND HUMOUR.

It's all up—With the balloonist. An attractive paper—Fly paper. Hard to beat—A wet carpet.

The rate that a ship travels at is no stated. A ghost of a show—A spiritualistic seance. Speaking of blowing people up, the kerosene can.

Thieves are bound to their profession by hooks of steel. When a meter is out of order it is probably troubled with the gas-trick fever.

When is a newspaper sharpest? When it is filed. Toot terrible—The blast of the amateur corset player.

When the captain wants to stop the vessel does he hoist a stay-sail? "A little thing may completely upset a man," observed Smith when he stumbled over the baby.

"Why are you always so blue, Scribber?" "Because," said the author, "I'm so very seldom read."

"Are you engaged to Miss Eslet?" "No, not exactly. But when I asked for her hand she gave me the refusal of it."

One may screw up his courage and have his attention riveted. Why is the figure 9 like a peacock? Because it is nothing without its tail.

It is said—Ironically perhaps—that blacksmiths, forge and steel every day. A delicate parcel to be forwarded by rail—A young lady wrapped up in herself.

What a difference it makes whether you put "Dr." before or after a man's name. The book reviewer, unlike other literary men, can do his best work when in a critical condition.

"I am to tell the truth." "Yes," interrupted an acquaintance, "but you're a very bad shot."

"How doth the busy little bee?" Well, if you meddle with him much you will be apt to find out how he doth.

What is that which comes with a coach, goes with a coach, is of no use to the coach, and yet the coach cannot go without it? A noise.

Here Soup—Customer (in restaurant): There's a hair in the soup, waiter, and I can't eat it. Waiter: Is that so? Have you tried to eat it, sir?

Brown—So your girl's father showed you the door? Jones—He did. Brown—How did you feel over it? Jones—Well, I felt put out.

ARTILLERY IN ACTION.

A Graphic Description of a Battle With Big Guns.

Did you ever see a battery take position? It isn't the drill of a cavalry charge, nor the grimness of a line of bayoneted soldiers, and determined on, but there is a peculiar excitement about it that makes old veterans rise in their saddles and cheer.

We have been fighting at the side of the woods. Every cartridge box has been emptied once or more, and one-fourth of the brigade has gone away in dust and wounded and missing. Not a cheer is heard in the whole brigade. We know that we are being driven foot by foot, and that when we break once more the line will go to pieces and the enemy will pour through the gap.

Here comes help. The crowd of the highway gallops a battery withdrawn from another position to save ours. The field fence is scattered while you could count 300, and the guns rush while you could plant in the room, and so long as its plant thrives your piano ought to, or else there's something wrong with it. Just try it, and see how much more water you'll have to put in the flower-pot in the room where your piano is than in any other room. Some people keep a huge vase or urn with a sopping wet sponge in it, near or under the piano, and keep it moistened just as a cigar dealer keeps his stock. They keep this up all the time the fires are on."

A moment ago the battery was a confused mob. We look again and the six guns are in position, the detached horses hurrying away, the ammunition chests open, and along our line runs the command: "Give them one more volley and fall back to support the guns." We have scarcely obeyed when boom! boom! opens the battery, and jets of fire jump down and scorch the trees under which we fought and despair.

Now the shattered old brigade has a chance to breathe for the first time in three hours as we form a line and lie down. What grim, cool fellows these cannoners are. Every man is a perfect machine. Bullets splash dust in their faces, but they do not wince. Bullets pierce around and they do not dodge. There goes one to the earth, shot through the head as he is loading his gun. The machinery loses just one bolt, misses just one cog in the wheels, and then works away again as before.

Every gun is using short fuse shell. The ground shakes and trembles, the roar shuts out all sound from a line three miles long, and the shells go shrieking into the swamp to cut trees short off, to mow grass and mangle bushes, burn out and shatter and demolish and until their corpses cannot be recognized as human. You would think a tornado was howling through the forest, followed by billows of fire, and yet men live through it, aye, press forward to capture the battery. We can hear their shouts as they fire the rush.

Now the shells are changed for grape and canister, and guns are fired so fast all report blend into one mighty roar. The shriek of a shell is the wickedest sound in war, but nothing makes the flesh crawl like the demoniacal singing, purring, whistling grape shot and the serpent-like hiss of canister.

Men's legs and heads are torn from bodies and bodies cut in two. A round shot or shell takes the men out of the rank as it crashes through. Grape and canister mow a swath and pile the dead on top of each other.

Through the smoke we see a swarm of men. It is not a battle line, but a mob of men desperate enough to have their bayonets in the flames of the guns. The gas leap from the ground and smoke as they are depressed on the foe, and shriek and scream and shouts blend into one awful and steady cry. Twenty men out of the battery are down, and the firing is interrupted. The foe accepts it as a sign of wavering, and comes rushing on. They are not ten feet away when the guns give them the last shot. The discharging pipes living men off their feet and throw them into the swamp, a blackened, bloody mass.

Up, now, as the enemy are among the guns. There is silence of ten seconds, and then the flash and the roar of more than 3,000 muskets and a rush forward with bayonets. For what? Neither on the right nor on the left, nor in front of us, is a living foe. A round shot or shell takes the men out of the rank as it crashes through. Grape and canister mow a swath and pile the dead on top of each other.

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