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WILL SOON BE A SCIENCE.

HISTORY OF BALLOONING TOLD FROM ITS INFANCY.

Aeronautics Receiving Much Attention in the Last Years of the Century—No Little More than 100 Years Since the Montgolfier Brothers Made the Initial Trip With a Hot Air Bag—The Latest Inventions in Europe Are Steered Against the Wind—Progress Expected.

It is only 111 years since the Montgolfier brothers sailed in the air a balloon filled with heated air, a crude affair at best; now the latest developments and investigations of Langley, Maxim, and Holland are becoming well known to the public. But it is only within a few years that any real progress has been made. June 5, 1783, Joseph Montgolfier, at Annonay, France, assisted by his brother Stephen, sent up a balloon made of varnished paper. They are credited with being "the first that ever burst into that unknown sea." But in ancient times mechanical flight was spoken of in the classics, as, for instance, the fable of Daedalus and Icarus in Greek mythology. In the latter part of the fifteenth century the natural philosopher, Dante (not the poet) is said to have sailed several times over Lake Trasymene, in Italy, by means of a pair of wings, till in descending too rapidly he broke his leg; later still, a smith at Sable, France, was able to descend obliquely through the air by means of wings, but could not lift himself. There are also traditions of the airship of Laurent in 1709, that of the Jesuit priest, Laza, and finally that of the Portuguese, Guzman, of whom it is maintained that he invented an air balloon with hydrogen gas, which burst at a great altitude, and came down about twelve miles from Paris, where the superstitious peasants destroyed it with hayforks and flails.

THEY CARRIED PASSENGERS.

The first ascension with passengers was undertaken by the marquis d'Ariande and Pilatre de Rozier, coming down in twenty-five minutes at a distance of five miles from the starting point. Dr. John Jeffries, a graduate of Harvard, made in 1785 the first passage by balloon from England to France with the aeronaut Blanchard, paying him over £700 for the cost of the trip. The trip occupied two hours only. A monument was erected at the point of embarkation and Mr. Jeffries was much feted by the municipal council of the city of Guines, in France, and its comple—having descended in the forest of Guines. Improvements were made soon after in the safety valve, hanging the car in a net, the method of using ballast, etc. Gay-Lussac and Biot reached an elevation of 7,000 meters, or 21,000 feet. No further progress was made in the construction of balloons and the scientific development of aerial navigation for nearly a century.

The employment of balloons in warfare was found to be practicable during the siege of Paris in 1870, when Nadar and others established the balloon postal service. Gambetta himself did not hesitate to escape from Paris in this manner. In Tonquin, in the late French war, balloons were employed. The balloon rose to a height of 150 meters, or during battles to 250 meters, and from that height it was possible to inform the commanding officer as to the point where the projectiles fell, the strength of the enemy, etc., by raising the voice or by dropping written communications weighted with stones. It was also through this means that the Chinese were prevented from retreating from Bao-Ninh, and that place was taken without firing a shot.

The use of the balloon in the recent great military maneuvers in France has perfected the science greatly, as shown by M. Debreux, an officer of engineers, in his report. In concluding his report he claims that if Napoleon at Waterloo and Bazaine at Saint Privat had had a balloon service at their disposal at a different result might have been expected from both battles, and thereby the course of history would have been changed. M. Debreux thinks that at a distance of three miles the balloon would be beyond the reach of artillery, and would command the ground for a distance of more than six miles; and even at night the country is sufficiently illuminated to be compared with a map. It is difficult, however, to distinguish the movements of troops in a wooded country, and there are other drawbacks.

NEW ERA COMING.

If the proposed balloon ventures succeed a new era will have been inaugurated in aeronautics. The greatest of these is the navigable balloon, based on the theory of Lieut. Clement de St. Marcq. It consists in sending an electric current to a motor placed in a casing, which is suspended by a balloon, thus operating a propeller situated in the anterior part of the casing, the current to be conveyed to the motor by means of a pliable cable towed by the balloon, and sliding along an elevated aerial way by means of a trolley. The balloon is an elongated or cigar-shaped form. The central part of the casing is the governing station, where the motorman has access to all the actuating levers. The anterior part is reserved for passengers, fitted up like a saloon steamer, and will accommodate twenty-five to thirty people. The posterior part is reserved for machinery. Here is located a motor of 145-horse power. The speed of the balloon is estimated at twenty-five miles an hour. The electric current is generated by two dynamos of 2,000-horse power each. The track is to be laid from the house in the city to the fair grounds, a distance of about a mile.

The other venture in aeronautics—the chateau arial—consists, as its name suggests, in having a castle suspended in mid-air by means of a balloon. This gigantic enterprise is not expected to be in operation until late in the summer. The basket, or "chateau," will hold 100 persons at a height of 1,200 feet; connection between the chateau and the ground is to be established by means of fast elevators between heavy cables. The balloon, the chateau, and the elevators are to be equipped with parachutes in case of accident. The moorings of this aerial monster will consist of forty steel cables, arranged that the airship can be drawn to the ground in a very few moments.

Among the numerous inventions in the field may be briefly mentioned the aerial balloon of M. Champagnon. The propellers of this are not screws or paddlewheels, but a right oblong wing, similar to those of a dragon fly; and they are claimed to develop a propelling force of twice the strength of screw or paddlewheels. Delprat's aerial velocipede seeks to bring the unaided muscular power of man into service for the working of the screw flight.

ECHOES OF THE GREAT STRIKE.

The Best Weapon of the Laboring Classes is the Ballot.

With the lingering echoes of the great and disastrous strike in the United States its folly and infutility is beginning to dawn upon its promoters and chief sufferers. Once more the unequal contest between capital and labor has been decided in favor of the army which was best supplied with the sinews of war. The great railroad strike, as did also the coal strike, has ended in disaster to the poor and the triumph of the rich. The reports of statisticians give the loss in the last strike alone at from \$90,000,000 to \$100,000,000, without including indirect loss in curtailing the summer traffic and delaying the delivery of manufactured seasonable goods. Of this nearly \$70,000,000 was lost by the workmen. What a fearful cost in misery and suffering this unequal struggle has entailed upon the helpless and innocent dependents of labor. The best and most effective weapon of organized labor is not that which strikes down by starvation its helpless and dependent wives and little ones. The best weapon of the workingman, both for defence and offence is the ballot, and until organized labor goes as a solidified aggressive army into the arena of politics and strikes at the root of industrial oppression there can be no amicable adjustment of labor disputes and legalized protection of the weak against the strong. Once let the labor element assert its powers by obtaining control of Parliament, and strikes will cease because labor will be the power supreme in the framing of social and other legislation. A strike is a contest between a weak, unarmed man, with a helpless family dragging at his waist, and a well-fed, well-armed opponent, clad in the armor of wealth, with starvation standing over to upbraid the fight.

CHANGES IN THE U. S. TARIFF.

How the New United States Tariff Will Affect Canada—New and Old Duties.

Following is a list of the duties under the present McKinley law and the changes made by the Senate bill:

	McKinley Law.	Senate Bill.
Horses	20 p.c.	20 p.c.
Cattle	20 p.c.	20 p.c.
Hogs	20 p.c.	20 p.c.
Sheep	20 p.c.	20 p.c.
Barley	25 p.c.	30 p.c.
Barley malt	35 p.c.	40 p.c.
Buckwheat	15 cents	20 p.c.
Oats	15 cents	22 p.c.
Oatmeal	15 p.c.	15 p.c.
Wheat	25 cents	20 p.c.
Flour	25 p.c.	20 p.c.
Butter	6 cents lb.	20 p.c.
Beans	40 cents bushel	50 p.c.
Hay	20 cents	20 p.c.
Honey	20 gallon	20 p.c.
Peas	20 cents bushel	20 p.c.
Potatoes	10 p.c.	20 p.c.
Fish, smoked	30 p.c.	15 p.c.
Plums	20 p.c.	30 p.c.
Apples, green	25 bushel	20 p.c.
Apples, dried	25 lb.	25 p.c.
Meats, fresh	25 p.c.	25 p.c.
Poultry, live	30 p.c.	20 p.c.
Poultry, dressed	50 p.c.	20 p.c.
Wood pulp	\$2.50 ton	10 p.c.
Coal bituminous	75 ton	40 p.c.
Lumber	\$1 per ton	Free
Wool	10 and 120	Free
Eggs	50 dozen	Free
Fish, fresh	50 lb.	Free
Racon and hams	50 lb.	Free
Salt	120 100 lbs.	Free

The bicycling fashion has reached Rome, and many of the Italian ladies may be seen flying about on their wheels.

The trade returns of Germany for the first six months of the year, when compared with those of the same period of 1893, show a decrease in exports of \$6,000,000 marks, and an increase in imports of 151,000,000 marks, 6 and 8 per cent. respectively of the total.

A peculiar incident happened recently in connection with the rifle practice of a New York regiment, at the New Jersey State camp, at Sea Girt. While one of the officers was firing at a target, 300 yards away, three blackbirds flew across the range, and at the crack of the rifle one of the birds fell. Upon examination it was found that the bullet had gone through the body of the bird, and, without deviation, had buried itself in the centre of the target.



INDIA SILK GOWN



OUTING COSTUME.



MARIE ANTOINETTE FIGHU.

PURELY CANADIAN NEWS.

INTERESTING ITEMS ABOUT OUR OWN COUNTRY.

Gathered From Various Points From the Atlantic to the Pacific.

Clover is plentiful this year. Markdale has a lacrosse club. Rodney requires a new cemetery. Wardsville wants a butcher shop. Dog poisoners are at work in Rodney. Ingersoll maidens have the croquet craze. It cost \$202,250 to run Kingston last year. Grills's new market is approaching completion. Railway laboring men are in demand at Ottawa. Pelee Island has now three Customs officers. Owen Sound will probably have a bicycle factory. Thompson's new mill at Teeswater is in operation. Flos Centre is said to have two boys for every girl.

A large wildcat was shot near Glencoe last week. Walkerton now has a telephone line to Glamis. Bath houses are being put in the Asylum Park, Orillia. Small-pox is said to have broken out at Spanish River. Seventh Day Adventist meetings are being held at Darrell. James Angus, pioneer of West Nisourri, is dead, aged 82. The Lucknow Sentinel advocates the dehorning of all bulls. Barrie has raised the circus license from \$100 to \$300 per day. The London pottery has resumed work after six weeks' idleness.

Wm. Abernethy, a pioneer of Lambton County, is dead, aged 73. Mr. Whidden was this week ordained as a Baptist minister at Morden. Kent County and Chatham have a lawsuit about the payment of \$800 in fees. The Galt councillors and the school trustees are to play a game of football. The Bradford fire engineer gets \$25 a year and his assistant \$2 for each fire. The Woodstock Electric Light Company's assessment has been reduced to \$3,500.

Geo. S. Armstrong, the first white male child born in Eramosa, is dead, aged 71. The losses by fire in Chatham during the last twelve years amounted to \$107,160. Mr. and Mrs. Melville Miller, of Orillia, celebrated their silver wedding last week. Mrs. Orange Clark, an old settler of Middlesex county, died at Nisourri, aged 92. The next British Methodist Episcopal Conference (colored) will be held in London in 1898.

It is said that the apple crop about Belleville will be 25 per cent. better this year than last. There are on an average 120 births in Barrie annually, about 100 marriages and about 50 deaths. A new separate school and convent will be erected at River Canard, the estimated cost being \$7,000. The barn and contents of Wm. Jones, townline of Brant and Elfersie, have been destroyed by lightning.

Some Orillia boys fished a mud turtle two feet long and weighing forty pounds out of a mill pond the other day. The man Partridge, who stole a horse, rig and harness at Ballantrae, has been sent to Kingston for four years. Mr. A. W. Martan, formerly conductor on the M. C. R., has been appointed conductor on the St. Catharines and Niagara Central. Mr. Frank Restorick, of Watford, shipped 20 horses by the steamer Indiana for Glasgow last week. Average price at \$75 per head. The first load of new wheat this season has been delivered at South Yarmouth, testing 70 pounds, 28 bushels to the acre, 30 cents a bushel.

Ida Jane, the 17-year-old daughter of Mr. John Rusling, who lives near St. Thomas, has left her home, and her parents are anxious to get some trace of her. Thirty-five men formed themselves into a Montreal Union of the American Railway Union Thursday night. The union is said to be working quietly and secretly for the time being. Ald. Derby of Hamilton proposes to introduce a by-law authorizing the payment of salaries to aldermen at the rate of \$150 per year for ordinary members and \$300 for chairmen of committees. One of the soldiers who was blown to pieces in Chicago in the recent explosion was an old Port Hope man. His name was John Knox, although he enlisted under the name of Jeremiah Dunivan. Among the patents recently granted in the United States to Canadian inventors is one on a clutch pulley to Herman Banker, Barrie, and on a buckle design, patented for 14 years, Geo. M. Aylesworth, Collingwood. Miss Clara Lundy, of Newmarket, won the first prize in the school competition, a silver watch, for the best essay on a subject chosen by the teachers. The subject was "The Province of Ontario." The smallest bird now eaten in England is the wheatear, an exquisite little white-fleshed bird like a miniature partridge in flavour; the smallest quadruped that was once a dainty, but is only remembered in Roman tradition, is the dormouse. There are those who have tried the bat, and found it tastes like a house mouse, only mousier.

PERSONAL PARAGRAPHS.

Interesting Items About Some of the Great Folks of the World.

Lord Salisbury turns the scales at 252 pounds in his boots. Mr. Gladstone, on the other hand, weighs less than 117 pounds. The reign of Victoria has seen the proportion of English people who cannot write their names reduced from forty-one per cent. to seven per cent. The physician of the Duchess of York had a professional income of \$75,000, and now, having been made a Baronet for his recent services, it is said it will amount to \$50,000 more. An Atchison judge has recently adjudged a Cabinet organ a nuisance, unless some one in the family learns to play it. One hour's practice a day with a competent instructor is "mitted."

Boston's floating hospital has already given several hundred sick babies and their worn-out mothers a sniff of sea air this season, and is now making weekly trips with full passenger lists. It is possible that Lord and Lady Terence Blackwood may be settled in Washington at some not very distant day, as my lord may be sent as attaché to the British Embassy. Gen. Lord Wolseley is greatly interested in the temperance movement in the British army. He says that there has never been a time when there was so little drunkenness among the soldiers as now.

Of the 12,700,000 families in the United States, 11,000,000 or 85 per cent. live in separate houses, the other 1,700,000 families living in 500,000 dwellings, an average of 304 families, or 17 persons to a dwelling. The song recently composed by the Emperor of Germany, "Was bist du, was bist du," is called in German—is to be published by permission of His Majesty. The proceeds are to go toward building the church in memory of Emperor William. Lord Randolph Churchill's friends are much concerned about his condition. While at Star Harbour he appeared one night in the office of the Malvern hospital, and only in his pajamas, to remonstrate against the music for the regular dance of the week at that hotel.

Mlle. de Lamartine, one niece of the great author, has recently died in Paris at the age of 63. She was her uncle's companion and comfort during the last years of his life, when he was struggling with poverty, and after his wife's death in 1832 she cared for him alone until his death in 1869. A well-known English poet, desirous of getting the laureateship, was habitually occupied recently to a friend in a London club of the conspiracy of silence that was waged by the critics against his poetical effusions. "How ought I to meet this conspiracy?" he asked. "Join it," replied the friend.

All the children of the King of Denmark are enthusiastic bicyclists. The Carewitch owes the great improvement which has recently taken place in his health to cycling. Some years ago he was very delicate, and was thought to have a weak heart and a nervous system out of gear, but the symptoms which gave uneasiness have disappeared. Inventor Edison, at a recent scientific session, had a large globe of goldfish whose anatomy was distinctly outlined, and every action of each organ was plainly seen. This "Wizard" accomplished by making the fish swallow minute incandescent lamps, and by invisible wire conducted the electric current. The fish apparently were not incommoded by their diet of electricity.

Prince Besioiu, a native African who for the past few months has had quarters at the school for Christian workers in Springfield, Mass., has been called back to Africa to take the throne made vacant by the death of his father. The Prince will be accompanied by another African, Prince Masagui. He will go to England, where he will visit Queen Victoria, and will afterward spend some time lecturing in Europe. In a letter written from Florence in 1860, and recently sold in London, Robert Browning speaks enthusiastically of the liberal treatment his wife received from the American physicians. They paid her \$1500 apiece for her poems, and offered \$2,600 a year for an amount of labour which would cost his wife and himself but a single morning's work. After being a mute for two years, the seven-year-old daughter of F. A. Breck, of Vineland, N. J., has suddenly recovered her speech through seeing the blood flowing from a cut on her finger. While eating an apple two years ago the child dislocated one of her teeth, and the sight of the blood rendered her speechless. Physicians were unable to cure her strange malady, and the case excited considerable wonder. Recently, however, after cutting her finger, her power of speech seems to have returned, and she now talks as fluently as any child of her age.

There is great rejoicing in the pretty little Highland village of Braemar, where it has been announced that the Duke of Fife has lent his house, Old Mar Lodge, to the Duke and Duchess of York, and that as soon as possible her Royal Highness will go there to recruit. Mme. Albani has occupied the house for several seasons as the guest of the Duke, but owing to superior claims, she is this year to have the pretty house on the outskirts of Braemar, which was last year occupied by Mrs. Henry White, wife of the Secretary of the American Embassy. So penetrating is water at high pressure that only special qualities of cast iron will be tight against it. In the early days of the hydraulic jack it was no uncommon thing to see water issuing like a fine needle through the metal, and the water needle would penetrate the unwary finger just as readily as a steel one. A fad with society girls in New York who are rich enough, is collecting unset jewels. They are intended not to be worn, but simply to be admired in their cases. Needless to say, there is little danger of that fad becoming ever too common.

HEALTH.

Healthful Summer Dress.

Hygienists, as well as modistes, have given instructions for summer dressing, and where the two conflict, sensible people will hardly be in doubt which to follow. Clothing for hot weather and for vacation should be selected with a view, not so much to style, as to comfort and health. The advice would be wise were it not supplemented with details. The first place, then, summer dress should be loose and roomy. Be it said to the credit of girls, it is not alone a desire to be stylish, but an increasing realization of what is healthful, that induces them, as well as their brothers, to take an active part in out-of-door games and sports. The willow figure and slender waist are no longer cultivated; but instead, an athletic muscular development and the wholesome tan which tells of exposure to the sun and air.

Dress which does not cramp any part of the body is essential to success in out-of-door games, as it is essential also to health. Another thing to be said about summer clothing is, that one garment, usually the one worn next to the skin, should be of woolen material. It may be as light as necessary, but of wool. In order to keep cool on warm days, free perspiration is necessary, and to avoid sudden chilling, with its attendant dangers, evaporation of the moisture collecting on the skin must not be sudden. A garment of cotton or linen readily yields moisture to the air; hence the garment becomes cold as soon as it becomes moist. Stout shoes with heavy soles, while not so absolutely necessary, to health in summer as in winter, are really more comfortable than any other. Every pedestrian will give it as his experience that a heavy sole is better than a light one for both comfort and health. Stone-brims and corsets are among the penalties for wearing pointed and thin-soled shoes. On the other hand, broad and stout shoes allow an indulgence in that most healthful of exercises—walking in the open air.

Self-Control and Health.

If medical men could diagnose the mind as easily as the body, they would sometimes find cancers which at once defy every principle of medicine and surgery, and which send poison into the blood against which no known antidote can prevail. Hence the importance of self-government as a factor in the preservation of health and the extension of life. A self-possessed, well-regulated, contented mind, true to itself, independent of the changing opinions, fashions, and vanities of a hollow world, goes far to fortify the body against disease, just as a mind of an opposite character tends to undermine physical health and predispose bodily organs to the inroads of disease of every kind. If there is one example of self-control in the broadest sense more worthy than another of imitation, in ancient or modern times, it is the earnest Stoic, Marcus Aurelius, who records his indebtedness to one of his valued teachers thus:—"I learned from Maximus some time in the study of a hollow world, drawn towards anything; to be full of spirit under sickness and misfortune; to appear with modesty, obligingness, and dignity of behaviour; to turn off business smoothly as it arises, without drudging and complaint; not to be angry or suspicious; but ever ready to do good and to forgive; and speak the truth; and all this as one who seemed rather of himself to be straight and right than ever to have been rectified."

Treatment for Toothache.

Speaking of toothache which has its origin in a disordered stomach, Dr. Richardson says that the primary cause of the ache is due to dyspepsia, induced by feasting on rich and saccharine foods and drinks, at times when the body is not allowed a free amount of exercise, or when it is confined too closely indoors. The treatment, therefore, must be general as well as local. The local and immediate treatment consists in applying carbonate of soda freely to the aching tooth, keeping the same in position in good contact, and then, after drying the cavity thoroughly, inserting into it, so as to reach the nerve, a concentrated solution of carbolic acid. This allays the local suffering temporarily, but it requires to be coupled with the general measures—a few doses of bicarbonate of potash, a brisk mercurial purge, a warm Turkish bath, and vigorous outdoor exercise.

Rest After Meals.

Rest after and before your meals is an excellent piece of advice. "After dinner sit awhile" is an old saying with much truth in it. The reason why rest after meals is a necessity for health is found in the plain fact that digestion is a work which demands a considerable share of the body's power. If we work while digestion is just beginning, we are really "burning the candle at both ends." To eat when we are thoroughly fagged out is just as unwise. Therefore, a little rest before meals is also an excellent health measure.

Notes.

The baby, a medical journal remarks, "should not be nursed oftener than once in two hours, and a much longer time should intervene during the night time. The skins of fruit should never be eaten, not because they are not palatable or digestible, or are unhealthy in themselves, but on account of the danger arising from microbes which have penetrated into the covering of the fruit.