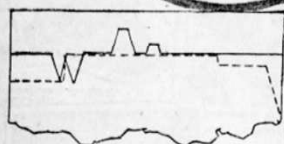


# Nobody Ever Sang "America" Right!

Because It Can't Be Done. Dr. Seashore's New Voice Tests Reveal All the Idiosyncrasies of Singers, As Well As Showing Whether You Are Fitted for a Musical Career or Not



"America" begins and ends on the same note, yet it never was sung so because the human voice cannot sing the same note twice in just the same way. The graph shows what happened when Schumann-Heink tried it. She thought the notes were just the same, but see what the test revealed.

BY C. H. CHAMBERLAIN.

Special to The Register.  
IOWA CITY, Ia., June 11.—Are you trying to decide whether to become a professional singer or not? The ambition is there, but you're not sure about the talent? Science will tell you. Dr. Carl A. Seashore, head of the department of psychology of the State University of Iowa,



Max Schoen, assistant in the department of philosophy and psychology at the State University of Iowa, is giving a test on the tonoscope to Miss Martha Gunderson of Rolfe. As a result of this test, her ability to sustain a given note will be determined.



This graph shows what happens when Melba holds a note. The straight line represents the note as the piano plays it, the wavy one as Mme. Melba sings it. Yet to the audience it sounds like exactly the same pitch.

be studied and analyzed. Similar experiments are being applied to vocal music to find just what qualities make a singer's voice great or mediocre.

## BY C. H. CHAMBERLAIN.

Special to The Register.

IOWA CITY, Ia., June 11.—Are you trying to decide whether to become a professional singer or not? The ambition is there, but you're not sure about the talent? Science will tell you.

Dr. Carl A. Seashore, head of the department of psychology of the State University of Iowa, has developed and perfected tests to determine the exact quality of the voice.

Your husband thinks you can sing? You think so, too. You sing when you get up in the morning, you sing while you wash the dishes and when the aid society has its monthly meeting.

Afterwards Louella tells you how beautiful it was.

You begin to think you are wasting your time keeping house.

The truth of the matter is there are only a few housewives who might be in grand opera. Neither are many women behind the counter in the drygoods store permitting musical talents to go to waste. More probably you are one of those contributing time and money to support a well-meaning music teacher who is hopeful, yet doubtful, that your imaginary musical talents will come to the surface after years and dollars of training.

Many see musical success as the goal of their ambitions. No one is certain whether he possesses musical ability or not.

## Measures the Voice.

The department of psychology of the University of Iowa has equipment to measure musical ability and musical performance. Its tests have broken the heart of many a hopeful soloist. Others, dubious of their ability, have been astonished with the information that they possess musical talent to a more than usual degree. Many irrepressible songsters would be surprised if only they could know the true quality of the "melodious notes" that spring from their throats—when the society editor writes up the missionary meeting in the weekly home town paper.

What these tests for musical ability disclose is difficult of discovery to the average observer. Some of the less appreciated singers in your community probably have more talent than you suppose. There is Molly, who always sings off pitch. Isn't it dreadful? But, for that matter, nobody ever sings a true note. It is a fact that so-called singing in tune simply does not exist. Galli-Curci is noted among music critics for singing out of tune. Graphs of Melba's voice made in the university laboratory show that in endeavoring to hold a certain note she did not once really reach it, yet Melba's voice is decidedly pleasing. Pitch control beyond a certain degree has much less to do with effective singing than is commonly supposed.

Nobody ever sings "America" correctly. This favorite national anthem begins and ends on the same note, but it has never been sung that way, for nobody ever sings that same note twice in the same way. Two pictures of Schumann-Heink's voice in which she attempts to sing the same note have been taken in the Iowa laboratory. The difference is surprising.

## This Kind of Torture Futile.

The young mother who wishes to buy her son a music roll, corner him daily for piano practice, and beam on him semiannually at the recital programs in teachers' parlor will do well to measure his musical talent before she permits the music teacher to take him in charge.

Dr. Seashore will measure Johnnie's talent for her. He does this by means of certain standard tests which he originated and developed. In the field of measuring and determining musical talent Dr. Seashore holds the recognized

leadership among scientific men in the United States. He has found that intelligence and age, training, social advantages, and so on make no difference in the amount of musical talent possessed by children, but that apparent differences lie in the degree to which this talent has been developed. Many children who show no special aptitude in other work may become rather finished musicians. Dr. Seashore believes that these boys and girls should be given an opportunity to develop this talent.

There are five basic tests originated by Dr. Seashore. These measure one's ability to determine the pitch of a note, its intensity, time or rhythm in music, consonance, and tone memory.

### ***Valuable in the Toddle.***

Recognition of the least perceptible difference between two tones is measured in testing pitch. Intensity is the judging of the strength of a tone. In the time test one must distinguish the difference between two time intervals, the result being the index to natural capacity for rhythm. Those who sense what time is best suited for the toddle have a distinct advantage when it comes to taking this test. Consonance indicates basic capacity for the appreciation of harmonies and melodies. Good tonal memory is not as necessary for certain kinds of musicians as a high rating in other abilities. Persons who play by ear have strong tonal memory, but not all good musicians play by ear by any means.

When being measured for musical ability a test is also given to discover appreciation for music. What do you hear at a symphony concert? Does the person next to you hear the same thing? Very likely not. There are many types of listeners. Some are receptive to rhythm, others to harmony, others to melody, and so on.

In determining musical ability the sense of pitch is most important, followed in succession by the sense of time, intensity, consonance, and tone memory.

There are those who enjoy music immensely, but are totally unable themselves to sing or play. In fact, they may have a very low rating in every one of the five tests named above and enjoy good music nevertheless. You are familiar with the midnight cornet player. That man likes music. He can't play, but oh! how he would like to, and his poorest efforts are to him silvery notes.

### ***See Yourself Sing.***

One of the interesting pieces of apparatus used to make musical tests at the university is the audiometer. The department of physics, otology, and psychology combined to work out this instrument, which is the only one in the world by which the ability of the ear may be satisfactorily measured. Its discovery is a good illustration of the fine co-operative spirit in the university. During the war it was found that a musical ear was needed in the detection of U-boats, and the audiometer did good service in picking out persons well fitted for this work. In the university hospital at the present time this instrument is frequently used to discover defects of the ear. Aside from the audiometer, Dr. Seashore employs musical instruments and tuning forks in making these tests.

Would you like to see yourself sing? This can be done by means of a machine called a tonoscope. It works much on the same principle as a motion picture camera to reproduce voice vibrations and make them visible to the eye. Succeeding rows of dots on a screen are thrown into vibration and the singer can tell by the

number of dots in each row whether he is in tune or not. He can see even his smallest errors in pitch control, for from one vibration to another is such a slight step as to be scarcely apparent to the human ear. The tonoscope is used in producing such voice graphs as that of Melba in another column.

Since singing in tune does not in itself constitute a pleasing voice, even though it is con-

sidered the most important characteristic for vocal success, scientists have set themselves to discover just what does make the voice effective in speech and song. Prof. Glenn N. Merry, head of the public speaking department of the university, is engaged in a study of this subject with the co-operation of Dean Seashore. He is attempting to make a record of the speaking voice in black and white in order that it may

be studied and analyzed. Similar experiments are being applied to vocal music to find just what qualities make a singer's voice great or mediocre.





Dr. Carl A. Seashore, one of the foremost psychologists of the United States and developer of the scientific voice tests.

### ***No More Time Wasted.***

As a result of this study it is expected that it will soon be unnecessary for a man to waste months or years in voice training. If he expects to go on the stage or become a minister or lawyer he will simply have his voice analyzed to discover its faults and will work for specific improvement to correct defects which are well known in advance.

Professor Merry, using another Seashore instrument, makes graphs for his study from an ordinary phonograph record to discover the pitch, duration, intervals between words spoken, and loudness. He has a recent collection of all the important speeches of the presidential candidates and their supporters in the last campaign. Graphs from the most successful records will be analyzed in order to find wherein effectiveness lies. Students and instructors in the department of public speaking will judge what records are most effective as in an oratorical contest.

Although of comparatively recent development, Dr. Seashore's musical tests already have been put to practical use. They were first applied in Charles City in 1917, but the instruments necessary to take the test were so complicated and valuable that it was impossible to utilize them in the average school. The tests have since been adapted to use through phonograph records. In the fifth grade a group can be satisfactorily measured for the first time. Tests are repeated in the eighth grade, for often it is here that decision is made concerning music as an avocation.

The slogan of the national music supervisors' conference is "Music for every child in the public school at public expense in proportion to his talent."

We do not struggle to teach a dog arithmetic. Well, then, why waste time and money attempting to develop music in a child when there is none to develop? Dr. Seashore aims through his tests to determine the amount of musical talent in children in order that their public school or private training in music may be given "in proportion" as the music supervisors' conference recommends.