

# MORSE TO MARCONI

WITHOUT arrogating to America everything important that takes place in the world of progress, it would indeed seem from a mere chronological statement that this nation has taken a leading part in the development of what many have termed the greatest accomplishment of modern times—wireless telegraphy.

It seems like a far cry from Marconi to Franklin, but the great American philosopher furnished the hypotheses for all who came after him when, 150 years ago next June, he performed his famous feat of drawing lightning from the sky.

Franklin, however, did more than merely experiment, for he previously arrived by pure reason at the conclusion which the experiment proved—that atmospheric lightning and frictional electricity were identical.

More than any other man of his time, after Franklin, the cause of electro magnetism was indebted for its further development to another American, Joseph Henry. He published theories of its causes and effects as early as 1828 and invented the first machine moved by the agency of electro magnetism.

The earliest suggestion of the electric telegraph is said to have appeared in The Scot's Magazine in 1753, and the first line, so far as is known, was constructed in Geneva by Lesage. In 1818

had been waiting since man knew the letters of his alphabet. Call the invention Henry's, Morse's, Jackson's, Cooke's or Wheatstone's—the first two were well abreast the age in their theories and inventions. Morse, an artist, imbued his ideas as to electro magnetism from his friend, Professor J. F. Dana, who lectured on the subject. He saw or heard of a French invention for obtaining an electric spark from a magnet in 1832, and when on shipboard, returning to the United States, conceived the idea of an electro-magnetic and chemical recording telegraph "substantially and essentially as it now exists."

A bronze statue of Morse was erected in Central park, New York, and unveiled by the poet Bryant in 1871, and he himself last appeared in public at the unveiling of the statue of Franklin in Printing House square, New York, in January, 1872, dying in June of the same year.

It has been claimed for Morse that he also laid the first submarine cable, connecting Governors Island with Castle Garden, New York city, but unless history errs the very first submarine cable on record was that of Dr. W. O'Shaughnessy, across the river Hugli, in Calcutta, India, in 1839.

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against Marconi's further experiments in Newfoundland as being within territory of which it possesses a monopoly shows where the shoe is expected to pinch, for complete success of the "wireless" would be likely to reduce rates for cable messages, if not put the present companies practically out of business. The fact that the many lines across the Atlantic have all they can do at a high tariff shows that there is opportunity for a rival. But unless the wireless methods are made more rapid there will be no danger from this system.

Professor Pupin, whose "induction coils" are expected to work a revolution in cable telegraphy and telephony, but which, after all, may arrive too late to be of use, says that the existing cables will be given greater capacity and soon be able to transmit many more messages than at present with no increase of expense.

No great invention ever burst into view already complete, and it is particularly true of wireless telegraphy. Attention was attracted to it sixty years ago, and even Franklin had an inkling of this latent power in electricity. A phase of space telegraphy, that of telegraphing from a moving car or train, was developed by Edison and patented in 1851, and the possibilities of aerial telegraphy were suspected seventy years ago, but only brought out within the last decade.

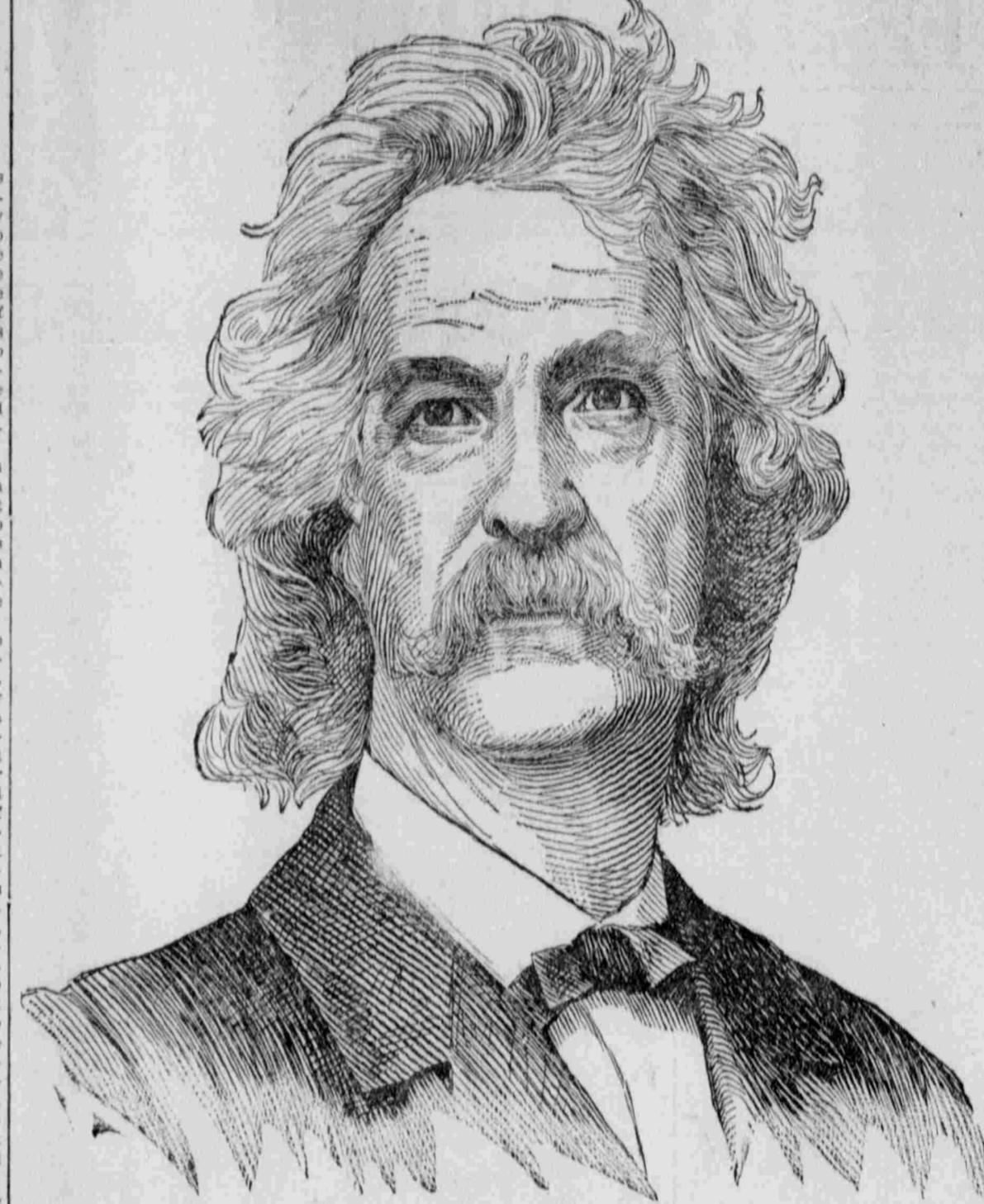
What strikes one most forcibly in a review of the world's great achievements is the impersonality of genius. The individual is nothing, or at most a small factor, in the great scheme, but his contribution swells the aggregate, and the great work goes on to its fulfillment. So it has been with electrical progress, and especially with its latest development, space telegraphy.



a similar scheme was rejected by the British government, and in 1820 Ampere called attention to the use of a needle deflected by the magnetic current for telegraphic purposes. In 1828 H. G. Dyer of New York invented a frictional telegraphic system, but did not perfect it, and in 1830 Baron Schilling had a telegraph with five vertical needles exhibited at Bonn. In 1837 an Englishman, W. F. Cooke, who had seen Schilling's instrument, joined with Wheatstone and in 1839 took out the first patent. During that year the first actual telegraph line was constructed, between Paddington and Drayton in England, thirteen miles.

To American initiative, in the person of Cyrus W. Field, backed by British capital, was due the company, formed in 1854, which in 1857 attempted to lay an Atlantic cable. This cable parted 300 miles from shore, and not until the next year was one laid between England and America. It was completed in August, 1858, but failed the first week in September after about 350 messages had been interchanged. Seven years passed before another effort was made to span the Atlantic, and in the meanwhile comparatively short cables in the Mediterranean and the Persian gulf had demonstrated the feasibility of submarine telegraphy.

played, the fact now confronts us that wireless telegraphy will soon be a factor in the world development, and if it be established that messages can be flashed across the ocean probably the first practical exposition of its value will be on the Pacific, across which it is proposed soon to stretch a cable, unless this new wonder shall make it unnecessary. The million miles of telegraph and cable lines already strung have cost many millions of dollars, and any invention that will obviate further enormous outlay will be warmly welcomed. Commercially speaking, however, wireless telegraphy, with its enormous waste of energy in the dissipation of its waves, is not yet practicable for long distances.



MARK TWAIN.

## MARK TWAIN, HUMOROUS IN PUBLIC, SERIOUS IN PRIVATE

THAT eminent and unique humorist, Samuel Langhorne Clemens, otherwise and better known as Mark Twain, is really one of the most serious of men. In fact, the only real grievance he has against the public is that it will not take him seriously. It persists in ascribing to all his remarks and all his writings a levity, not to say frivolity, which he does not by any means wish to convey.

It is owing to this misconception of the man Mark Twain, the real man, honest and serious, the writer who loses no occasion to jam in a moral whenever it can be done gracefully, that his recent appearance in the role of civic reformer is so grievously misapprehended. With a reputation for "joking fun" at everything under the sun and making light of subjects generally treated from a serious point of view, it is rather hard to look upon him as ever in earnest or possessed of strong convictions. Yet that he has

practical business. You cannot imagine that I am making money wasting an hour or two of my time to prosecute a case in which I have no personal interest whatever. I am doing this just as any citizen worthy of the name should do. He has no choice. He has a distinct duty. He is a nonclassified policeman, and it is his duty to assist the police and the magistracy in every way he can and give his time if necessary to uphold the law. This citizen is not the criminal here at all. The criminal is the citizen of New York and the absence of patriotism. I am not here to avenge myself on him (the citizen). I have no quarrel with him. My quarrel is with the citizens of this city that have encouraged overcharging in this way. There is only one side to a moral question. A legal question is a moral one.

As usual, Mark got right at the crux of the matter without wasting words in argument or beating about the bush. It required courage to do this, for in order to drive home his argument and secure the conviction of the cabman he was obliged to make several enemies. It required an honesty of purpose, also, and that Mark Twain is honest is proved by his recent liquidation of all debts of the defunct firm of which he was a silent partner after he had practically compromised with the creditors at 50 cents on the dollar. At an age when most men like to take their ease and enjoy the fruits of a lifetime of labor he made his famous lecture tour of the world and came back to the United States not only with money for his creditors, but with the nucleus for a pretty good fortune as well.

No more forceful argument was ever presented in favor of a bill than his before the house of lords on the perpetual copyright. Even that fossilized body had a notion that Mark Twain could be nothing if not humorous and laughed at every point he made, whether witty or not. But he drove home his argument as to civic and national integrity just the same as he did when before the nation on terminable copyright," he said, "when the state sets the example of disregarding a commonly accepted moral law in the material interests of the public it should make sure that the commercial advantage accruing to the people would be great enough to outweigh the injury done to the nation's sense of honor and justice." As this was exactly what it had not done, Mark made a point in his remarks that even the fat witted lords could not but perceive and applaud. That he could be serious he showed in the following remarks: "The man who purchased a landed estate had to earn the money by the superiority of his intellect at the bar, in trade, in manufacture or the like. His land was what a book was—the result of his brainwork, of combination and the exploiting of ideas. There was no difference between the two. All property, of whatever kind, stood for the same thing—some man's successful exercise of his intellectual forces—and the law allowed him to hold it and to transmit it to his posterity forever."

Crystallized common sense like that appealed to the "noble lords" as it appeals to the "common people," and his shaft at himself also went home as intended when he said he had found that according to the English law everything was taxable except copyright in books. He looked to see what his literature was taxed under and found it was taxed as gasworks. It was so literally true, he added, that it hurt his feelings. Mark Twain has, as one of his critics truly says, "certain primordial qualities" which will give to his works undying fame even should the humorous features of his writings prove to be transitory and perishable. Among these sturdy qualities are honesty, indignant resentment of wrong—to himself

or to any other member of the human family—and the rare faculty of being able to touch the mainsprings of mirth in any man, be he American, German, Austrian or Hottentot. His remarkable globe-trotting lecture tour proved this, and the facility with which his humor has "taken" after inoculation shows his kinship with his fellow men. Mark Twain is not only a humorist, but a philosopher. He does not hesitate to take a whack at his own countrymen, as, for example, when he said: "How unselfishly England has wrought for the 'open door' for all! And how piously America has wrought for that open door—in all cases where it was not her own!"

As the humorist has advanced in years the motive of his humor has become more obvious than formerly, and his desire to render real service to humanity more strong; hence his unsparring efforts in behalf of civic purification and his sacrifice of personal comfort for the uplifting of his fellow citizens. But he is the same old Mark Twain as of yore, only a little more pronounced on the earnest, serious side than formerly, and still sticks to his famous aphorism, "When in doubt, tell the truth." TRUMAN L. ELTON.

THE OLD AND THE NEW. "An increase of salary!" exclaimed the pompous manager of the street railway company to a clerk who had just made the request. "I am afraid, sir, that you are too extravagant." He toyed with his heavy watch chain and looked severely at the young man, who returned his stare boldly. It was the set phrase on such occasions, and the applicant had heard it all before. He meant to have that rise or go somewhere else.

"Excuse me, sir," he replied respectfully, "I haven't any chance to be extravagant on what I earn." "Young man," continued the pompous gentleman, "I have risen from the ranks. How? By being careful. When I was young, I made money by saving car fares."

"Ah, that was in the old days," said the young man, with a knowing wink. "But with the bell punches and the present system of inspection you would find you couldn't save a nickel without being collared, however careful you were." The manager nearly fainted, and the young man had to seek other employment.

THE FORCE OF IMAGINATION. It is told of Buckland, the celebrated naturalist and geologist, that one day after dissecting an alligator he gave a dinner to a party of distinguished savants. "How do you like the soup?" asked the doctor, addressing a famous gormand. "Very well, indeed," answered the other. "Turtle, is it not?" Buckland shook his head. "I think it has some of the quality of a mussy taste," said the naturalist. "The fellow I dissected this morning and which you have just been eating"—There was a general rout of his guests. Every one turned pale, half a dozen started up from the table, two or three hurriedly left the room. "See what imagination is," said Buckland. "If I had told them it was turtle or terrapin, they would have pronounced it excellent, and their digestion would be none the worse. Such is prejudice." "But was it really an alligator?" asked a lady. "As good as a calf's head as ever wore a coronet," answered Buckland.

Truxton Beale, formerly minister to Persia and son-in-law of James G. Blaine, has written to a San Francisco newspaper suggesting the investigation by representatives of both capital and labor of profit sharing as a means of ending labor disputes.

## THE OLDEST STREET PEDDLER OF ENGLAND.

"Yes, sir, I claim to be the oldest street hawker in England—sixty-eight last birthday—and I've been at the business for nigh on fifty years."

The speaker was an elderly purveyor of penny novelties with a "bean" in the neighborhood of the Stock Exchange. "No, there's not much chance of my retiring this side of the grave. Profits are too small and earnings too uncertain to allow a man to lay much by. There's no trade so uncertain as ours. The best time I remember was Making day last year. Penny flags sold so fast I could have cleared my stock a dozen times over, and the best of it was that people didn't ask for any change.

"The particular kind of goods a hawker sells? Well, it depends on the day, and on the events of the day. At present there's a run on the 'flying sausage' and on a little gilt model of Sir Thomas Lipton's yacht, but since the war began there's been more patriotic novelties sold than anything else. Button photographs of generals sold in thousands, and the rage for these was followed by a run on penny medals bearing a portrait of her late majesty. When there was bad news from the front, we always put our buttons and such like away for the time and filled their place with a stock of penny games, balloons, studs or hairpins."

"Penny novelties in books and illustrated sheets of popular songs have recently been going well, and during the excitement in Peking Boxers' heads in the shape of a ball sold well. Didn't see them? Why, you had to press the ball, and then the Boxer put out his tongue at you.

"Most street hawkers are very conservative about the articles they trade in. If successful in a certain line, we keep on stocking it until the public won't buy any more. It is funny though, how the sale of a 'line' apparently dead is always revived again. About ten years ago millions of fur monkeys stuck on pins were sold in the streets, and a demand for these has recently reappeared.

"Then, too, the mechanical tin birds that sold at a penny each twenty years ago are once again in favor with the public, and the penny key ring of fifty years back sells as readily as ever.

"Sometimes when going in for something new half a dozen of us club together and share the risk, for our class of goods cannot be obtained on the sale or return system. Perhaps half a gross of the novelty is bought and distributed over a good part of the city, each man taking his beat in a different thoroughfare. Some streets are forbidden altogether. The police won't allow us in Broad street, Bevis Marks and Houndsditch and many others, and our difficulties are increased by the shopkeepers, who object to hawkers standing in front of their shops. They say our trays take the eyes of the public away from their windows, and besides we sell many penny articles that they charge twopenny or threepence for.

"Many of the younger men you see in the streets are only hawkers for the time being until they get regular jobs. Most of the women hawkers are the wives of workmen out of work, and they sell safety matches to keep body and soul together. Some of 'em are real plucky ones.

"Year in year out I seldom make more than 12 shillings to 18 shillings per week. Of this I have to pay expense or nipence a night for my bed, and the rest goes in food and refreshment. In summer many men drink their 'bed money' and sleep in Trafalgar square or on the embankment. Few of us hawkers ever buy clothes. I haven't bought a suit for over thirty years. These tops I'm wearing now were given to me by a tiff.

"Poorer hawkers often live in Spitalfields or Whitechapel, five or six together in a room. They are men at the lowest ebb—nearly always single men who cannot get a situation of any kind owing to the drink or loss of character."

"Where do we buy our goods? Well, sometimes through 'showmen,' as they are called—that is, middlemen who have a horse and trap—but most men go direct to the 'hawkers' friend,' Fraenkel Brothers, & Houndsditch."

Mr. Fraenkel's frequently informed the writer that his firm supplied nine-tenths of London's hawkers and "showmen" with their stocks in trade.

## A KING ON HIS VACATION.

Many are the tales and anecdotes which come from Raccogni, where the Italian sovereigns often spend their holidays. From all accounts it would seem that they live, with very little etiquette, the life of any ordinary country magnate.

The king himself usually drives the queen about the large estate. Recently they paid their first visit to this part of the country. Through that fact arose very many ludicrous incidents, as the peasants did not know their majesties by sight and were evidently unprepared for so little pomp and ceremony.

The king one day stopped the carriage to ask a half naked man with a long string of fish the way to a certain place. After answering the man remarked, "I suppose you know the king is now here?" "Indeed," "Yes. They say he is not much to look at—a poor, small fellow—but a good one for all that. He will not see us abused."

The king made some remark about the fish, with a very red face, while the queen laughed, whereupon they were offered to him with great good will and courteously refused. A few days later when out fishing again with the queen they met the same man, who, to their astonishment, fell on his knees, begging them to forget what he had said. "My friend," replied Victor Emmanuel, "if you always consider me a good fellow and believe that I have your interests at heart I have nothing to forgive." And, giving the man a goldpiece, he left him his devoted adherent for life.

A bee can carry twice its own weight in honey or wax. nine is made. There are about 25,000 acres of this island used in growing cinchona. Some of the great main roads out of London are famous for their beauty and are lined with some of the most charming villas and country mansions in England or the world. In 1841 the capital of the Bank of England was \$6,000,000. It is now \$7,600,000.

## THE WORLD'S WORK.

The present growth of London's population is 2,500 a month. Greek ladies are said to have 137 different styles of dressing the hair. Manitoba and northwest farmers had \$30,000,000 distributed among them when their crops were marketed last fall. For an army of 30,000 men and 10,000 horses for three months it is estimated

that 11,000 tons of food and forage are necessary. The first Sunday paper in this country was The Sunday Courier, begun at New York in 1825.

South Australian apples are now sold in the Vienna market at from 5 cents to 10 cents each, choice ones even higher. The apples are packed and shipped in

small long boxes containing a hundred each. Each apple is wrapped in tissue paper, and they are packed in wood wool (excelsior) and the leaves of cornhusks.

In the fifteen years from 1885 to 1900 the number of physicians in Germany increased from 15,761 to 27,374. Rice forms a larger part of human food than the product of any other plant, being the diet of India, China

and the Malayan islands and occupying a place on the tables of 90 per cent of the inhabitants of the civilized world. One may safely venture the assertion that 500,000,000 people eat rice every day in the year.

Pending the general institution of wireless telegraph systems a pigeon post is doing great service between Los Angeles, Cal., and Avalon, on Santa Catalina island, in the Pacific, fifty

miles away, a distance that the pigeons cover in an hour. Messages by the bird route, however, cost from 50 to 75 cents each.

Paris leads the world in dressmaking. It is estimated that there are 75,000 persons employed in the dressmaking establishments of the city, and if one includes the workers who design and make the materials used by the dressmakers about 140,000 persons are en-

gaged in the struggle to satisfy woman's love of chiffons.

It is said that the commonest name in Scotland as well as in England is Smith.

The island of Java, which is only 673 miles long and about 127 miles wide and located only 3 degrees of the equator, has the distinguishing position of supplying practically all the cinchona bark from which the world's supply of qui-