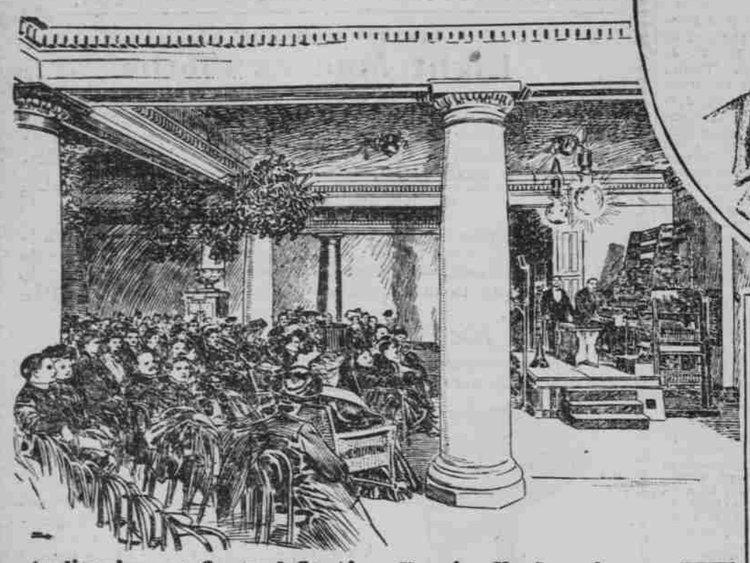
MUSIC FOR THE MILLION

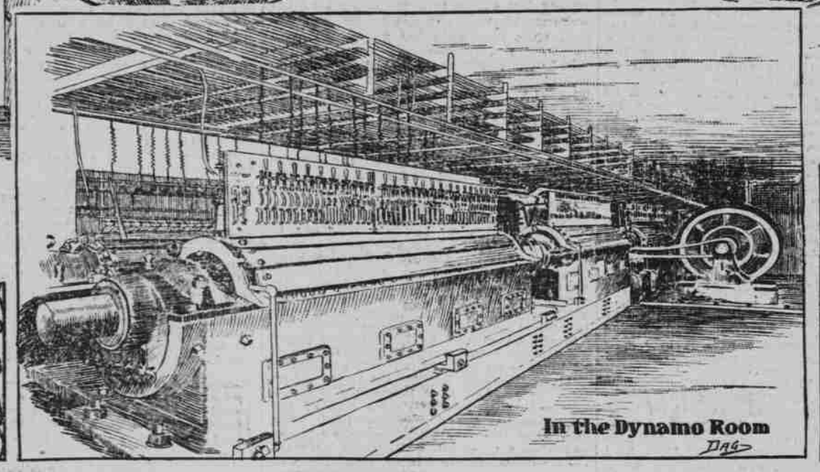
THE SPEEDY FULFILLMENT OF A PREDICTION MADE BY A CLEVER AMERICAN ECONOMIST WHO BUILDED BETTER THAN HE KNEW



Auditorium at Central Station, Showing Keyboard and Performers

Dr. Thaddeus Cahill

The Performers at Work



In the Dynamo Room

IN his ingenious "Looking Backward" Edward Bellamy draws a picture of the home life in an American city in the year 2000. He tells of a central musical station from which wires extended to every home, so that merely by pressing a button any one who felt so inclined might have the works of the masters, interpreted by virtuosi, brought into his immediate presence. At the time this clever bit of prophetic fiction was published—now almost twenty years ago—no one took the prediction seriously, not even the electrician, who was looking forward as far as he could and was in no position to look backward.

It has come to pass that Bellamy's inverted prophecy has been fulfilled almost literally. About the only point of variance between the prediction and its realization is that the latter came too soon, about ninety-three years before it was due. If the outcome had been disastrous or even disagreeable, the world might have been disposed to hold the prophet responsible, but since the fulfillment has brought only satisfaction we cannot regret its premature coming. Now that it is here it has been given the name of the telharmonic system of electric music.

What is it? It is immeasurably easier to tell what it isn't. It is a result of creative genius at work that has no counterpart in anything with which we have grown familiar. It is a further harnessing of the always mysterious electric energies, this time into a tractable instrument for reproducing all the tones that are recognized by the educated, and also, most marvelous of all, sundry tones that lie without the well defined bounds of harmony as it is understood by mortals and are not less agreeable to the human ear than the others.

This smacks of the supernatural, but it is true. The so called telharmonic system of electric music seems to be destined to revolutionize the science of harmony, exact as it has ever appeared to be. The diatonic scale, too, that bulwark of the well equipped musical theorist, is revealed in all its shallow artificiality. It is made apparent that for all the centuries the world of music has been hemmed in on all sides by the traditions of the art. We have become so willing to accept the many physical limitations of our acknowledged instruments that it comes like a shock to be convicted of our narrowness, our lack of tonal conception.

The Age of Electric Music.

But we must accept the evidence of our senses, and the telharmonic system will go far to convince us that the age of electric music has dawned. It is demonstrated forcibly that this most awesome of nature's forces employed as musical energy has brought about fundamental revolutions in tone production which make necessary a readjustment of all our previous notions on the subject. This has been the almost universal conclusion of the host of musicians who have seen and heard the new wonder, and many of them have been frank enough to admit it. In the past all musical tones have been produced by human physical effort, either by expelling air or by vibrating some substance, and it followed that the purity of the tones obtained by any of these methods has depended entirely on the skill of the one who evoked them. In this new electric music the quality of the tone is always the same.

To illustrate this perfect uniformity of tone the telharmonic reproduction of the music of the French horn may be used. The tone from this instrument is exquisite when produced by an artist, but the mechanical difficulties of keeping the tone equal in quality are well known to those who are familiar with it. This is entirely obviated by the new electric system. The tone is always the same and may be prolonged indefinitely. This is equally true of the tone of the violin or cello or any other musical sound that may be required. It is a storehouse of perfect tones which are responsive to the slightest touch. What is wrought with them depends on the skill of the musician who essays to combine them.

The Man Responsible.

The genius who has developed this scheme of supplying the world with music produced by electrical energy is Dr. Thaddeus Cahill of Iowa. In 1893 he began his search for the perfect musical instrument of his dreams by a series of exhaustive inquiries into the principles which regulate sound. He became convinced that perfection would never arrive until he could make himself master of two requisites—first, perfect tones in which the vibrations should be under control, and, second, these tones to be controlled with mathematical certainty by mechanical means.

The established principles of physics taught the patient investigator that sound is merely a vibratory movement in the air and that it must be set in motion by some vibrating substance. The telephone suggested to Dr. Cahill a ready instance of the action of the electric current on the diaphragm of the receiver, and he finally came to the conclusion that it was only necessary for him to provide a current that would vibrate at the mathematically exact rates that would produce the various musical notes. That, of course, brought him to the alternating dynamo or electric generator. He proceeded to construct a series of dynamos, each generating a different rapidity of alternations. He found that in this way hundreds of tones would be available.

Dr. Cahill succeeded also in establishing another vital fact—if these currents could be transmitted by wire to receivers and diaphragms in the same building with the dynamos they could be transmitted wherever wires could be run. Thus it would be possible to send them to thousands of buildings in scores of cities—in fact, wherever there might be a demand. Having accomplished all this, Dr. Cahill began to see his way more clearly. He realized, however, that much remained to be done before any practical result was to be expected. He had no inclination to put his discovery before the public as a new and wonderful electric toy. He was convinced that he was on the right track and that time and perseverance would lead him to the perfection he sought. It was not enough to have discovered the way to produce merely a certain fixed quality of tone. All other musical instruments do likewise. The thing to be accomplished was to be able to produce on this single instrument any timbre desired, the liquid sweetness of the flute, the vibrant tremble of the violin or the resonant blare of the brasses.

A Problem Solved.

In time Dr. Cahill realized that his system had solved this problem. A single current from one dynamo produces only a fundamental tone and no involuntary vibrations of the diaphragm are possible. Thence the inventor proceeded to elaborate his system. After infinite labor and many disappointments he evolved a dynamo for each elementary tone in the register. About 200 dynamos were found necessary. And then came the final obstacle, something that it required the labor of five years to overcome. It was to provide a method of combining a number of different currents into a single composite current so that the alternating impulses of one would not nullify those of another.

Finally, however, after fourteen years of patient research, Dr. Cahill perfected the system which is in some respects the most remarkable electrical achievement of the age. It is theoretically—and in time will become so practically—the only mathematically perfect musical instrument, unlimited as to power of expression and to its capacity for transmission. The system's value to musical art does not seem to depend chiefly on the imitation of existing instruments. That is a point insisted on with great emphasis by the inventor. Although its power of reproducing the tones of other instruments and of transmitting them and combining them gives it a great commercial value, its real supremacy exists in the fact that it is capable of originating new tones, those that have never been produced by any existing instrument. It is absolutely a new creation, music set free by electrical energy, an expansion of tone quality that has never before been revealed to human ears.

Its Possibilities.

It is not possible at this time to estimate the value of the new discovery to musical art. The extraordinary possibilities which it suggests are fairly dazzling to the educated musician. Many of the world's greatest artists have looked into its operation with awe and admiration. It has played to audiences miles distant, and its currents have been transmitted through the equivalent in resistance of 900 miles of open wire and nine miles of telephone cable, producing good musical effect at the end. Stepup transformers were used in the long distance transmission to augment the voltage along the line.

Perfectly successful wireless transmission of the telharmonic currents has been effected at a distance of ten miles. This experiment had for its receiving point a battleship in New York harbor, and it has also been made successfully at other times. Wireless experts who have investigated the system predict that in a year or so ocean liners may have telharmonic concerts during the first few evenings of a transatlantic voyage, the melody coming from the central station in New York. Several leading hotels and restaurants and at least two theaters have had the long distance music in their supper rooms and auditoriums.

It is the intention of those who are developing the scheme to make this new music as much of a commodity as are the illuminating current, the telephone or, for that matter, the daily paper. The system of wiring is being extended from the central station to all parts of New York. The time is at hand when large hotels will have the wiring in all rooms so that precisely as one now asks by telephone for ice water or stationery he may ask for music, which will be supplied by means of a switchboard in the office. The great department stores will soon be supplied with the telharmonic system, and it has been proposed to run the wires into hospital wards.

In view of the sedative influence of good music played softly some subscribers to the telharmonic service have had the wires installed in their sleeping rooms so that the current may be turned on at any time in the night when they are inclined to be wakeful. It is also possible by means of a very clever clockwork device to be wakened at any hour one elects by the performance of, say, Mendelssohn's "Spring Song" as a string quartet. This is luxury indeed. GEORGE H. PICARD

HENRY CHADWICK, *the* "FATHER *of* BASEBALL"

HOW many are there among the present generation of baseball enthusiasts who know that the man who saw the birth of the game and who has done more for its development and perpetuity than any other is still in the flesh and as devoted to the national pastime as ever? More than octogenarian that he is—he was born in 1824—Henry Chadwick is still editor of the official Baseball Guide, as he has been for the last twenty-six years.

In 1837 this Nestor of the great American sport was a schoolboy of thirteen in Brooklyn. In those days the only prominent field sports in vogue were horse racing and the old English game of cricket, which had a modest and rather perfunctory following in some parts of the country. New York was first in adopting cricket, it being a matter of record that a match was played on a field near what is now Fulton market as early as 1751. Horse racing was quite active on Long Island, especially on the old Union course near Jamaica and on the Centerville course.

Baseball as it is now was unknown. A game bearing a certain resemblance to it was played as early as 1831 by the old Olympic town ball club. The first baseball club was not organized until fourteen years later. That was the Knickerbocker club, which until then had played a modified sort of town ball. The national game as it is played nowadays dates its existence only from 1857, the time of the organization of the first national association of ball players.

The First Professionals.

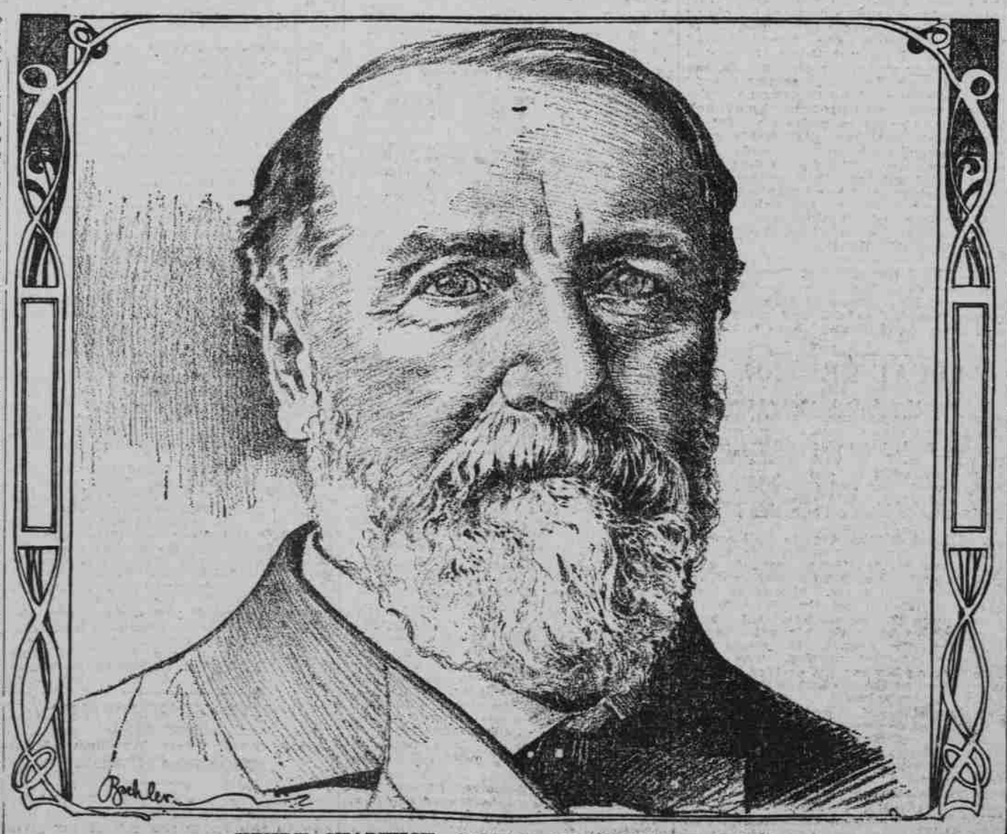
At that time and for a decade later all baseball was amateur, all professionalism being barred by the national association rules. It was in 1868 that the first professional baseball team was organized, the Red Stockings of Cincinnati, who were the first men to draw salaries from what had always been regarded as a mere pastime. Three years later Mr. Chadwick, even at that early day a leader in the development of the expanding game, succeeded in dividing the baseball fraternity into distinct classes, amateur and professional. This he did by organizing the association which was the progenitor of the present National league.

According to Mr. Chadwick, it was not until 1856 that he made up his mind that the game of baseball was likely to have a great future. He went over to the Elysian fields, Hoboken, N. J., one day to see a match game of cricket played. It happened that a match game of the baseball of the period was also on the programme, and Mr. Chadwick was so delighted with its possibilities that he then and there resolved that it should become the national game of America. It seemed to him that this new game was peculiarly adapted to the American temperament, and he made up his mind to boom it to the extent of his opportunity.

He Made a Beginning.

With that end in view he went to the various city editors of the daily papers and tried to interest them in the matter. He wanted them to publish reports of all match games, realizing that publicity would work to the new sport's advantage. The majority of these editors could not be interested. Even when Mr. Chadwick offered to send in reports of the games free of charge he could arouse no enthusiasm. They declared that no one was interested in the game and that it would only be a waste of time and effort.

He persevered, however, until the New York Times agreed to print his copy provided it was condensed to the smallest possible limit. That was in 1857, and it was thus that Mr. Chadwick became the first baseball editor and journalistic promoter. It was not long before other papers fell into line and a general interest in the game was taken in all parts of the country. While he was reporting the game for the Times and other papers Mr. Chadwick studied the conditions carefully and soon began submitting amendments to the rules, especially in the form of suggestions through the press. Later he became a delegate to the conventions of the association and was given a place on the rules committee. Eventually he was elected chairman, and it was then that he suggested the formation of state associations. Clubs were springing up all over the country, and the number was becoming legion. Since each individual club was entitled to send delegates to the national association conventions that body soon became too crowded to conduct business. Mr. Chadwick was responsible for the restriction of delegates to the state associations, and the improvement was great and immediate.



HENRY CHADWICK, NESTOR OF AMERICAN SPORT.

Origin of Baseball.

As may be imagined, Mr. Chadwick has some very definite ideas as to the origin of the national game. They are at variance with the accepted theories, but he continues to hold fast to his original belief that the modern game of baseball is the outcome of the old fashioned English pastime known as rounders. So competent a baseball authority as A. G. Spalding declares that the game is of distinctly American origin, and he dates its birth from the organization of the original Knickerbocker club in New York city, Sept. 23, 1845. Mr. Spalding also believes that the colonial game of one old cat was the basic idea.

According to Mr. Chadwick, town ball was the first step in the evolution from rounders to baseball. Up to that period no form of ball save lacrosse and cricket had ever been played in the country. Town ball became very popular, and it was played all over the country until baseball began to assume pre-eminence. One old cat, Mr. Chadwick maintains, was not played at all in those early days, but originated from the preliminary practice with bat and ball which took place every time a match game of baseball was on hand.

Although "the father of baseball" is an Englishman—he was born in Exeter in 1824 and came to America when he was three years of age—he is in full sympathy with the effort to make the game as exclusively of American origin as is possible. Since he cannot convince himself that such is absolutely the case he admits that it consoles him to know that it was suggested by so good an English sport as rounders.

A Remarkable Octogenarian.

More than octogenarian that he is, Mr. Chadwick is still engaged in active work. Besides filling a position on the editorial staff of a Brooklyn daily newspaper and editing the baseball guide which has borne his name for more than a quarter of a century he is engaged continually in editing and writing books on sports. Quite recently he has compiled a handbook on chess. He still rises at 5 o'clock winter and summer, takes his cold plunge with unfailing regularity, eats a light breakfast and is deep in his work before the ordinary city man is stirring. He shows no signs of age in his methods, making use of a typewriter and turning in the most readable copy of any member of the staff. He is also an excellent musician and still plays the piano with marked taste and facility.

Mr. Chadwick's reputation as the lifelong champion of American sports is international. When Mr. Spalding took the Boston and Philadelphia clubs to England, in 1874, he found that Chadwick was regarded as an authority in all matters pertaining to sports on this side of the water. It was on this occasion that Sir Edward Chadwick, the famous sanitary commissioner of London, the American expert's elder brother, made his oft quoted remark:

"While I have been trying to clean London my brother has been keeping up the family reputation by trying to clean your sports."

ALLEN E. SANDERS.

MEXICAN SPRINGS.

Two local mineral springs in Mexico are now marketing their bottled product, and it is finding a ready sale. Pint bottles of Mexican mineral water and ginger ale retail for from 15 cents to 30 cents Mexican currency, while the imported products sell for more than double those amounts. The native products have made severe inroads upon the amount of foreign waters sold there.