

# Musicians Too Ignorant of Science, Says Edison

BY the strange perversity of things in the last generation, not music, but science—supposed arch enemy of the ideal—has done most to spread the love of this art through America. Since melody has been caged and confined, by Thomas A. Edison, to be released at will, our Western prairies are no longer desolate. Kansas farmers now dispel the erstwhile lonesomeness by "Vesti la Giubba" or "Turkey in the Straw," as the case may be, and "Humoresque" has become a favorite in the Rocky Mountain fastnesses.

Nor has Edison ceased his labors in the cause of humanity. Now aging, his early morning hours still find him in his laboratories, where the writer had the memorable privilege of seeing him. In a century's meagre yield of the truly great, Mr. Edison stands as one of the towering figures with a verily cosmic outlook: a genius who has paid as just a homage, by his endeavors, to the cause of music as to that of electricity.

Unfortunately, a too circumspect outlook on life on the part of musicians has worked against any intellectual reciprocity of this sort. It would be hard to recall one musician who has paid a mental toll to science, or even one who has interested himself sufficiently to make a study of the physics of sound, the stuff of which his music is made. And as rare is the artist who can boast of an absolute scientific knowledge of his instrument or can trace the make-up and workings of the medium of his art. And this is a circumstance which is rebounding constantly and regrettably on the work of the musician whose chief and sole aim is facility of playing, according to Mr. Edison.

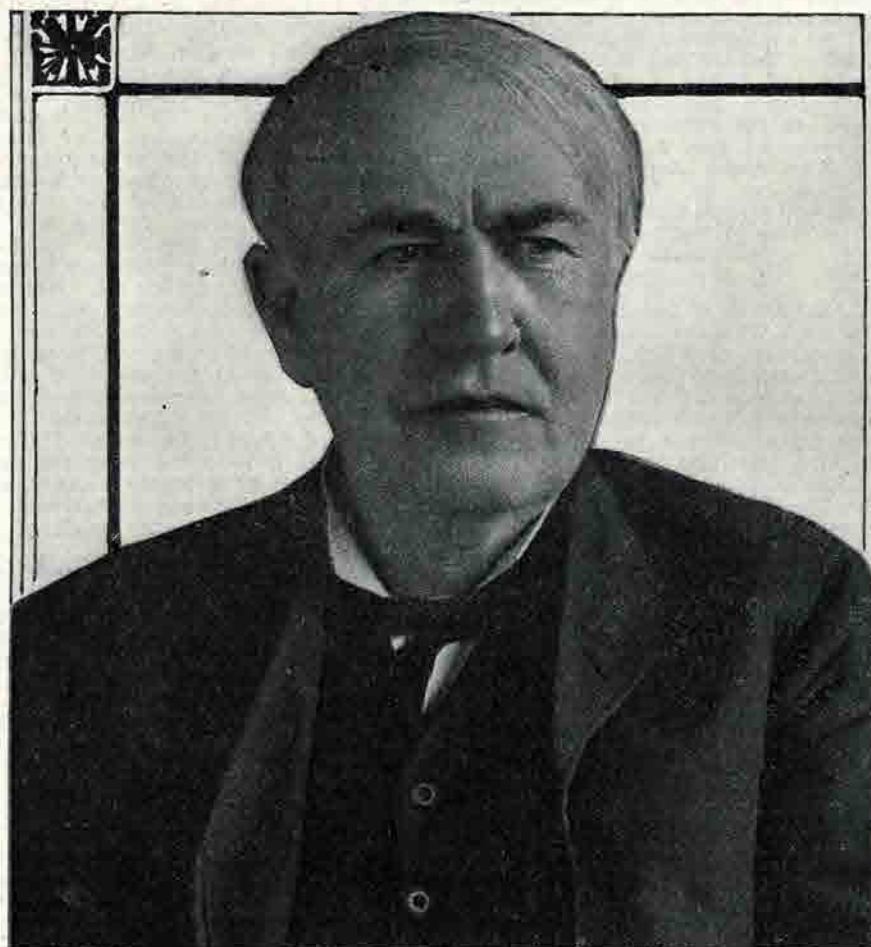
"A great fault with musicians," said the inventor, "is that most of them have not studied the science of the instrument they profess to play. They never take the pains to determine the mechanism of the things which produce their art, and hence they fail to get the most out of them. For instance, I have heard pianists playing on instruments of which one key would vary extraordinarily in timbre from the adjacent key and yet be unaware of it. I admit that in piano this ignorance of the instrument is not so apparent or dangerous as in other instruments, for the piano is not a true musical instrument but is in fact a musical compromise. The notes are measured out for the player, and he is able to produce consonances and octaves exactly, because the maker of his instrument has measured them out for him.

## No Consonances on Strings

"This, however, is not so in many other instruments. Take the violin; it is utterly impossible to play true consonances and octaves on the violin or any stringed instrument, though most musicians are unaware of this. The fact is very easily explained. In a stringed instrument a movement of one ten-thousandth of an inch along the string changes the tone, and in order for a player to give an absolutely exact tone he would have to intone it within a tenth of the thickness of tissue paper. When a violinist plays single notes he can generally correct a slight falsity of intonation by an almost instantaneous turn of his finger. His auditors do not catch this tuning for it occurs so rapidly. In the case of octaves he may correct and hold the right tone in one note but he is utterly incapable of doing this with two notes, as two simultaneous actions are impossible to the human brain; hence one note remains untrue. Octaves

Inventor Finds a Great Fault with Artists Is That They Do Not Study Make-up of Their Instrument—Consonances Impossible on a Stringed Instrument—Psychological Reactions to Music—Composing as He Sees It—How to Insure Our Musical Future

By Frances R. Grant



THOMAS A. EDISON.

The Wizard, Who Gives Some Scientific Advice to "Musical America" Readers

on stringed instruments are highly unpleasant aurally and yet composers continue to write them and virtuosi to play them because they do not appreciate their ugliness.

"An illustration which strengthens my belief in this failure of artists to know the materials with which they work was that of an American artist well known, who recently made some records for us. After they were finished I paid for them but destroyed the records. When she demanded my reason for this I told her she had high harmonics on her G string. I had her play for me again, and again the falsity was apparent to me though she was unable to discern it. Then I took her instrument and put the string under a microscope, discovering that the string had worn square. It was only after I showed this to her and explained it that I could convince her of her fault."

Recently Mr. Edison further demonstrated his interest in music by offering a prize for the best article on some phase of the psychological reaction of music, a subject to which, he says, we have given far too little attention. Recalling to him the statement of certain psychologists that colors have so definite a reaction as to prove cures in the case of certain phobias, the writer asked the scientist whether in his belief music might some day be similarly used, and whether its psychological reaction might be as definitely ascertained.

"The reactions to tone should be far more certain than those of color, because

ment will determine what that quality is, and just what works have this human appeal.

"Nowadays the trouble with determining the actual reaction of persons to music is that convention plays so large a part in their choice. Most persons like what they are told or supposed to like. Thus if our workmen are told that a record is by Caruso they invariably like it, while an unknown singer will find them indifferent. Often we do not tell them the singer or we even tell them a different singer, and the result is far different.

"I have heard between sixty to seventy thousand tunes, I presume, in these years, but I never permit the author or the singer to be told to me before I hear the record so I listen to it without previous judgment.

"From this form of musical measurement I have come to believe that there are two very distinct types of composing. The first is just composing, and the second is taking music 'out of the air itself,' as one might say, pure inspiration. In Beethoven for instance, this latter kind of music predominates. What a vast amount of pure inspiration is here! One may listen to a continuous half hour of his music and feel that every note was not just composed but actually inspired. In Verdi, Rossini, too, there is much of this. Wagner's 'Valkyrie,' however, is outside either of these classifications. It is elemental! And in Puccini I find a strange combination both of this elemental quality and of just composition. It is where the composer has left the inspired moment pure and undistorted that we get music of truly lasting appeal. The author of this little ballad, 'I'll take you to your home, Kathleen,' picked this out of the air, and yet no amount of effort and composing ever enabled him to write another song of such appeal."

In regard to the future of American music Mr. Edison has a definite formula. To make our country one of true musical instinct, we must begin, as he says, with the young children.

"It is with the children that we must work if we would turn this into a musical nation," he voiced. "Take Germany. The nation is not a musical one, certainly not as musical as our own. Brahms, of all their great composers, is really the only one we may count as a German. Beethoven, a Dutchman; Wagner, Mendelssohn, Meyerbeer—all Jews. Yet Germany has developed a vast love of music among the people for the simple reason that almost every child is taught some instrument. In a family each youngster is given a different instrument to learn and in the home there is cultivated a love of art which proves more alluring than our moving pictures, and how much more inspiring! That is what we must do here. It is not the schools or the teachers that have in their power the making of a musical nation, but the mothers. Newspapers and individuals should preach the gospel of teaching music to our youth in their homes, a different instrument to each child; all our musical problems will solve themselves. Do this and a noble musical future is assured our coming generations."

## Casals Not Coming to U. S. This Year

A cablegram was received by F. C. Coppicus of the Metropolitan Musical Bureau this week from Pablo Casals, the cellist. Mr. Casals stated that he had abandoned all hopes of a visit to America this season.

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