

A TEACHING MACHINE.

New Way of a New York Instructor for Acquiring Ancient and Modern Languages.

Some years ago a teacher of languages in New York found that his time was so filled by professional engagements that he had either to refuse new students or else turn them over to an assistant, says the Post of that city. At this juncture it was suggested to him that he could multiply himself indefinitely by using the phonograph. He tried the experiment, and after a little practice found that he could make a record which would enunciate as clearly and sonorously as himself. This was the beginning of a new system. When he announced his invention to the public it met with a smile, and now and then an expression of incredulity. Curiosity seekers and students who came to hear the records, however, were agreeably disappointed and surprised. The moment they applied the earpieces to their ears they found that the voice was almost indistinguishable from that of the professor. It had one great advantage over the man. Whenever a student desired to have a specific sound repeated, it was no longer necessary to interfere with the tenor of the discourse. All he had to do was to stop the motor and move the cylinder back a few spaces. In this way he was able to hear the vowels and accents which pertain exclusively to other languages repeated indefinitely.

The system as finally evolved is very simple. The student receives a language phone with the receiver tubing, ten records, and a text-book. The latter gives the grammatical and theoretical knowledge and the former the practical part of the instruction. The books educate the eye and the phonograph the ear. One may study as he pleases. He may give himself a course of ten lectures and conversations, or he may repeat each separate lesson until it is so memorized as to become a part of his mind. While he is learning the members of his household may join him in the acquisition of the tongue selected. A family of moderate ability can in this wise master a fair knowledge of any of the European languages within a year. The language phone seems to afford the right method of attacking the numerous tongues of the far east. These at present are a sealed book to the western world on account of their having no alphabetic characters, but only ideographs. In addition to this difficulty are the singular accents or intonations which are such a stumbling block to the Caucasian ear. The language phone will obviate both difficulties and enable the amateur Sinologue to progress fivefold more rapidly than under any other existing system.

MARRIAGE UNPOPULAR.

Increasing Tendency Among Women to Remain in the Celibate State.

The increasing number of bachelor girls or old maids one meets has doubtless attracted the attention of the general public, as it has of those whose duty it is to keep track of social statistics. Carroll D. Wright, the eminent statistician, has been investigating the subject, says the Chicago Chronicle, and finds that of 17,427 representative workingwomen living in 22 cities 75 per cent. of them being under 25 years of age, 15,337 were single women. These figures are simply appalling. In the good old times, it is claimed, one-half of these young women would already have been married from three to five years. The fact seems to be that there is a tendency to the postponement of marriage on the part of both sexes. In the case of women this postponement is too often fatal, and in the case of men it gets to be a bad habit.

Several theories have been advanced to account for this increasing unpopularity of marriage. The statement that young men have become more shy and embarrassed in the presence of the modern go-ahead girl may have some truth in it. The present tendency is undoubtedly to cultivate self-assurance and independence in young women and to encourage them to become self-supporting. Many avenues are open to them; they can make a comfortable living and enjoy life. Many a woman, in fact, can make a better living for one than the majority of young men can make for two (with prospects of more). This situation tends to check marriage in two ways—first, it makes the women more independent of men and, therefore, in the second place, perhaps a trifle less attractive to them. Marriage is an odd affair, anyhow. It is largely a psychical business at the start, based upon a delicate emotional instinct, and all the logic and reason of a progressive age cannot alter that fact. The pushing and businesslike modern woman is not conducive to it.

Nature's Parks in Africa.

In central Africa are found districts which impress the beholder with the belief that the hand of man has shaped their features, although there is now no population capable of producing such effects. These districts, near Lake Tanganyika, are called "park lands," and their origin was recently explained before the Linnean society in London, by Mr. Moore, as being due to the spread of vegetation over a light surface soil gradually deposited above the salt steppes left by former lakes. In some places these districts are covered with natural plantations that have a "quite homelike look."

Care of the Pope's Wardrobe.

A large staff of women is employed at the vatican for the sole purpose of keeping the pope's wardrobe in perfect condition. No spot or stain may disfigure the garments worn by his holiness, and as he always appears in white, one wearing even of a few hours deprives the robes of their freshness.—N. Y. World.

LITTLE ELECTRIC RAILWAYS.

Europe Has Many Which Help Farmers Convey Their Produce to Market.

In Europe, where the population is a little more dense than in America, there are many short railways in the farming districts, which convey produce to the big lines that traverse the region and communicate with large centers of population. These short roads are constructed in an economical fashion. The rails are light, the crossings cheap, and the grading and ballasting are conducted in a comparatively inexpensive fashion. The gauge of the track is often narrower than that of the trunk line, and the cars smaller. The power is sometimes derived from steam, and sometimes is supplied by animals. This style of road is called a "light railway," and its chief value is that it is so much smoother than an ordinary highway that several times as heavy a load can be hauled by the same amount of power.

In this country there has been a good deal of talk about light railways, but without much being done. One idea which has received a good deal of attention is that of laying gutted rails along common roads. This is a rather different scheme from the foreign one, but it has its merits. Still another American proposition is the construction of trolley lines in the country for the farmers. Thus far these roads have been built almost exclusively for passenger traffic. But already to some extent they are being employed to carry freight and mails, says the New York Tribune.

Dr. Louis Bell, a well-known writer on electrical affairs, contributes to the last number of "The Street Railway Journal" an article dealing with the future possibilities of electric traction. Portions of it are devoted to city interests, but a part of it considers rural communities also. Dr. Bell insists that the light electric railway is capable of doing invaluable work in connecting town with village and village with village, and in supplanting the laborious process of carting agricultural products to the greater railroads. He says:

Their value lies in their ability to operate with low fixed charges and small general expense, to handle at moderate speed and at very low cost all those things which go to make up the sum total of the trade between rural communities and the cities with which they are so mutually dependent.

A few thousand dollars a mile will construct an electric road capable of doing this work economically and well; no elaborate equipment and no special methods are required, the installation being merely in line with ordinary practice, but in a less pretentious scale. We look for a great increase in these characteristically rural roads opening up sections of country comparatively unavailable as yet for agricultural purposes and ramifying throughout the extrarurban territory until they form a complete network for intercommunication, here, there and everywhere, displacing the truck horse in the country as the electric car has displaced the tramroad horse in the city.

Take a country map of almost any state in the union, even one of the old and most thickly inhabited, and you will be surprised to see how many villages are to-day entirely without means of communication with the outer world. Probably eastern Massachusetts is as well equipped with railways, steam and electric, as any similar area in the country, and yet, within 15 miles of the Boston statehouse lies an entire township without a railway station, untouched by a track of any kind, and as thoroughly isolated from modern means of communication for the inhabitants as if it were in Labrador; it is only a few miles, to be sure, to improvements, but one must cross the town line to find them.

Instances of this kind will appear surprisingly uncommon, upon investigation, and it is to meet just such cases that the light electric railway is needed, and will, if I mistake not, play an important role in the near future. Experience has shown that wherever you run out an economically built and operated road into the country traffic finds its way to it just as surely as the rain upon a watershed finds its way into the rivers, and it is not long before a profitable business springs up, so to speak, out of the wilderness. As the years go on, the problem of supply in the rapidly growing cities will become more and more serious, and there will be the greatest need for just such networks of communication as these railroads can afford, to meet the actual necessities of the growing urban population.

Velocity of Light.

The velocity of light has recently been redetermined by M. Perronin, who has performed a series of experiments, using Pizeau's method. The distance between the two stations was nearly 12 kilometers, and after 1,500 observations a mean value of 299,900 kilometers per second was obtained. In Pizeau's original experiments a distance of 8,633 meters was experimented with, and the velocity obtained was 315,000 kilometers per second. In 1871 M. Cornu, with improved apparatus, made similar experiments and announced the result of his determination at 300,400 kilometers per second. In the United States, with somewhat different apparatus, Michelson, in 1882, found the velocity to be 299,835 kilometers, and Newcomb in the same year, in another series of determinations made it 299,810 kilometers per second.—Scientific American.

Hope Springs Eternal.

Poet—Good news, dear. That poem of mine—
Wife—Has some one accepted it at last?
Poet—No; but I've learned that there's a new magazine just started in San Francisco that I haven't submitted it to yet.—Catholic Standard.

NOT MARCONI INSTRUMENTS.

Those Used by Mr. Sharman in Wireless Telegraphy Are of Simpler Construction.

Of the experiments in wireless telegraphy recently conducted off Brow Head, Ireland, on board the steamship Georgic, one of the experimenters, Alexander W. Sharman, who has arrived at New York, said: "The system adopted is that invented by Col. Henry Montague Hozier, secretary of Lloyd's, and Mr. Nevil Maskelyne, of London, a well-known astronomer and electrician. The apparatus used in this system is altogether different from that employed by the Marconi syndicate.

"Our apparatus is simple in construction and easy to manipulate, so that the ordinary marine signalman is able to use it after a day's instruction. The steamer was ten miles from Brow Head and signals were exchanged as the Georgic continued on her regular course at usual speed, until she was 25 miles from Brow Head, when the tests were discontinued. The messages were easily read."

Mr. Sharman said that the greatest advantage of his system is that it works equally well in all kinds of weather.

Mr. Sharman will return on the Georgic and the experiments will be resumed as the steamer approaches the Irish coast.

OLD LONDON UNEARTHED.

Pickaxes of Workmen Reveal Relics of Days Before the Roman Occupation.

Numbers of historic relics have been turned up by the pickaxes of the workmen digging for the government telephone wires in London. Not long ago at Charing Cross an old sewer pipe, made of the hollowed trunks of oak trees, was unearthed. This evidently was of the pre-Roman period.

This week the foundations of two towers, believed to be portions of the old London wall, were unearthed at Aldgate High street. The gate between the towers is known to have been demolished in 1606, but the discovery of a lot of Roman coins, as well as of curious arches resembling the cloisters of an ancient abbey, give the researches almost a Pompeian character.

Another piece of buried London has just seen daylight through the telephone trenches in the old burial ground of Farringdon street, near the site of the old Fleet prison. The young poet Chatterton is known to have been buried there after his suicide in Holborn.

MOVE HUGE BRIDGE RAPIDLY.

Structure of 603 Tons Placed in Position in Half an Hour at New York City.

It took just 30 minutes the other day to replace the old drawbridge of the Delaware, Lackawanna & Western railroad over the Hackensack river at New York with a modern steel structure weighing 603 tons, and the task involved moving the new bridge a distance of 600 feet. Two pairs of specially-constructed scows were floated under the structure. Water had been pumped into the scows, sinking them to a level where their tops were within an inch or two of the underside of the bridge. Guide lines holding the scows firmly in place were run out fore and aft from the sides. Powerful centrifugal pumps on the scows were then started and the water in the holds rapidly diminished. The scows rose out of the water at a uniform rate as they were lightened of the burden, and in a quarter of an hour the old bridge, which weighed 320 tons, was gently lifted and floated easily on the barges. The new bridge was put in place by the reverse process.

GEM FOR BRITISH CROWN.

A Magnificent Opal Presented by a Resident of Brisbane, Australia.

It seems probable that to the list of famous jewels of the world will be added an "imperial opal." This magnificent gem of 250-karats weight, two inches long, two inches thick, now lies in a London bank, where it was deposited in 1899 by its owner, a prominent resident of Brisbane, who told the late premier of Queensland that he intended to present it to the queen in the name of the commonwealth when the first parliament of united Australia assembled.

The gem has scarcely been seen by anyone, as the owner was anxious to keep the secret till, as the first Australian gem, it should be placed in the crown regalia. Queen Victoria was partial to opals. The acceptance of the gem rests with the king. Opals to be of great value must be of the exceptional kind. The emperor of Austria has a magnificent opal, for which, it is said, he has refused £50,000 sterling. It is claimed that the "imperial" gem is of considerably more value.

Woman's Condition Much Improved. A hundred years ago a woman and all her possessions practically belonged to her husband. To-day a man may not under any circumstances open his wife's letters without her permission. She has her legal rights and controls her own property.

Judge Hilton's Estate.

Judge Henry Hilton, of New York, was not so wealthy as has been supposed. His estate is valued at \$648,388.

New Orleans City Improvements. The New Orleans authorities intend to expend \$16,000,000 in the general improvement of the city.

"NEWSPAPER ENGLISH."

Prof. Lounsbury, of Yale University, Denounces It Against Attacks of Literary World.

Prof. Thomas R. Lounsbury, professor of English in Yale university, in his lecture on "The English Becoming Corrupt" said this to a Yale audience in the Sheffield scientific school:

"The literary man of to-day has the corrupted form of speech, and the pure language belongs to the uneducated. The agency which has been the favorite to accuse of corrupting the speech is the newspaper. Its influence upon the tongue has been described as pestilential.

"It is hard to see why the newspaper should be selected as the special agent that is bringing about the general ruin that is always impending. Of course, there are newspapers and newspapers. Some of them deserve all the denunciation which has been impartially laid by the consumers upon the whole body. Nor need it be denied that newspaper writing is subject to conditions which tend to impair excellence. What is produced is produced to meet the want of the moment. Little or no time can be allowed for examination or revision. As, therefore, it is a kind of work that is almost inevitably done under stress, it is sure, from the nature of things, to be especially liable to faults that spring from haste and carelessness. On the other hand, there are counterbalancing advantages in its favor. The writers connected with the more important journals, are usually a picked body of men. They are invariably under an influence which tends to promote perspicuity and energy of expression. As a class they are strongly partisan. Accordingly, they are almost always in a state of wrath against something or somebody, and, consequently, they write in earnest.

"In education and in ability newspaper men are, as a class, far superior to those who set out to be their critics and censors."

QUEER FACT ON WINTERS.

London Scientist Finds Severity in Years Ending with Cipher of One.

Albert E. Watson, a fellow of the Royal Meteorological society, London, has improved the long winter evenings by digging up figures which should send a cold shiver down the backs of the members of his society to whom he has imparted them. He has been investigating the regularity of recurring hard winters, going back 300 years. The result of his search is certainly curious.

He finds that during the seventeenth century the severest weather was found in the winters of years ending 8-9. This continued until 1739-40, when a frost was severe enough to split trees, freeze wine in the cellar, turn bread to stone and convert the surface of the Thames into a miniature arctic sea for weeks.

From that year the days for severe weather slipped to the last of the decade, namely, the winters of 9-0. This arrangement continued until 1869, when another big cog slipped in the weather machinery, making the frost incidental to the dates around 0-1. Accordingly, Mr. Watson's theory explains why the present year is naturally a cold one.

NO MORE FAMILY DOCTORS.

Dr. Helmuth Says Specialists Will Take Their Places in the Future.

Dr. William Tod Helmuth, dean of the New York Homeopathic Medical college and hospital, in his twentieth annual address to the students on "The Twentieth Century Doctor," detailed the passing of the family doctor, whose place, he said, was now filled by specialists. "The tendency of the times," said Dr. Helmuth, "is toward variety of doctors. The public wants a different doctor for every spell of sickness. Remember, young gentlemen, that you have no legal leasehold upon your patient. He can dismiss you and send for another doctor at any time. He is exercising this right more and more as time advances.

"But perhaps, my friends," said the dean, "it is better for the public good, better for the cause of humanity, to let the old family doctor make his bow to the world and pass away from the Gomelie and let the glittering and flamboyant specialists in all their glory assume control, each taking that individual organ under his immediate supervision in the treatment of which he is an expert."

A NEW THING IN INDIA.

Electricity to Be Introduced in Kolar Gold Fields—Plant from America.

The state department has been informed by Consul Fee, at Bombay, in a recent report, that a steamer plying directly from New York city has arrived with an electric plant and outfit and party of engineers and electricians. The party are representatives of a New York firm, and are destined to the Kolar gold fields, near Bangalore, the capital of the native state of Mysore. The power necessary to operate this electric plant is to be furnished by the Cauvery river, which will be conducted across the country to the Kolar gold fields. The erection of this plant is expected to increase the production of the mines and to reduce the expense. It is a new feature in the gold mining of India.

California Stamped.

They are now raising seedless lemons in California, but, says the Chicago Times-Herald, have not as yet succeeded in developing the frostless water.

WHERE BOOTH WAS BURIED.

Some Inside Facts as to the Disposition of the Body of the Slayer of Abraham Lincoln.

Former District Attorney Asa Bird Gardiner and Judge A. H. Dailey were guests at the monthly dinner at the Medico-Legal society, given the other night in the Hotel St. Andrews, New York city. Dr. Clark Bell presided and the principal speaker was Dr. George L. Porter, of Bridgeport. He read a paper, entitled "Reminiscences of the Assassination of President Lincoln." Dr. Porter told the story of the assassination and in the course of his address said:

"I was in medical charge in Washington after the murder of Lincoln and had unequalled opportunities for observation. The descriptions of the disposition of Booth's body are most inaccurate.

"The body was taken to Washington, identified by many persons and afterwards taken in a rowboat to the Washington arsenal, and in the dead of night, in the presence of the military storekeeper, four enlisted men and myself, the only commissioned officer, was hidden in a place so secret that never to this day has it been correctly described.

"We were requested by Secretary Stanton to keep silent, and no man during these 35 years has yet told. I believe the body was finally given to the family under agreement never to mark by mound or monument where it should be placed."

HAS AN IMPROVED BOILER.

Cornelius Vanderbilt Considers His Latest Invention Will Revolutionize Present Construction.

Having invented a fire box for locomotives which is proving a great success, Cornelius Vanderbilt is now at work on a new form of boiler, a multi-tubular, which promises, he says, to work a revolution in boiler making and construction.

"My inventions have just begun," he said to an audience of students and professors from the Sheffield scientific school. "I am now working on a multi-tubular boiler. I regard the possibilities of this as very great. Within a few years it will be in general use. Within a year I hope to appear before you and give a practical demonstration of its possibilities and of my ideas on the subject.

"It appears to me very remarkable," he added, "that so few improvements have been made in the patterns of boilers since the days of Stephenson. There is plenty of room for more change in the construction, and many changes are likely to be made in the next few years."

Mr. Vanderbilt spoke under the auspices of the Engineers' club. Practical men who heard him say his ideas are sound. They expect great things of him as an inventor.

MESSAGES WERE SUCCESSFUL.

Mr. K. W. Shorman Uses a System Other Than Marconi's in Communicating from Ship to Land.

The steamship Georgic, which has arrived at New York from Liverpool, had on board as a passenger Mr. K. W. Shorman, who had charge of the experiments with wireless telegraphy on the Georgic off Brow Head. Mr. Shorman said that he sent messages to Brow Head from a distance of over 13 miles and received replies, but could not receive messages farther than that owing to the fact that the rolling of the ship somewhat disarranged his instruments. He does not use the Marconi, but a system invented by Col. Henry Montague Hozier, secretary of Lloyd's, London, and Mr. Nevil Maskelyne, of the Egyptian hall, Piccadilly, London. The instrument on the vessel was attached to the metal of the ship and connected with wires which were attached to fore and aft stays of the steamer. The influence which conveys the message in wireless telegraphy is able to pass readily through insulators, such as in a glass, but is absorbed to a very great extent by all conductive materials, especially by sheet metals.

MOUNTAIN SLIDES INTO SEA.

Earthquake Causes a Disturbance on the British Columbia Coast.

The whole crest of a mountain over a mile in circumference slipped into Loughborough inlet, 100 miles from Vancouver, B. C., up the rocky British Columbia coast, the other day just before noon. The great slide was the result of an earthquake, which shook the surrounding district for several seconds, and the resulting shock of the falling mountain top was apparent for a long distance. Instead of crumbling as it fell, the huge mass of rock turned over and hung itself far out into the bay. The splash caused a heavy sea for a mile.

A tidal wave was formed which would have meant destruction to any vessel in its way; as it was, several boats three miles away were piled up on the beach and two booms of logs ready to be sent to Vancouver were thrown out of the water and practically wrecked.

Offended Modesty.

A cry of indignation has been raised in the eastern part of Germany because the administration of the seaside resort Zoppot, near Danzig, intends to remove the barriers that have hitherto separated the sexes when bathing, and to declare the beach a common bathing place.

Removal of Ladies' Hats.

In the galleries of congress now nearly all the ladies remove their hats.

BACILLI IN BOOKS.

Dr. Kufewski, of Chicago, Finds Danger in Public Libraries.

Declares System of Sterilizing the Volumes Should Be Adopted—New York Librarian Admits Danger of Contagion in Books.

Dr. W. A. Kufewski, chairman of the special committee appointed by the public library board of Chicago two weeks ago to consider the advisability of sterilizing the books in the library regularly for the purpose of preventing the spread of disease, reported to the trustees at their meeting strongly recommending that some system be adopted of freeing the pages of the volumes from bacilli at regular intervals.

Dr. Kufewski exhibited several small glass tubes filled with germs taken from the pages of library books examined. The bacilli represented 100 different poisons and disease. He said that all of the 50 books examined by him during the investigation were found to be more or less affected. He said that there was no doubt that disease was spread by the books and advised that a system of sterilizing the volumes by the dry process be adopted immediately in the interest of public health.

President Franks said that so far as he had been able to learn no case of disease resulted from persons reading library books. He did not deny that the books might contain germs, but he said that the danger of contagion was infinitesimal and scarcely worth the money it would cost to establish a system to sterilize the volumes. Several other members of the board expressed the same opinion.

A well-known librarian of New York city, in speaking of the matter when the present agitation at Chicago was brought to his attention, admitted the danger of spreading disease by means of library books, but declared there was no way to sterilize the volumes.

"Four hundred readers come here every day," he added, "and handle the reference cards and turn the pages of perhaps 1,000 books. The difficulty of the task of effectively sterilizing such a number of volumes is manifest. A disinfecting chamber is a valuable adjunct in libraries patronized by the poorer classes. Children are the carriers of disease germs to libraries. I can recall at least four investigations, made in England and this country, where scarlet fever had been propagated by children who, when convalescent, after a light or serious case of scarlet fever, have turned the pages of a book and returned it to the library."

"Extraordinary efforts are being made by her physicians and her friends to save the life of Miss Beattie Fisher, the young woman who was burned in a fire on February 1. The burns Miss Fisher received covered her whole body, except where her corset had protected her. For over a week Miss Fisher was barely alive, kept so by injections of morphia, brandy and strychnine, and she was unconscious most of the time. About a week ago the physicians began to feel some hope, and began to consider seriously an operation involving skin grafting on a larger scale than had ever before been attempted. Among those who have been with Miss Fisher ever since the accident is her fiancé, Z. D. Berry. When the doctors began to make their plans for the operation Mr. Berry would not hear of the required skin being taken from any one but himself. So his offer was accepted. The operation will be performed as soon as Miss Fisher gains sufficient strength to undergo it. About 30 square inches of skin will be taken from Mr. Berry's body."

SACRIFICE FOR LOVE'S SAKE.

Girl's Betrothed Will Give His Cuticle for a Skin-Grafting Operation.

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TROUBLE IN UGANDA SETTLED.

The Natives Pay Their Taxes in Full for the Current Year in Wild Animals.

Advises received at London from Mengo, Uganda protectorate, say the trouble threatened over the collecting of taxes has been surmounted. The Uganda natives have paid in full for the current year, approximately £60,000 sterling. A considerable portion was paid by the king, and the compound surrounding the government headquarters at Fort Alice resembles a zoological garden, the contributions including five elephants, some zebras, chimpanzees, hogs, antelopes, porcupines, snakes and monkeys.

A band of Congo forest dwarfs recently visited Sir Harry E. Johnston, the special commissioner for the Uganda protectorate. They took home such glaring accounts of their reception that the whole tribe of forest dwarfs went to Torn, on the border, near Mengo, and refused to return to the forest. They insist on proceeding overland to greet the British king and brand as false the representations made to them that the sea intervenes.

A Hare Raising Story. They are going to stock the woods of Massachusetts with wild Belgian hares. It is to be hoped, says the Chicago Times-Herald, that they have made arrangements to enlarge the woods right away.

Building at Spitzbergen. The only building at Spitzbergen, about 500 miles from civilization, is a tourists' hut.