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Experimental Studies in Junior High School Monotonism

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EXPERIMENTAL STUDIES
IN
JUNIOR HIGH SCHOOL MONOTONISM

by

Lina Baldauf Knight

A Thesis
Submitted in Partial Fulfillment
Of the Requirements for the Degree of
Master of Music
in
Music Education

Arthur Jordan Conservatory
Indianapolis, Indiana
1941
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**TABLE I**
GRADE DISTRIBUTIONS OF THE MONOTONES USED IN THE EXPERIMENT

**TABLE II**
AGE AND GRADE DISTRIBUTION OF BOYS WITH CHANGING VOICES

**TABLE III**
AGE AND GRADE DISTRIBUTION OF BOYS WITH UNCHANGED VOICES
CHAPTER I
THE PROBLEM

Education fulfills its purpose when it molds the raw material with which the individual is endowed into factors which make life a richer, happier, more useful experience. The raw material represented by the child and his talents comes to the teacher of vocal music in varying degrees of native ability, physical condition, physical make-up, mental attitudes, and previous training. The ultimate objective of teachers of vocal music is well defined. Each child should receive that type and amount of training which will enable him to fulfill best his place in society.

The individual who lacks the use of his voice as a musical instrument lacks the natural, fundamental medium of musical expression. Not only does he lack the means for the closest and most direct relationship with music, but also there is a serious danger that, as a result, his whole range of musical appreciation will be impaired and finally obliterated. This is likely to occur because he does not have at his command and under his control this power which he so definitely needs. Children who are thus handicapped are often designated by the use of the word monotone.

The term monotone signifies the use of one unvaried tone. Applied to the voice and the individual's use of the voice the implication is that the person has at his command only one vocal pitch.
It is an undeniable fact that the speaking voice and the singing voice are dependent upon the same mechanism; the variation lies in the use of that mechanism. Inflection in speech indicates that nature has endowed the individual with the ability to use a variety of pitches. There is not known to exist a skilled musician or musical pedagogue who finds it possible to classify an individual as a monotone merely by hearing him speak. This raises the question as to the validity of the term monotone as it is usually accepted.

A great many authorities such as Smith, Mursell, Hubbard, Howard, as well as numerous others, hesitate to use the term to classify non-singers for they refer to them as so-called monotones.

More does not call these people monotones. She uses instead the term "inaccurate singers."¹

Martha Scott cites: "In my experience a so-called 'monotone' always sings below middle C, and drones along not always on just one tone, but in the only tones that are available in that range at his age, which are few, and hence he is (mistakenly) classified as a one-tone singer."²

"Children are often called 'monotones' even after they learn to move their voices up and down somewhat in attempting

² Scott, Martha, "The Monotone in the Music Class," The Grade Teacher, 47:536, March, 1930.
to follow the teacher's voice."\(^1\)

"Monotones are extremely rare. Only a very small per cent of the mass of children are really monotones. . . . If sensitive to any pitch differences at all, they are not monotones."\(^2\)

C. F. Shirmann found that the range varies from two to seventeen tones with a median range of eleven tones.\(^3\)

Giddings sums up the above opinions as follows: "There are very few real monotones, but it is the term usually applied when people sing out of tune."\(^4\)

"The position now taken by most progressive music educators is that the monotone is a problem case rather than a hopeless case, and that the nature of the problem varies with different individuals."\(^5\)

"Every intelligent teacher knows that there are comparatively few cases of tone-deafness which are incurable."\(^6\)

In agreement with the above: "Some children have quicker ears than others, and some have much more extended musical experience than others before coming to school, but psycholo-

\(^1\) Gehrken, Karl, *Music in the Grade Schools*, Boston: C. C. Birchard Co., 1934, p. 32.
gists tell us that the child is a rare exception who cannot in time learn to 'carry a tune.'\(^1\)

Norton says: "When a child does not produce a singing tone and merely drones and flounders about, his sense of pitch is usually undeveloped. . . . Most cases need only proper and persistent direction and skillful handling."\(^2\)

A child who can match the tones used in producing inflections in words such as we find in the speaking voice ought to be able to learn to sing, since the differences in pitch in the speaking voice are very slight and fall within a narrow total range. These slight differences are difficult to reproduce, and if a child can reproduce such pitch combinations he should be able to match the simplest and most familiar tone intervals that we find in the diatonic scale.\(^3\)

"If a child has no physical handicaps, such as defective hearing, vocal incapacity, etc., he can, in time, surely be taught to sing."\(^4\)

"It is well to distinguish between the physically defective and the so-called 'monotones.' The latter are merely retarded in their musical experience."\(^5\)

The word 'monotone' has been carelessly used and children have been branded by that name and consequently given very little help because it has been thought futile to do so. Some of these children have little capacity for pitch discrimination but it is just as possible that many of them

5. Ibid.
do not reveal their ability at the beginning of the year for other reasons.¹

Other authorities seem to agree with the above cited writers with reference to the use and misuse of the term monotones. It would appear then, that the majority of monotones, as they are commonly known, are not incurable.

It should be noted that the authorities cited above confined their studies from which the statements were taken to children on an early elementary school level. The purpose of this study is, therefore, to determine whether those children who are popularly described by the use of the term monotone can be taught to sing after they have reached the junior high school age.

The question as applied to this particular age of the child becomes more pertinent when the fact that teachers with specialized training are first found at this educational level. In most schools today vocal music classes are a requirement through the ninth grade and in many systems the high school is included. This trend for greater musical growth for every child is gaining favor throughout the country.

It is evident that many children reach the level of junior high school without having received enough special training in vocal music to allow them to participate fully in the class exercises either through their own choice or because they are permitted to do so. These children often detract

from the amount of training which could be had by other members of the class because children who do not take an active part in classroom work often demand special attention. When they do take part in the singing they destroy the beauty of the whole. Such a condition gives rise to an undesirable social situation in the school.

If the problem set forth in this study can be solved adequately it would appear that greater personal and social benefits would accrue to all the children. It is also believed that greater efficiency in the teaching of public school music would be attained.
CHAPTER II
THE PROCEDURE

Class Organization

Individual work in a large school building seemed impractical. A class appeared to be the only solution for carrying out this project. Taking into consideration the set-up peculiar to the Louisville Public Schools, the procedure in the organization of the class was as follows:

The first person consulted was the principal of Parkland Junior High School, Miss Nata Lee Woodruff, under whose direct supervision the class was organized. Being a person concerned with improving the status of the less gifted child and with furthering any innovations of a constructive nature, she consented to the formation of the class for monotones. Miss Woodruff recognized the intricacies and difficulties of the teaching program as it existed in her school, and that the children involved would be forced to omit certain other classes in order to enroll.

The next step was an interview with the music supervisor, Miss Helen Boswell, who is primarily interested in the development of music in all of the schools of Louisville. Miss Boswell was most cooperative and sent an informative letter concerning the class to Dr. W. T. Rowland, assistant superintendent of schools. Dr. Rowland's opinion was solicited and he aided in the matter of organization. The class was limited to twenty in order to give the necessary individual attention.
This number was below the standard minimum pupil load so it was decided that the group would meet during the free time which had previously been allotted to the teacher. As long as the pupils involved would not be following the regularly prescribed schedule, Dr. Rowland suggested that a letter be formulated which would (1) explain the purpose of the work to be carried on, (2) the reason for the selection of the particular individual, (3) studies from which the child would be excused, and (4) the consequent loss to the child by omission of such subjects. Subsequently this letter was to secure the permission of the parents for the child's entrance into the class. Dr. Rowland notified Miss Woodruff of his approval of the class under these conditions.

The pupil's schedules were then studied and an attempt was made to take the fewest possible number of students from the core curriculum subjects. The class was to meet at a different hour each day that it was in session so that the child would not miss the same class more than one time per week. Each pupil was taken from one full class period per week provided arrangements could be made whereby the child did not omit one of the three major studies: English, Social Studies, or Mathematics. If the subject to be missed was one of the latter, the pupil was to report for only ten minutes of the class period per week.

A letter was devised which seemed to explain the situation adequately to the average parent concerned. Since an
individual typewritten letter bears greater significance, it was suggested that each parent receive a personal letter containing the child's name throughout. A facsimile of the letter follows:

Dear Mrs. ____________:

We are planning to start a coach class in music for those pupils whom we think have more ability for singing than they have developed. It is our hope that through the work in this class these pupils will learn to sing sufficiently well to take part in singing throughout life.

This class will be taught by Miss Baldauf and will meet three times a week. In order for pupils to be enrolled in it, it will be necessary for them to miss other classes. However, if the class in which the students are enrolled, at the time that the special group is to meet, is one of the three major subjects, the students will lose only ten minutes of this period for work in the music class. The work lost in this way will not interfere with their promotion.

D______ has been selected for this class and we would like to have your permission to enroll him in it. If he becomes a member of it he will miss . . . . . . . . . . . .

If you are willing for him to join the special music group, will you sign in the space indicated below and return the letter by him.

Very truly yours,

Principal

I hereby give my consent for D______ to be enrolled in the coach class in music for the term.

Parent

According to the manner in which the schedule had been set up only two class meetings could be arranged per week. The
amount of time allotted did not seem adequate to accomplish the amount of work planned. At Parkland Junior High School there is an assembly program given each week. The enrollment of the school exceeds the seating capacity of the auditorium, therefore two assembly periods per week must be arranged. While one group meets in the auditorium the other classes remain in home rooms. In order to secure more time for the teacher of the special music class to work, it was arranged that a teacher not having a home room take charge of the class ordinarily assigned to the music teacher during this period. The dismissal of the members of the monotone class from their home rooms allowed for a third session. Each child worked on a staggered schedule and the average time spent in class per pupil was ninety minutes per week for fifteen weeks.

It seemed plausible to work only with those children whose voices apparently were not changing. It was discovered, through a study of junior high school boy's voices, that symptoms of monotonism arise during the period of change, and it would not be easy to distinguish between an inability to carry a tune from birth and one which was due to the rapid growth of the vocal chords and the consequent lack of control. However, several of the boys' voices began to change during the course of the experiment.

With the exception of changing voices the children were selected at random from the seventh and eighth grades to make up the class of twenty necessary for the experiment. Table I
gives the number in detail.

**TABLE I**

Grade Distribution of the Monotones Used in the Experiment

<table>
<thead>
<tr>
<th>Grade</th>
<th>Boys</th>
<th>Girls</th>
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<tr>
<td>7B</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>7A</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>8B</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>8A</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td>7</td>
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**Recording**

Two class periods were devoted to preparing the class for phonograph recordings which were made of each child's voice. This preparatory work consisted of learning a song and training in matching tones. Each child was given fifteen minutes of individual work while the remaining children listened or attempted, at designated intervals, to sing with the soloist. As corrections were made, and each child was given many opportunities to hear the tune, each became less self-conscious, realizing the deficiencies of the others. Time did not permit every member to sing alone in class, therefore, appointments before and after school were necessary to provide the same individual attention for the entire membership.
The song, when recorded, was sung once while the melody was played on the piano and then repeated unaccompanied. The song follows:

**Pigeons**

*Robert A. Coan*

Original key for recordings

```
\[\text{\textbf{Roo coo coo roo coo coo,}}\]
\[\text{\textbf{Roo coo coo roo coo coo,}}\]

\[\text{Hear the pigeon calling,}\]
\[\text{While the rain is falling,}\]

\[\text{\textbf{Roo coo coo roo coo coo,}}\]
\[\text{\textbf{Roo coo coo roo coo coo,}}\]

\[\text{All the summer day;}\]
\[\text{'Neath the eaves they stay.}\]
```

---

Lower key for second recordings

This selection was made for the following reasons:

1. It is short and has two verses, which permitted repetition.

2. It contains examples of various large and small intervals moving up and down.

   a. The entire first and third phrases are made up of intervals of a perfect fourth.

B. The second phrase consists of a short scale passage in the lower range followed by a minor third moving up.
C. The final phrase contains a three note scale passage, a perfect fourth moving up, and a perfect fifth moving down.

3. The sound "oo", the vowel sound found in the first and third phrases, is easily sung and is preceded in each case by a voiced consonant.

4. Repetition is evident throughout.
   A. During the course of the song, while recording, each pupil was given eight opportunities to sing the beginning interval.
   B. The second and fourth phrases are very similar.
      (1) The first measure of each is identical, therefore the measure appears four times.
      (2) The last three measures of these two phrases occur twice.

5. The song is placed within the easy range of a normal unchanged voice.

Second recordings of the song in a lower key were made of the voices of two voices of two boys and two girls. This was done to determine whether or not the children who used the low register could sing correctly if the tune were placed in this range. It was interesting to note that on comparison little difference in the two recordings was evident.

One class period was used in training the class to match tones. Each child, without exception, attempted to sing the tone simultaneously as it was struck on the keyboard. It
required some time to cause the children to listen before attempting to repeat the pitch given. It was necessary to insist that the children refrain from uttering a sound until pointed to by the teacher.

For the recording, the following tones were played on the piano for the children to match:

```
\[ \text{\includegraphics[width=0.5\textwidth]{music_notes.png}} \]
```

The entire series was then repeated.

This group of tones was used for the following reasons:

1. Middle "C" and four other tones were played, giving the child an opportunity to sing these correctly if his voice were consistently low.

2. Five tones, including middle "C" and some above, were given for those whose voices were placed in an upper register.

3. Middle "C", which was found to be within the compass of the majority of voices, was played twice in succession to discover whether the child perceived the repetition or attempted to change the pitch.

4. The perfect fourth, which seems easiest for monotones to hear and formulate, was used in both groups of tones along with a scale passage.

Many previous rehearsals gave the children confidence
for, with one exception, they were not unusually nervous or excited when performing alone. The recording was done in the classroom with only the teacher and the men who operated the recording device as an audience to the performer. Each child was given several trials at using the microphone before the recording was made.

After five weeks' work each child was given an appointment for a private consultation. The record, previously made, was played and the child offered his opinion concerning his improvement. Desired goals toward which to work and specific means of gaining these goals were discussed. In every instance the child was able to discover his achievement and was helpful in diagnosing his difficulties.

The following week a second recording was made. During the class period preceding this recording each child selected a song from those which he had learned. Each child recorded only one song.

Eight weeks later a final recording of each child was made. Each member of the group sang the test selection and a song of his own choosing. Most of the children were highly conditioned against the test piece. Some children had made such effort to learn the tune at the beginning of the experiment that it was almost impossible to relearn the melody correctly even after increased singing experience had taken place. Others were self-conscious about the song because with added knowledge they realized how poor the first rendi-
tion was. None of the group wanted to study the song the second time. This general attitude was difficult to combat therefore little time was spent here in review. In some instances it was necessary to play the melody on the piano with the child as he recorded. The melody selected by the pupil was recorded unaccompanied.

Teaching Procedure

The physical mechanism of the voice is so constituted that it must be approached through mental concepts. Singing is a learning process. Attention is a factor without which all psychological processes of learning suffer. If properly directed it creates a receptive attitude and controls and nourishes interest which in turn stimulates the desired response. Thus attention was found to be an all important factor in the teaching of monotones.

Attitude toward singing was significant. This involves the internal or subjective condition of attention. Usually the monotone has a negative attitude concerning his ability to sing.

The children who were to take part in the class were first imbued with the idea that everyone can sing. They were told that a chorus or a glee club (to which they had never been admitted since their first entrance into school) must sound like an instrument, no one voice prominent. Since the majority of the children were under the impression that they
sang lower than the rest, they soon understood why their voices were heard apart from the others. They were convinced that they were not peculiar or different, but that they had some bad habits which they must overcome. With the exception of two children, they were eager to work in order that they might make their voices normal. Positively no coercion or persuasion on the part of the teacher was necessary.

At no time was the word monotone used in reference to the class or its members. Instead, the term special music class was used and the name soon gained recognition in the school. It became common knowledge that the members of the group made recordings and this fact added to the prestige attributed to it by the school as a whole. The xylophone, kazoo, and fife were always in evidence in the music room. When the teacher was questioned concerning these she always answered that these instruments were only for use in the special music class. Many children other than those selected expressed a desire to join the class. The interest thus aroused concerning the special music class aided in securing a more fundamental interest in its members.

Interest gives greater efficiency to learning, therefore the child was encouraged constantly in order to give the feeling of confidence and satisfaction and consequent pleasure which is the underlying factor of interests. Whenever it was possible he was made to feel that he was growing in ability for interest increases with efficiency. In working with mono-
tones it was found that discouragement came quickly and any process which engendered an immediate feeling of accomplishment was valuable.

Since the child who cannot sing was found to need greater application, the external or objective conditions, which govern attention such as novelty and change, were considered to be important. It was, therefore, the teacher's responsibility to direct attention by such means as were available.

The exercises devised for a monotone of junior high school age were at his level of understanding and interest and established upon his experience and background. For example, the simple calls in nature, conversations on tone, and the like so often suggested for the treatment of monotonism found on an early elementary school level were not found to be satisfactory. These older children were too self-conscious to participate in these wholeheartedly. The aim of these procedures is to gain a sustained tone on a given pitch. Kazoos and combs covered with tissue paper were used as motivation on this higher age level. During the course of the experiment the procedure was often varied by such devices as asking a child to act as teacher, choosing sides for a contest, or playing baseball. Toward the close of the study the metal fife and xylophone were also used to stimulate interest.

The three causes for monotonism of children in the class were found to be lack of sufficient attention to pitch changes, lack of vocal coordination, and lack of the use of the proper
singing voice. However, since the vocal mechanism can only be controlled by mental concepts the fundamental factor in each type was concentrated attention. After a monotone has found his new singing voice he must learn how to use it and this involves the same type of attention as required by those who cannot sing because they have not given sufficient notice to changes in pitch. Lack of vocal coordination can only be cured by an exacting effort of attention. Therefore, although the monotone problem is an individual problem demanding some individual attention most of the exercises used were valuable to all members of the class and group activity was possible.

Individual work and class activity were combined. The children understood that all members of the class were hampered in singing and that the object of the class was to eliminate all bad habits of everyone as soon as possible. The class became a clinic and each pupil became a scientist endeavoring, with the aid of the others, to solve his own problem. By recognition and comprehension of the difficulties and the errors in the trials of others, he might find his solution.

Each student was a teacher to every other member of the class. It was necessary for him to be ready constantly to give his opinion as to the accuracy of the response of each pupil who acted individually - sometimes expecting to give his opinion in chorus, sometimes acting as sole advisor. Any difference of opinion was discussed. The child performing endeavored to act according to the concensus of opinion. (It
was always possible for the teacher to guide the judgement of the group.) This procedure demanded the constant attention of all concerned and focussed it on perception of pitch and pitch differences.

There was no introductory lesson. The class was plunged into activity in order to eliminate self-consciousness in so far as it was possible and to secure homogeniety, since it was made up of pupils from various grades and groupings.

Despite the fact that some children learn more quickly than others the work of the entire membership of the class was kept on the same level during the first part of the experiment. Continued practice on the more elementary exercises was thought to be valuable to the group as a whole. It was thought further that those whose progress was less rapid might feel discouraged as to personal progress. The teacher was of the opinion that it was essential not to increase the feeling of inferiority which already existed and to create, if at all possible, a feeling of satisfaction and accomplishment in all students in regard to singing and the work of the special group. Later, however, a sense of competition with other members of the class, an increased desire to succeed, when improvement became evident, and definite knowledge on the part of all the children of the difficulties of each member, were thought to supercede a feeling of discouragement as to comparative progress of the group.

When it was found that a child no longer needed individual
work in the beginning exercises, the work which he did alone became more advanced. However, the explanation and demonstration of the new exercise was given for the benefit of the entire group so that it was not necessary to repeat the mode of procedure in each individual case. Aside from this fact the entire class continued to aid the individual members for though all members were not able to reproduce tones as well as the more competent students, after the class had continued for a few weeks, all of the children were able to discern incorrect pitches produced by other members. Thus though all members could not advance as rapidly as others, the class continued to judge the accuracy of the work done and the interest of the group in each student was maintained.

The children were not encouraged to work at home since it was thought either that many of them would work alone and perhaps be unable to judge their own accuracy sufficiently well, or that those with whom they would work would not be capable of aiding them. Only when a child had advanced to such a point that he was able to play a tune by ear on the xylophone was study at home discussed.

In order to maintain interest, songs were taught to the entire class after three weeks' work. However, most exercises devised to aid song singing were not taught until later. Every child did not learn all the songs. At the beginning of the experiment the entire group learned the same songs. Later the type of song was selected for the child according
to the type of work he did best. That is, if the child sang large intervals more successfully than small intervals he was given a song in which many such intervals were found and vice versa. Later the procedure was reversed giving the child those intervals with which he had difficulty. During the latter part of the experiment the children selected the songs they wished to learn by hearing the tune. Still later songs were taught which were suggested by students. A harmonic accompaniment was never used with the songs. Only the melody line was played and this was omitted as often as possible.

The teacher sang for the children. Only occasionally and with discretion did she sing with the children. At these times she sang under the voice of the child, never using a big tone which would cover his voice.

Songs and exercises were placed within the range of the child. Huskiness appeared in the voices of some of the boys when the voices began to change. When the huskiness was great enough to cause considerable difficulty in producing certain tones, the child was asked to use only those tones which were easily available to him that day. If the huskiness took the form of a slight hoarseness which was noticeable over his entire range, he was asked to sing very lightly. If he complained of soreness in his throat he participated only in the classwork which required no use of the voice. These boys were given extra individual work during the class periods
when their voices were in good condition.

The exercises which follow were devised for use in the monotone class. They have been grouped, in so far as it was possible, according to type and purpose. Having arranged them in this manner it was not possible to place each exercise in sequence as it was used. However, within each group chronological development has been followed. A brief explanation of the purpose of each set of exercises appears at the beginning of each group.

Only when variety was needed to stimulate interest were kazoos and combs covered with tissue paper used in place of the natural singing voice. This use will be demonstrated in the first group of exercises. Also such devices as contests, baseball games, use of pupil judgement and the like are only illustrated here.

Tone Matching

The procedure for each type of monotone as classified by the cause of his inability to sing involved auditory imagery of the tone which was to be produced. The child must think the tone before endeavoring to produce it. The following exercises were given in an effort to develop attention when listening which was necessary to the accurate production of pitch.

Exercise I

A. The teacher sat at the piano and asked the students whether the second note played was higher or lower than
the first.
1. No one was permitted to answer until a signal was given.
2. There was unison response.

Exercise II
A. The teacher sang two tones.
   1. The procedure was the same as for Exercise I.

Exercise III
A. Exercise I was repeated with individual response and with pupils selected at random.

Exercise IV
A. The children were asked to sing any tone that was lower than the one last sung.
   1. Each pupil was given an opportunity to sing a tone.
   2. The class judged the accuracy of each pupil's work.
   3. This was extended into a rapid drill.

Exercise V
A. Exercise III was repeated calling for tones higher than the ones sung.

Exercise VI
A. The teacher sang a tone.
B. The child was asked to sing the same tone.
   1. The tones given each pupil were those found in his vocal range and usage.
a. By starting with his easy production the child actually succeeded to his own satisfaction and that of his fellow students, in the task set.

2. Praise was given for each tone matched correctly and a feeling of success in singing was obtained.

3. The time allotted to each student varied with the ease with which he was able to produce the correct tones.

4. The class judged the accuracy of each response.

This exercise was repeated substituting the piano for the voice of the teacher.

Exercise VII

A. The teacher sang a tone.

B. The child matched the tone using a kazoo.

C. The class judged the accuracy of the response.

This exercise was repeated having the child match tones using a comb covered with tissue paper.

This exercise was varied further by having the teacher use a kazoo or a comb and having the child to match the tone with his voice.

Exercise VIII

A. The children coached each other in matching tones.

1. The class was divided into two groups.

   a. One half of the class acted as teachers.

   b. One half of the class acted as pupils.

   c. Each pupil had a special teacher.
2. The instructor sang the tones.
   a. The pupil in the first seat attempted to match the pitch.
   b. The pupil-teacher judged the accuracy of the tone and diagnosed the difficulty when it was necessary.

3. The class reversed the procedure.
   a. The teachers became pupils.

Exercise IX
A. The children conducted a contest in matching tones.
B. The children using low register sat in rows one and two.
C. The children using a high register sat in rows three and four.
D. The class was divided into two groups.
   1. In the group where there were fewer children some children were given two times so that each group had an equal opportunity to score.
   2. Each group chose a name.
   3. A contest was conducted between the two groups.
E. A child who was to give tones to be matched sat at the piano.
   1. Middle C and three tones above were indicated for children in rows one and two.
   2. Middle C and three tones below were indicated for children in rows three and four.
F. Sides answered alternately in requiring individual response.
G. A score keeper was selected.
1. Each incorrect trial was one point.
   a. It was necessary for the tone to be correct
      before the next contestant was called.
2. The side with the smaller score won.

Exercise X

A. The captains were selected for a baseball game.
1. Each chose eight members for his team.
2. The two remaining children and the teacher acted
   as umpires, judging the accuracy of the work done.

B. The pitcher gave the tones from the piano.

C. The catcher followed the plays from a diagram on the
   blackboard

   X
   second base

   X
   third base       X
   first base

   X
   home plate

D. The pitch was given the first player.
1. If he matched correctly he went to first base.
2. If he matched incorrectly he was out.
3. No player was given more than one pitch, therefore
   he could make but one base on his own play.
4. This was necessary in order to give as many different children as possible several opportunities during the time allotted to the game.

5. As each player made a correct answer the player preceding him moved to the next base.

6. The outs caused a change of sides.

Exercise XI

A. Matching tones and rhythm on the same pitch.

1. The teacher sang a tone.

2. The pupil repeated the tone.

3. The teacher sang a given pitch and immediately repeated the pitch.
   a. Each tone was held the same length of time.
      
      Example:  

4. The pupil repeated both tones as given.

5. The teacher sang the same tone three times.
   a. Each tone was held for the same length of time.

6. The pupil repeated all three tones.

7. The teacher sang the same three tones in a rhythmic pattern.
   
   Example:  

8. The pupil repeated the tones in a rhythmic pattern.

Many exercises of the same nature using various pitches and rhythmic patterns were used.
Range

The group of exercises which follows was used to produce a feeling for easy tone production, to gain the use of the higher register, to form a connection between the low and the high register and to increase range.

Exercise I

A. The child was asked to imitate a siren.
B. The child was asked to imitate a siren and to hold the highest pitch.
1. The child repeated the highest pitch.
2. The child matched tones in scale succession downward for six pitches.
3. The child started at low pitch and matched tones in scale order upward to high pitch attacked before.

Exercise II

A. The teacher pinched a child to gain the response "ouch."
1. The child was questioned as to the feeling of the throat when responding.
   a. He responded that his throat did not hurt or feel strained.
B. The process was repeated until the child was able to sustain the tone.
C. The procedure used in Exercise I was followed.
Exercise III

A. The teacher imitated a yawn and asked the same response from a child.

1. The teacher included as many tones as possible starting on a high pitch.

B. The procedure which followed was the same as that used for Exercise I.

Exercise IV

A. The teacher sang a tone in the high register.

B. The child was asked to match the tone.

1. When a head tone was not easily produced such devices as asking the child to stand on tiptoe, asking the child to raise his arms, or having the teacher to pull the child's hair upward were used in an effort to gain an idea of height. Some children were inhibited against using high tones and refused to attempt them. Most children, however, use such tones on the playground and reference to this fact gave a feeling of confidence in gaining the ability to use these in singing. Reference to such tones as girls use when a mouse is seen and many similar illustrations were made. The children were too self-conscious to gain much benefit from attempting to imitate any sounds other than the examples cited in the previous exercises.
Scale

The following exercises were used to secure smooth production, connection between high and low registers, to increase range, and to develop pitch perception.

Exercise I

A. The teacher started with a tone available for the easy production of the child.

1. A tone was used which was low enough to secure as many tones in succession as possible.

B. A full scale was attempted with the child matching tones with the piano.

1. In many cases the scale could be reached only after the child had increased range through work and practice.

2. An effort was made to make the tone quality and the volume as nearly alike as possible for each tone produced.

The feeling for a major was present in most children. When one scale had been completed a scale starting on a higher pitch was learned. Often the child did not realize the difference in scale when he was not in sight of the keyboard.

Exercise II

A. The teacher sang a tone placing the left hand horizontally at the height of the chest.
1. The class repeated the tone.

B. The teacher sang a tone one step higher placing the right hand horizontally above the left.

C. The teacher sang a third tone one step higher removing the left hand from its position below the right hand to a position above it. Thus:

(Diagram 1)  

left

right

left

right

left

Exercise III

Exercise II was repeated having the children use their hands to indicate pitches. This exercise was varied by using different pitches moving stepwise up and down, by adding to the tones used, and by using other than scalewise progressions. A half step was indicated by placing one hand directly on the other hand.

After the songs were learned they were diagrammed in this manner. A new song which had been heard several times and thus known often was worked out in this manner before the children attempted to sing it.
Breathing

The children were given some exercises to develop correct breathing habits. This was to aid production of tone and to improve the tone quality.

Exercise I

A. The children were told to stand and bend forward from the waist, placing their hands at the waist.
B. The children were instructed to take a deep breath, noticing how the body fills with air, as indicated by the pressure against the hands.
C. This exercise was repeated and the children were told to notice how the body felt when a breath was taken.

Exercise II

A. The correct sitting position for singing was explained to the class.
B. The class was told to assume this position.
   1. Care was taken to insist upon this position at each class meeting.
C. The children placed their right hand on their diaphragm.
D. Simultaneously each child took a deep breath endeavoring to push his hand forward by so doing.
E. The teacher moved among the children in an effort to secure the proper reaction from each child.

The above exercises were repeated at the beginning of each class meeting during the early part of the experiment.
Later only the second was repeated as it was thought necessary.

Exercise III
A. The children took a deep breath and held it for two counts as indicated by the teacher.

During the course of the experiment this exercise was repeated, increasing the number of counts given by the teacher.

Exercise IV
A. The class sang a given pitch.
B. The teacher gave two counts at the end of which the children discontinued the tone.

This exercise was repeated during the course of the experiment increasing the number of counts given by the teacher. Children assumed the part of teacher on occasion.

Exercise V
A. The children clasped their hands behind their heads.
B. The children sang a song in this position.

It was interesting to note that the children began to vie with each other as to the length of time that a tone could be sustained.

Intervals
These exercises were used to increase the recognition of pitch differences and to prepare for the use of intervals in
songs.

Exercise I

A. The teacher sang two tones a step apart.
B. The teacher sang two tones a sixth apart.
C. The teacher asked which pair of tones was closer together.

This exercise was varied by asking which pair of tones was further apart. The exercise was continued using intervals which were more nearly alike. During the latter part of the experiment several of the more capable children acted as the teacher.

Another type of drill for the teaching of intervals will be found under the group heading Scales, Exercise II. q.v.

Rhythm

Melody consists of pitch and rhythm. Previous knowledge of the rhythmic pattern of a tune was found to be a definite aid in teaching monotones a new song. The following exercises were given as preparation for song study:

Exercise I

A. The teacher wrote a simple exercise on the blackboard.

\[
\begin{array}{c}
\text{\underline{\text{\textbf{4}}} } \\
\text{\underline{\text{\textbf{4}}} } \\
\end{array}
\]

B. The teacher tapped the rhythm for the children.

1. Two fingers of the right hand were used to beat in the palm of the left hand.
a. The sound was not loud and the children did not become noisy or excited.

2. One tap equalled one quarter note.

3. The fingers of the left hand were closed over the right hand to indicate a half note.

C. The children tapped the rhythm.
   1. The teacher pointed to the notes.

D. The children sang the rhythmic pattern.
   1. "Do" was used as a syllable for a tone.
      a. The hard consonant made the rhythm pronounced.
   2. The teacher made certain that all children were on pitch.
      a. A tone easily available to the class was used.

E. The children sang and tapped rhythm.

This exercise was repeated using various rhythmic patterns. The length of the time for the tap was shortened for eighth notes.

Exercise II

A. A child devised a rhythmic pattern and wrote it on the blackboard.

B. The class followed the procedure given in Exercise I.
   1. The child acted as teacher of the group.

Rhythm and Pitch

The following exercises were used to form a connection between the work on intervals and the work on pitch. They
were used to aid in pitch perception and to emphasize rhythmic patterns.

Exercise I

A. The teacher sang two tones.
   1. The second tone was a perfect fourth higher than the first.
   2. Each tone was held for the same length of time.
B. The class repeated the interval.
C. The teacher added the familiar rhythmic pattern of the "Wedding March."

\[
\begin{array}{c}
\text{\textit{D. The pupils repeated the exercise with the words "Here comes the bride."}}
\end{array}
\]

When introducing a new device it was found that the use of a familiar rhythmic pattern or tone grouping stimulated interest. Many similar exercises adding more tones and rhythmic patterns which have no specific musical significance were made.

Exercise II

The procedure of Exercise I was repeated drawing the staff on the board and placing correct notes thereon.

When rhythmic and pitch combinations presented a problem
in song, the measure or phrase was isolated and studied in this manner.

Phrasing

The following procedure gave the children a feeling of form and a plan of tones in a song as opposed to the lack of connection of isolated pitches given to match. It was also used as a form of ear training in pitch perception.

This group of exercises was employed to aid in the learning of songs. When the children knew the form of the song which they were to sing the mental attitude toward the complexity of singing a melody correctly was lessened.

Exercise I

A. The teacher sang a simple tune.

1. Simultaneously with the singing, lines indicating phrasing were drawn on the blackboard thus:

2. The teacher explained the form and the structure of the songs.

B. The teacher resang the song, phrase by phrase, numbering the lines as she sang.
1. The children named the first phrase A.
   a. This was indicated at the end of the phrase line on the blackboard.

   ___________________________ A

2. The children named the second phrase, which was different from the first, B.

   ___________________________ B

3. The children named the third phrase, which was a repetition of the first phrase, A.

   ___________________________ A

4. The children named the fourth phrase which was like the second phrase, with the exception of cadence, B\(^1\).

   ___________________________ B\(^1\)

This is an example; other tunes differed in form.

**Exercise II**

A. The teacher sang the words and the melody of a phrase of a familiar song.

1. The phrase selected was one which had caused trouble in the singing of the song.

B. A student was selected to repeat the phrase.

1. A child who had had difficulty with the particular phrase was chosen.
The exercise was varied by allowing a competent student to take the part of the teacher. The teacher selected the phrase to be sung when a student acted as teacher.

Exercise III

A. The teacher sang the beginning of a phrase of a familiar song.

B. A selected child finished the phrase.

Xylophone and Fife

A xylophone perfectly tuned, containing two and one-half octaves ("G" below middle "C" to "C" one octave above middle "C") was obtained. This range included most of the tones available to the class at the beginning of the experiment. The instrument was employed as a means of motivation as well as ear training. Since the technique involved in playing the xylophone was not difficult, the child was not hampered by detailed instruction. The greatest attention should be given to the accuracy of the tune produced, therefore, the striking of the bar with a small hammer was an activity so simple that it did not distract the child. With more accomplished students work on the xylophone was supplemented by work with a fife. Technique on the fife, which was a type of whistle, was easily acquired. In cases where interest in the actual playing of the fife caused the student to forget the melody he was encouraged to work with the xylophone or kazoo.
Exercise I

Exercises for tone matching were repeated using the xylophone.

Exercise II
A. The teacher sang an interval.
B. The child found the two tones on the xylophone.

Exercise III
A. The teacher sang a tone.
B. The child found the pitch on the xylophone.
C. The teacher sang a rhythmic pattern using a neutral syllable.
D. The child repeated the pattern on the xylophone.

Exercise IV
A. The teacher wrote a rhythmic pattern on the blackboard.
B. The child played the exercise on the xylophone.
   1. An error in playing caused the removal of the xylophonist and another student attempted the exercise.

Exercise V
A. The child learned to sing a simple tune unaccompanied.
   1. Xylophone playing was used as a reward for accurate singing.
B. The child was given an opportunity to find the first phrase of the tune on the xylophone.
   1. The teacher showed the child the first note.
2. When necessary the class sang the phrase slowly as the pupil attempted to play.

3. When the phrase was correct the class sang accompanied by the xylophonist.

C. The procedure was continued until the entire song was played correctly.

It was found that many children have difficulty in remembering a melody. When attempting to play a tune on the xylophone, if an incorrect tone was played, the child was at a loss as to how to proceed. Either he stopped playing or struck tones haphazardly. It was necessary for the teacher to ask the child to discontinue striking tones and sing the phrase where the mistake occurred. Often the situation was remedied when the teacher or class held the note that the child missed until he was able to locate the tones on the instrument. The entire phrase was then sung by the class and resung by the child at the xylophone before he continued playing. At times it was necessary to repeat the procedure several times before the phrase was played correctly. It is interesting to note that the child generally knew when the note played was wrong even though he was not capable of selecting and substituting the correct pitch.

A pupil was permitted to take the instrument home when he was able to sing a tune correctly unaccompanied. This student was required to play the melody for the group at the following class meeting.
The First Song

This procedure was used in teaching the first song. A similar procedure was used in teaching other songs.

Exercise I

A. A child sat at the piano.
   1. The teacher gave instructions to play "A", "B", and "C♯" as called for.
      a. The teacher indicated where the notes were placed on the keyboard.
      b. The notes were called one, two, and three.

B. The teacher called for the first tone on the piano.
   1. The teacher moved among the children checking the accuracy of the pitch from all pupils, who were attempting to match tones.
   2. The teacher sang the tone repeatedly.
      a. The teacher asked the children to retain the sound, when it was found to be correct.
         (1) The children were allowed to take as many breaths as necessary.
   3. The teacher called for discontinuance of the tone.

C. The teacher called for repetition of the first tone on the piano.
   1. The procedure under "B" was repeated.

D. The teacher called for the second tone on the piano.
   1. The procedure under "B" was repeated.

E. The teacher called for repetition of the second tone.
1. The procedure under "B" was repeated.

F. The teacher called for the third tone on the piano.
1. The procedure under "B" was repeated.

G. The teacher called for a repetition of the third tone.
1. The procedure under "B" was repeated.

H. The teacher went to the blackboard.
1. The teacher called for tone one on the piano and
drew a line on the blackboard simultaneously as the
pitch was given.
a. The class was asked to repeat the pitch.

2. The teacher called for repetition of the tone on the
piano and drew another line opposite the first as
the pitch was played. Thus: _____ _____
a. The class was asked to repeat the pitch.

3. This process was continued calling for the tones in
the order as given under "D", "E", "F", and "G".
a. The diagram was as follows:

______ _____

I. The teacher pointed to the lines on the blackboard and
worked out a drill with the three tones.

J. The teacher pointed to the lines on the blackboard and
asked for the original order of the tones, moving easily
from one tone to the other.

K. A line was added on the same level as the first tone, at
the end of the exercise. Thus:
I. Check marks were used above the lines on the blackboard to indicate that the second tone of the repeated pitches was to be held half as long as the first.  
1. The last tone was held the longest.

2. The class was asked to repeat these tones in the rhythmic pattern indicated.

M. The words to "Pop Goes the Weasel" were written under the lines. Thus:

```
111 / a round the chick en coop
```

N. The process continued in like manner until the entire song had been studied.

The low pitches of "A", "B", and "C#", to start the song, were used to accommodate the majority of voices. The range in this instance was "A" to "F#". All of the children in the class were able to reach the low pitch. The low tone preceding the high tone, "F#", made a long interval and aided the children
with low voices to gain the upper register. The tune was also selected because of its familiarity and popularity. The liberty of omitting the interval from "C♯" to "E" which appears on the first syllable of "chicken" and "money" seemed justified since fundamentally the tune was correct and a feeling of satisfaction and accomplishment was desired. Accurate notation was not used for simplicity was desired in order to focus the entire attention on pitch. When it was found that the individual monotone pitched his tone high, later his own key or pitch was used. Immediately following the above work the exact pitches and rhythm of the entire song were given.

**Songs**

Although the criteria for the selection of songs varied as the experiment progressed, for the most part the songs were selected with the following points in mind: (1) the problem of pitch and rhythm presented, (2) form of the song, (3) range of the song, (4) suitability of the text to the age and interest of the child, (5) songs sung by other children or heard by class members elsewhere, and (6) songs made currently popular by the radio.

It is interesting to note how many children selected America. This was attributed to the increased emphasis on patriotism and patriotic songs during the spring of 1940.

Following is a list of songs used by members of the class:
<table>
<thead>
<tr>
<th>No.</th>
<th>Song Title</th>
<th>Composer Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>America</td>
<td>Words by S. F. Smith, Music by Henry Carey *</td>
</tr>
<tr>
<td>2.</td>
<td>Annie Rooney</td>
<td>Music by Michael Nolan, Arranged by Paul Hill Round *</td>
</tr>
<tr>
<td>3.</td>
<td>Are You Sleeping</td>
<td>Words by Robert Burns, Scotch Air *</td>
</tr>
<tr>
<td>4.</td>
<td>Auld Lang Syne</td>
<td>Words by Sigmund Spath, Melody by Ludwig von Beethoven **</td>
</tr>
<tr>
<td>5.</td>
<td>Balloon Song</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Carry Me Back to Old Virginny</td>
<td>James Bland *</td>
</tr>
<tr>
<td>7.</td>
<td>Climate, The</td>
<td>Words by Donald Stevens, Old Melody *</td>
</tr>
<tr>
<td>8.</td>
<td>Evening Song</td>
<td>Folk Song **</td>
</tr>
<tr>
<td>10.</td>
<td>For He's a Jolly Good Fellow</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Good Bye My Lover Good Bye</td>
<td>American Song *</td>
</tr>
<tr>
<td>12.</td>
<td>Home Sweet Home</td>
<td>Words by John Howard Payne, Music by Henry Bishop *</td>
</tr>
<tr>
<td>13.</td>
<td>Hymn of Thanks</td>
<td>From Ludwig von Beethoven's Ninth Symphony **</td>
</tr>
<tr>
<td>14.</td>
<td>Merry Comrade, A</td>
<td>J. B. Weckerlin **</td>
</tr>
<tr>
<td>15.</td>
<td>Mill Wheel, The</td>
<td>French Melody **</td>
</tr>
<tr>
<td>16.</td>
<td>Morning Song</td>
<td>Arthur Johnstone **</td>
</tr>
<tr>
<td>17.</td>
<td>Mulberry Bush, The</td>
<td></td>
</tr>
<tr>
<td>18.</td>
<td>Old Black Joe</td>
<td>Stephen Foster *</td>
</tr>
<tr>
<td>19.</td>
<td>Old Folks At Home</td>
<td>Stephen Foster *</td>
</tr>
<tr>
<td>20.</td>
<td>Old Kentucky Home, The</td>
<td>Stephen Foster *</td>
</tr>
<tr>
<td>21.</td>
<td>Oh Susanna</td>
<td>Stephen Foster *</td>
</tr>
<tr>
<td>22.</td>
<td>Polly-Wolly-Doodle</td>
<td></td>
</tr>
</tbody>
</table>
23. Pop Goes the Weasel Reel

24. Sing a Song Words by Kate Forman, Music by Wolfgang Mozart **

25. Taps U. S. Army Bugle Call *

26. Three Blind Mice Round *

27. Windmill, The French Folk Song **


CHAPTER III
CASE HISTORIES

Data were gathered in order to gain as much helpful information as possible concerning each child. The health record of each child was studied and all members of the class were found to be normal as to oral ability and lack of speech defects. The condition of the throats was found to be satisfactory, for where tonsils existed there was no enlargement or infection. No physical defect of any kind which was thought to have an influence on the ability to sing, was found to be present. It was considered feasible to record the age, intelligence quotient, and mental development as determined by his grade placement. In addition his musical background, consisting of his personal use of the subject, the interest his family displayed in this instance, and the musical instruments found in the home were ascertained. His attitude toward music in general and toward singing in particular was determined.

A study of the child's personality was made during the experiment. The facts concerning the family life outside of school which seemed to shed light on his reactions as they affected the special music class have been recorded. Where these facts were not pertinent to the study they have been omitted.

The factors conditioning his personality and reactions as they affected his work and his dispositional characteristics have been set down.

The cause of monotonism in each case has been indicated.
The classification used was determined after a study had been made of opinions of authorities on the subject who had worked on an early elementary school level.

According to Edgar Gordon a great many children who enter school cannot sing because they have had no experience in singing, some lack to a greater or lesser degree a sensitivity to pitch, and the remainder are handicapped by physical defects.¹

"Shyness, lack of control of singing mechanism, lack of understanding, and a non-musical home environment are factors which prevent the child from singing accurately."²

Schirrmann lists immaturity and shyness, inattention, lack of muscular control, unfamiliarity with the act of singing, the use of a hard chest tone, and the lack of a musical gift.³

The causes have been classified by Grace More as:

1. Lack of control of the mechanism of singing.
2. Wrong concept of singing tone.
3. Lack of concentrated attention.
4. Lack of cultural discrimination.
5. Physical handicap.⁴

Reider says that there are four causes:

1. The child has not "yet found the singing voice."
2. He is "inattentive to pitch or cannot easily recognize changes in pitch."
3. He "lacks ability to coordinate vocal muscles."
4. He has some "physical handicap." ¹

Dykema submits the following:

1. Lack of practice in singing.
2. Shyness.
3. Lack of attention or careful listening.
4. Use of low or chest tones.
5. Physical defects.
6. Poor musical endowment.
   a. This is far too often accepted as an excuse for lack of progress.²

In *Music and Rural Education* we find:

1. Those who have not found their singing voices.
2. Those who are inattentive to pitch or who do not recognize differences in pitch.
3. Those who lack coordination of vocal muscles.³

Mursell and Glenn give us:

a. The child who has not yet found his singing voice, that is, the child whose head tones have not yet been established. . . .

b. The child who is inattentive to pitch, or fails to recognize changes in pitch.

c. The child who lacks coordinational ability in the vocal muscles. . . .

d. The child who is the victim of some physical defect. . . .⁴

---

Smith believes:

Many children, apparently tone deaf, suffer from some abnormal condition of the vocal chords which prevents free use. . . . Two other classes of children are apparently tone deaf. . . . One of these classes is too inattentive to sing correctly; the other cannot reach high tones because of bad habits of tone production.¹

One could quote similar causes as given by many other authorities but other causes seem to conform to the general pattern given here. If the above examples are considered carefully, it will be found that while opinions vary in some instances, for the most part the authorities accept the following as being fundamental or underlying causes for monotonia.

1. The child possesses physical handicaps.
2. The child has not yet found his singing voice.
3. The child is too inattentive to discern pitch changes.
4. The child lacks coordination of the vocal mechanism.

A description of the progress and results of the experiment as they were related to each case appears at the close of each history. A table showing the comparative advancement of each student is used to complete the discussion and to summarize the data.

Case One

1. Age - 14
2. Sex - Male
3. Grade - 7B

5. Musical background

a. Personal

The child occasionally whistled and sang. He had never played a musical instrument.

b. Family

The aunt played the piano but the instrument was not in the home of the child. No other member of the family played an instrument. Only the mother sang in the home and she was unable to sing in tune.

c. Musical instruments in the home

The only musical instrument in the home was a radio.

6. Disposition toward music

The child enjoyed listening to music and evidenced pleasure on occasions in singing with the group during the regular music period. He would have liked to have played an instrument though he had no preference as to kind. He was eager to join the special music class.

7. Personality

a. Conditioning factors

The parents took little interest in the child. He was an academic failure the preceding semester. He was careless in his habits and concentrated spasmodically. His voice began to change and the difficulties created caused discouragement on occasion. His interest in the special music class waned at times but it was easily
revived with encouragement or any slight improvement. He entered wholeheartedly in all class work.

b. Dispositional characteristics
The child was usually cheerful and approachable. The dreaminess and moodiness which he displayed on occasion seemed to decrease toward the close of the semester. He was self conscious and demanded attention.

8. Cause of monotonism
He was too inattentive to discern pitch changes.

9. Progress
Progress was slow but steady. The difficulties of a changing voice retarded general progress but did not impede at any one period.

10. Result
Case one was able to sing many well rehearsed melodies in tune without accompaniment. If the tune was of any length he occasionally changed key but this occurred with less frequency toward the close of the experiment. The tone quality in general was not greatly improved although evidences of a masculine quality appeared. Despite the changing voice, vocal range increased. Judging from the continuous progress it might be assumed that continued work along this line would have given him increased use of his voice in singing.
Case Two

1. Age - 13
2. Sex - Male
3. Grade - 8A
4. I. Q. - 98
5. Musical background
   a. Personal
      The child seldom tried to sing and he was unable to whistle. He had never played a musical instrument.
   b. Family
      The child's uncle was an organist in a country church and at one time the father had sung in a church choir. The father liked to whistle. The mother had played the piano as a child and she sang at times in the home. The brother whistled occasionally. No one played a musical instrument in the home.
   c. Musical instruments in the home
      There was a radio in the home.
6. Disposition toward music
   The child liked to listen to music and evidenced pleasure in singing with the group during the regular music period. He was vitally interested in joining the special music class.
7. Personality
   a. Conditioning factors
      The child was a good student academically and partici-
participated in various school activities. The children were selected for the class a few weeks previous to the first class meeting. The voice of case two began to change during this period. Shortly after the class started he developed a considerable soreness in his throat and a huskiness and break in his voice. These factors handicapped him, however his interest and his effort were constant. He exhibited an intelligent attitude toward learning to sing and willingly took part in all work carried on in the special music class.

b. Dispositional characteristics
The child was cheerful and responsive. He exhibited dreaminess at times and was self-conscious.

8. Cause of monotony
He lacked coordination of vocal mechanism.

9. Progress
Case two made very little progress. The voice was in a very poor condition due to the change taking place. It developed a break and control was impossible.

10. Result
He made no noticeable improvement.

Case Three

1. Age - 13
2. Sex - Female
3. Grade - 8A
5. Musical background
   a. Personal
      The child did not like to sing. She was pleased about learning to whistle. She had never played a musical instrument.
   b. Family
      The aunt played a trumpet but not in the home of the child. The mother had studied voice and she sang in the home. The father did not whistle or sing. The brother whistled at home but did not do so in tune.
   c. Musical instruments in the home
      There was a radio in the home.

6. Disposition toward music
   The child studied dancing and she liked only music which was suitable for dancing. She did not like to sing and was not anxious to join the special music class. The mother was instrumental in having the child become a member.

7. Personality
   a. Conditioning factors
      The mother embarrassed the child by constant reference to her inability to sing in tune. Case three was intelligent and a good student academically. She took a disinterested part in the activities of the special music class and at no time displayed keen interest in
the work. She required more than the usual amount of encouragement and was never at ease singing alone.

b. Dispositional characteristics

The child was bright and usually congenial although she was sometimes difficult to approach concerning the work of the class. She gave evidence of dreaminess and moodiness. She was nervous and self-conscious.

8. Cause of monotomism

She was too inattentive to discern pitch changes.

9. Progress

Progress was slow although it was fairly steady throughout the experiment.

10. Result

Case two was able to sing any rehearsed melody if accompanied. She learned to follow melody line as opposed to making her own tune when unaccompanied as she had done previously. She was apt to change key particularly if the melody learned was long. She was highly conditioned against the test selection and was unable to improve her original rendition to any noticeable degree. Her interest began to increase toward the end of the experiment. Were the latter factor to remain constant, it might be assumed that since the range and the quality and production of voice were good, her improvement would have continued and she would have gained further use of her singing voice.
a. Conditioning factors

The child was a diligent student with average academic standing. His eagerness to learn to sing aided him in overcoming shyness which had made him unwilling to sing alone. He had an intelligent attitude and participated wholeheartedly in all class activities. His interest was constant.

b. Dispositional characteristics

The child was retiring and nervous. He was responsive and cooperative. He exhibited dreaminess on occasions and was extremely self-conscious.

8. Cause of monotonism

He was too inattentive to discern pitch changes.

9. Progress

The progress at the beginning of the experiment was more rapid than toward the close but the improvement was continuous. The changing voice retarded progress somewhat when huskiness appeared.

10. Results

At the close of the experiment case four was able to sing in tune most rehearsed melodies of considerable length and some short tunes on few hearings. He no longer made his own tune or changed key. The tone quality was improved and tones masculine in quality appeared. The vocal range increased considerably. Case four was nervous during the final recording because of his knowledge of
his increased skill and he was able to do considerably better than this would indicate. Taking into consideration his enthusiasm and improvement, it might be assumed that, had the experiment continued, case four would have gained greater assurance and facility in singing. It is probable that his singing voice would have been under control at all times.

Case Five

1. Age - 12
2. Sex - Female
3. Grade - 7B
4. I. Q. - 76
5. Musical background
   a. Personal
      The child sang at home occasionally. She had never played a musical instrument.
   b. Family
      The mother sang often in the home. Her five brothers whistled and sang in the home and one of them played a guitar.
   c. Musical instruments in the home
      There was a radio and a guitar in the home.
6. Disposition toward music
   The child enjoyed listening to music and she liked to sing. She entered enthusiastically into the singing during the regular music class. She expressed a desire
to play a guitar. She was eager to join the special music class.

7. Personality

a. Conditioning factors

The child was the only girl of six children. Her brothers teased her about her singing. She was a good student in her grade placement. She took an active part in all of the work of the special music class and took great pride in her achievement. She often volunteered to sing alone. She tried to please and her interest was constant.

b. Dispositional characteristics

The child was cheerful, responsive and constantly sought attention. She was self-conscious.

8. Cause of monotonism

She lacked the use of a correct singing voice.

She was inattentive to pitch changes.

9. Progress

Progress was rapid and constant.

10. Results

At the close of the experiment case five was able to sing unaccompanied in tune any melody with which she was familiar. Her tone quality definitely improved and she used a high head tone at all times. Her vocal range greatly increased. She needed no further work.
Case Six

1. Age - 14
2. Sex - Female
3. Grade - SA
4. I. Q. - 113
5. Musical background
   a. Personal
      The child sang little outside of school. She had never played a musical instrument.
   b. Family
      The brother played a violin-cello. He whistled often at home. The mother often sang in the home.
   c. Musical instruments in the home
      There was a radio and a violin-cello in the home.
6. Disposition toward music
   The child joined willingly in the group singing of the regular music class and she enjoyed listening to music. She was eager to join the special music class.
7. Personality
   a. Conditioning factors
      The child was attractive and attended many social functions. Often these young people sang currently popular tunes and in order to join in successfully she felt that she must sing in tune. The class afforded an opportunity to solve a social problem. She was a good student and took an active part in
many school activities. She was enthusiastic about the special music class and her interest remained constant. She was conscientious and took an active part in all class work.

b. Dispositional characteristics

The child was amiable, poised and responsive. She exhibited dreaminess on occasions and was self-conscious.

8. Cause of monotonism

She lacked the use of the correct singing voice. She was inattentive to pitch changes.

9. Progress

Progress was rapid and constant.

10. Results

At the termination of the experiment case six was able to sing any known melody in tune unaccompanied. Her tone quality was greatly improved and she used a high head tone at all times. Her vocal range was greatly increased. She needed no further work.

Case Seven

1. Age - 13
2. Sex - Male
3. Grade - 7A
4. I. Q. - 106
5. Musical background
a. Personal

The child was interested in playing the trumpet which he played quite well. He liked to sing but he sang very little at home because he realized his lack of ability.

b. Family

The mother had studied music as a child and had a sincere love for it. She sang little about the house but the father whistled often at home. No one other than the child in the family played an instrument.

c. Musical instruments in the home

There was a radio and a trumpet.

6. Disposition toward music

The child was greatly interested in music of all kinds. He entered wholeheartedly into all activities of the regular class since he had been eager to join the class at the outset.

7. Personality

a. Conditioning factors

The mother was vitally interested in the child's progress along all lines. She made a visit to the school to express her appreciation because the child was allowed to join the class and she told of his singing before various guests and members of the family as the semester progressed. He was an average student academically and he displayed a keen interest throughout the
experiment. He took an active part in all class activities and his achievement was a source of great pride to him. He often volunteered to sing alone.

b. Dispositional characteristics

The child was bright and responsive. He demanded attention constantly and he was self-conscious.

8. Cause of monotonism

He lacked vocal coordination.

9. Progress

Progress was steady and improvement was moderately rapid.

10. Results

By the close of the experiment case seven was able to sing in very good tune and unaccompanied any melody which he knew. He was able to follow the melody and he no longer changed keys constantly. Vocal coordination had been developed but it needed further strengthening. The tone quality was good. In view of his constant progress it might be assumed that, had the experiment continued coordination could have been reenforced, greater singing facility could have been gained and the singing voice would have been under control at all times.

Case Eight

1. Age - 12
2. Sex - Male
3. Grade - 7B
4. I. Q. - 85
5. Musical background
   a. Personal
      The child did not sing. He was not able to whistle and he played no instrument.
   b. Family
      The mother was very interested in music and wanted the child to join the class. She sang often at home. The father could not sing in tune.
   c. Musical instruments in the home
      There was a radio in the home.

6. Disposition toward music
   He did not like music very much particularly if he were called upon to participate by singing. He enjoyed listening to music at home but he did not seem to care for appreciation lessons at school.

7. Personality
   a. Conditioning factors
      His academic standing was below average for his group placement. He did not enter wholeheartedly into the group activities of the special music class and he preferred not to sing alone. He required more than the average amount of encouragement. His interest was mild but constant.
   b. Dispositional characteristics
      The child was extremely shy and nervous. He was quiet but alert; approachable but unenthusiastic. He was
self-conscious.

8. Cause of monotonism

This case lacked vocal coordination.

9. Progress

Progress was constant and moderately rapid.

10. Results

At the close of the experiment case eight was able to sing in tune any well rehearsed melody unaccompanied. Vocal coordination had been strengthened. Tone quality had improved because he used a high head tone at all times. He needed to gain assurance in his singing for his hesitancy hampered his learning to sing new songs. In view of his constant improvement it might be assumed, that, had the experiment continued, greater facility would have been gained and the new singing voice would have been under control at all times.

Case Nine

1. Age - 15
2. Sex - Female
3. Grade - 8A
4. I. Q. - 80
5. Musical background
   a. Personal

   The child sang occasionally at home. She sang at times with a group when she was out with her friends. She had never played a musical instrument.
b. Family

The child was alone at home quite often and neither parent sang or whistled about the house. No one played an instrument in the home.

c. Musical instruments in the home

There was a radio in the home.

6. Disposition toward music

The child exhibited pleasure in singing with the group in the regular music class and she enjoyed listening to music. She evidenced a keen interest in the special music class.

7. Personality

a. Conditioning factors

The mother had been dead for two years and the father had remarried during the school term of the experiment. The child and the stepmother were not compatible. She was attractive physically and she slipped out of the house at night to meet her boy friends. She had little interest in school work and was slow mentally, however, she willingly took part in all activities required in the special music class. She was more interested in learning to sing than in any other school activity. This might be accounted for in the fact that her friends sang currently popular songs together and she felt that she must sing correctly in order to join in successfully. She had a social problem which might thus be solved.
She married at the close of the school term. Her interest was constant throughout the experiment.

b. Dispositional characteristics

The child was reserved, extremely self-conscious and nervous. This case was observed to exhibit moodiness and dreaminess. She was approachable and reacted favorably to kindness.

8. Cause of monotony

The case was inattentive to pitch changes.

9. Progress

Progress was steady and moderately rapid.

10. Results

Case nine was able to sing in tune any well-rehearsed selection unaccompanied. She followed the melody line and no longer changed key. In view of the use of the proper head tone, the vocal range available and the steady progress made, it might be assumed that, had the experiment continued, case nine would have gained greater facility for singing and the singing voice would have been under control at all times.

Case Ten

1. Age - 14
2. Sex - Female
3. Grade - 7A
4. I. Q. - 89
5. Musical background
a. Personal
The child sang occasionally at home. She had never played an instrument.

b. Family
The sister and the mother sang often at home. The child's friends gathered in the home and elsewhere to sing. No one in the family played a musical instrument.

c. Musical instruments in the home
There was a radio in the home.

6. Disposition toward music
The child enjoyed singing with the group in the regular music class and evidenced pleasure in listening to music. She was eager to join the special music class.

7. Personality
a. Conditioning factors
Her friends and those of her sister gathered in the home and sang. She was anxious to learn to sing so that she might join in successfully. She made a decided effort to learn and often asked assistance in classroom exercises from her friends outside of school. She always took an active part in class activities and although she sang alone when called upon she always preferred group work. She was an academic failure two semesters preceding. Mentally she was slow and she had difficulty in remembering words as well as tune. This
affected her interest for her progress was rapid until she was required to use a wider memory span. However interest was maintained throughout. Later she seemed to learn to remember melodies more easily.

b. Dispositional characteristics
The child was shy and self-conscious. She was observed to be dreamy and moody on occasions. She was approachable and responded readily to encouragement.

8. Cause of monotonism
She lacked the use of a correct singing voice. She was too inattentive to discern pitch changes.

9. Progress
Progress was rapid at first. Although the rate of improvement was not as great toward the middle of the experiment, she began to make considerable improvement toward the close.

10. Results
Case ten was able to sing many well rehearsed melodies in tune without accompaniment. She followed the melody line and no longer changed key. (She was better able to remember melodies.) Her tone quality was greatly improved, use of head tone was gained and her range was greatly increased. Case ten constantly improved throughout the experiment. It might be assumed that greater facility in singing would have been gained had the study continued.
Case Eleven

1. Age - 12
2. Sex - Male
3. Grade - 7B
4. I. Q. - 103
5. Musical background
   a. Personal
      This child exhibited a desire to whistle but not to sing. He thought that the failure to whistle in tune was unimportant. He had played a bugle at one time but the instrument was broken.
   b. Family
      The mother sang a great deal at home but the father did not sing or whistle.
   c. Musical instruments in the home
      There was a radio in the home. There was also a guitar which had been given to the mother but it was not played by anyone.
6. Disposition toward music
   The child was interested in musical instruments spasmodically. The interest was founded chiefly on the mechanics of the instrument. He exhibited a mild degree of pleasure in the group singing of the regular music class but he enjoyed listening to instrumental music. He was moderately interested in joining the special music class.
7. Personality
a. Conditioning factors

The mother was very concerned about his school work and was responsible for his joining the class. He was an academic failure the previous semester. He lacked interest in most school activities. His interest toward the music class had a wide degree of variation; sometimes he exhibited great enthusiasm and at other times he displayed complete unconcern. Near the end of the semester he began taking lessons on the guitar and his interest was stimulated somewhat by his new-found use of singing. There was a positive correlation between his interest and his cooperation in class activities.

b. Dispositional characteristics

The child was difficult to approach at times and he often displayed moodiness and dreaminess. He was self-conscious.

8. Cause of monotony

This case lacked the use of a correct singing voice and he was inattentive to pitch changes.

9. Progress

Progress was slow. Improvement was gradual and irregular.

10. Results

Case eleven was able to sing some well rehearsed melodies if he were accompanied. He continued to change key but he gained some idea of melody line. His tone quality
improved and he gained some use of the head tone. His vocal range greatly increased. Had the experiment continued, it might be assumed that greater facility might have been gained.

Case Twelve

1. Age - 13
2. Sex - Male
3. Grade - 7A
4. I. Q. - 101
5. Musical background
   a. Personal
      The child was able to whistle but he rarely sang at home. He had never played a musical instrument.
   b. Family
      Only the mother sang at home and she rarely did so.
   c. Musical instruments in the home
      There was a radio in the home.
6. Disposition toward music
   The child participated wholeheartedly in the group singing of the regular music class and he exhibited pleasure when listening to music. He was desirous of joining the special music class.
7. Personality
   a. Conditioning factors
      The child was absent often and was in poor health during the entire semester. He was slow mentally but
he did average work in his group placement. He wanted to learn to sing but he was very hesitant about singing alone. He entered willingly into all group activities. He required constant encouragement and his interest varied.

b. Dispositional characteristics

He was shy, nervous and self-conscious. He displayed moodiness.

8. Cause of monotonism

This case was inattentive to pitch changes.

9. Progress

Progress was continuous and moderately rapid.

10. Results

At the close of the experiment case twelve was able to sing in tune most well rehearsed melodies unaccompanied. The tone quality was improved and the range greatly increased. In view of his increased range, the use of the head tone, and continuous progress, though he was absent often, it might be assumed that, had the experiment continued, greater facility in singing would have been gained and control of the singing voice at all times might have been acquired.

Case Thirteen

1. Age - 13
2. Sex - Male
3. Grade - 8A
5. Musical background

a. Personal
The child sang and whistled often at home. He had never played a musical instrument.

b. Family
The grandmother had played the piano but not in the child's home. Neither mother nor father sang or whistled at home. No one played an instrument in the home.

c. Musical instruments in the home
There was a radio in the home. There had been a phonograph and although this had been played often, it was not replaced when it was destroyed by the flood.

6. Disposition toward music
The child enjoyed singing with the group in the regular music class and he enjoyed listening to most kinds of music. He was interested in joining the special music class.

7. Personality

a. Conditioning factors
The child had difficulty with severe colds and was absent frequently. He was intelligent and was a good student. His interest fluctuated and his rate of progress varied. He entered into classroom activities with varying degrees of enthusiasm. His voice
began to change and the difficulties thus created caused discouragement on occasions. However, interest was easily revived by encouragement.

b. Dispositional characteristics

He was bright, cheerful and responsive. The moodiness he displayed was discovered after the work had been in progress a few weeks. As the class proceeded he began to demand more and more attention and investigation proved that in his effort to achieve attention his work in all fields had become less good. This was true of his work in the special music class. He was self-conscious.

8. Cause of monotony

He lacked the use of a correct singing voice and he was inattentive to pitch changes.

9. Progress

Progress was continuous but below average rapidity.

10. Results

At the close of the experiment case thirteen was able to sing in tune some well rehearsed melodies unaccompanied. He was able to follow the melody line and no longer changed key but he was not always accurate in pitch. The tone quality improved and the range was greatly increased. In view of his continuous progress, the use of the correct singing voice and increased vocal range it might be assumed that, had the experiment continued, greater
facility in singing would have been gained.

Case Fourteen

1. Age - 14
2. Sex - Female
3. Grade - 8A
4. I. Q. - 86
5. Musical background
   a. Personal
      The child did not sing often outside of school. She had never played a musical instrument.
   b. Family
      The mother sang often in the home. The father liked to whistle. Two sisters sang occasionally at home. No one in the family played an instrument.
   c. Musical instruments in the home
      There was a radio in the home.
6. Disposition toward music
   She gained little pleasure from the group singing of the regular music class. Guitar music was definitely the only kind to which she cared to listen. She was vitally interested in joining the special music class.
7. Personality
   a. Conditioning factors
      The child was dwarfed and was very sensitive in this regard. Other members of the family were normal in size. She was a conscientious student academically.
This case was extremely diffident at first regarding her singing; however, constant encouragement soon made of her a class leader. She applied herself well and her interest was constant. Once she found her new singing voice, she made steady progress and took great pride in her achievement.

b. Dispositional characteristics

The child was extremely shy and self-conscious. She was inclined to moodiness. As a rule she was pleasant, approachable, and very cooperative.

8. Cause of monotony

This case lacked the use of a correct singing voice and was inattentive to pitch changes.

9. Progress

Progress was steady and rapid.

10. Results

Case fourteen was able to sing in tune any familiar melody unaccompanied. The tone quality was improved, the use of the head tone was gained, and vocal range was greatly increased. This case needed no further work.

Case Fifteen

1. Age - 14
2. Sex - Male
3. Grade - 8B
4. I. Q. - 88
5. Musical background
a. Personal

The child whistled at times but seldom sang outside of school. He had never played a musical instrument.

b. Family

The mother sang often in the home. The father whistled occasionally.

c. Musical instruments in the home

There was a radio in the home.

6. Disposition toward music

The child liked music if he did not have to participate. He was mildly interested in joining the special music class.

7. Personality

a. Conditioning factors

The mother became ill after six weeks of work and she remained in the hospital until the end of the semester. There were difficulties in the home. He had an average academic standing. He put forth strenuous effort as improvement became evident and as allusion was made to his ability. His voice began to change and he was handicapped by this fact on occasions. His interest varied in direct proportion to his progress. When he was on a learning plane he displayed indifference; when he made a step forward his interest became acute. He required more encouragement than the average student. He was diffident at first when singing alone
but later he gained confidence and exhibited pleasure when asked to do so.

b. Dispositional characteristics
At first the child was amiable and cheerful. Later he became unapproachable on occasions. He was self-conscious, displayed dreaminess and extreme moodiness.

8. Cause of monotony
This case was inattentive to pitch changes. He lacked the use of the correct singing voice.

9. Progress
Progress was irregular.

10. Results
At the close of the experiment case fifteen was able to sing in tune any rehearsed melody unaccompanied. He gained the use of high head tones toward the middle of the experiment but by the close a definite masculine quality was apparent. His vocal range was greatly increased. It might be assumed that, had the experiment continued, greater facility in singing would have been gained and further practice in using his changed voice would have given case fifteen control of his singing voice at all times.

Case Sixteen

1. Age - 13
2. Sex - Female
3. Grade - 7A
4. I. Q. - 104
5. Musical background
   a. Personal
      The child never sang at home. She had never played a musical instrument.
   b. Family
      The mother seldom sang. The father did not sing or whistle. No one played a musical instrument in the home.
   c. Musical instruments in the home
      There was a radio in the home but it was seldom used.
6. Disposition toward music
   The child liked music but did not want to take any active part in it. She was interested in joining the special music class because she was a conscientious student and she felt that the class would be of benefit to her.
7. Personality
   a. Conditioning factors
      She was an only child of elderly parents. She was a conscientious student in all of her academic work. She was anxious to succeed but she never volunteered to answer or to sing alone in the special music class. She took a quiet, active part in group activities. Her extreme nervousness hampered her progress and she required more than the average amount of encouragement.
Her interest was constant.

b. Dispositional characteristics

She was quiet, shy, and self-conscious. She displayed dreaminess and was approachable.

8. Cause of monotonism

This case was inattentive to pitch changes.

9. Progress

Progress was slow but steady.

10. Results

At the close of the experiment case sixteen was able to sing in tune any rehearsed melody if she were accompanied. She could sing some short melodies in tune unaccompanied. She followed the melody line and no longer changed key although she was not always accurate in pitch. Her vocal range increased and her tone quality improved. Case sixteen was of a nervous disposition and was highly conditioned against the test piece. Since sufficient vocal range and head tones were at her command and since progress had been steady, it might be assumed that, had the experiment continued, greater facility in singing would have been gained.

Case Seventeen

1. Age - 14
2. Sex - Male
3. Grade - 8A
4. I. Q. - 117
5. Musical background
   a. Personal
      He seldom sang outside of school and he could not whistle. He had never played a musical instrument.
   b. Family
      The sister and the mother sang often in the home.
   c. Musical instruments in the home
      There were no instruments of any kind in the home.

6. Disposition toward music
   The child gained pleasure from all activities of the regular music class. He was eager to join the special music class.

7. Personality
   a. Conditioning factors
      He was intelligent and a good student academically. At first he was hesitant about singing alone but during early progress he often volunteered. He was pleased with his achievement but as his voice began to change difficulties caused discouragement. He learned, however, to overcome some of these. His interest varied with his progress.
   b. Dispositional characteristics
      He was bright, cheerful, enthusiastic and generally conscientious. He demanded attention and at times exhibited moodiness. He was self-conscious.

8. Cause of monotonism
This case lacked the use of the correct singing voice and was inattentive to pitch changes.

9. Progress
Progress was continuous and moderately rapid.

10. Results
Case seventeen was able to sing in tune any known melody if he were accompanied. The pitch was not always accurate since control was not complete. (This might be attributed to the change which was taking place.) He sang many well rehearsed tunes moderately well unaccompanied. His tone quality greatly improved, the use of the head tones was gained, and vocal range was increased. In view of the latter accomplishments and his continuous improvements in pitch it might be assumed that, had the experiment continued, greater facility in singing would have been gained. This is assumed because it is felt that further practice might have increased control of the vocal chords.

Case Eighteen

1. Age - 12
2. Sex - Male
3. Grade - 7A
4. I. Q. - 102
5. Musical background
   a. Personal
      The child seldom sang outside of school. He could not
whistle and he had never played a musical instrument.

b. Family

The other children and the mother often sang in the home. His father often whistled. No one played a musical instrument.

c. Musical instruments in the home

There was a radio in the home.

6. Disposition toward music

The child gained pleasure from all activities of the regular music class. He was eager to join the special music class.

7. Personality

a. Conditioning factors

The child was an academic failure the preceding semester. He had little ability to concentrate and it was difficult to hold his attention for a reasonable length of time on any one activity. He was very restless. At first he was hesitant about singing alone but later he volunteered often. The child seemed to undergo a change during the semester. At the close of the term his ability to concentrate had greatly improved; he became much more quiet and attentive. Investigation proved this to be true in all of his classes. The consensus of opinion of his teachers was that the previous condition was attributable to physical growth.
b. Dispositional characteristics
The child was usually amiable and approachable. He was self-conscious and demanded attention. He displayed moodiness.

8. Cause of monotony
This case lacked the use of the correct singing voice. He was inattentive to pitch changes.

9. Progress
Progress was rapid and continuous.

10. Results
By the end of the experiment case eighteen was able to sing in tune and unaccompanied any song which he knew. His range had greatly increased and his tone quality was decidedly improved. He used a high head tone. Case eighteen needed no further work.

Case Nineteen

1. Age - 14
2. Sex - Male
3. Grade - 7B
4. I. Q. - 78
5. Musical background
   a. Personal
      He seldom sang, he couldn't whistle, and he had never played a musical instrument.
   b. Family
      Occasionally the mother hummed at home. No one in the
8. Cause of monotonia

This case was inattentive to pitch changes.

9. Progress

Case nineteen made little progress.

10. Results

By the end of the experiment little improvement was noticeable as to accuracy of pitch. He improved slightly in tone quality and tones masculine in character became apparent. He increased his vocal range to some extent. Had the experiment continued it might have been assumed that more progress might have been made.

Case Twenty

1. Age - 13
2. Sex - Male
3. Grade - 7A
4. I. Q. - 104
5. Musical background
   a. Personal
       The child liked to sing and whistle. He had never played a musical instrument.
   b. Family
       The mother sang and the father whistled at home. The other children sang occasionally.
   c. Musical instruments in the home
       There was a radio in the home.
6. Disposition toward music

The child participated enthusiastically. He was eager to join the special music class.

7. Personality

a. Conditioning factors

The child was an average student from the academic standpoint. At first he was enthusiastic and made excellent progress. He overcame his hesitancy about singing alone and was at ease while singing. He readily entered into all classroom activities. His changing voice arrested his interest but this was regained as he mastered certain problems.

b. Dispositional characteristics

At first the child was bright, alert, and enthusiastic. His disposition seemed to change during the term and investigation proved this to be apparent in all his school activities. He became undependable and moody. He was self-conscious.

8. Cause of monotonism

This case was inattentive to pitch changes.

9. Progress

Progress was continuous and moderately rapid.

10. Results

Case twenty was able to sing in tune any well rehearsed melody unaccompanied. His vocal range increased. The tone quality improved slightly. It might be assumed that,
had the experiment continued, complete control of the singing voice might have been gained.
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<th>Case Number</th>
<th>1. Improvement</th>
<th>2. Improvement</th>
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<th>No Noticeable</th>
<th>Some Well Rehearsed Melodies Accompanied</th>
<th>Many Well Rehearsed Melodies Unaccompanied</th>
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### FIGURE I

Comparative Progress Chart

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* In interpreting the above chart it should be remembered that all cases were not of equal ability at the beginning of the experiment. Consult recordings.
CHAPTER IV
THE INFLUENCE OF ADOLESCENCE

In order to determine the influence of adolescence on work done in this field at this educational level it becomes necessary to look to the case studies made of the above group and endeavor to learn something of the reactions found to be consistent with a large portion of its members.

A factor of great importance was that of self-consciousness since this was evidenced by every child. Whether self-consciousness is a result of the inability to sing accurately, whether it is based fundamentally on adolescence, or whether it is a result of the two, it is difficult to say. However, study of this reaction in relation to adolescence may help to determine an answer.

Moodiness was discovered to be a distinguishing feature of nine boys and four girls.

Another characteristic found to be prevalent among the children is best described as dreaminess which found its way into the studies of six of the boys and five of the girls.

Though the demand for attention was only evidenced by five boys and one girl this was so definitely a part of the personalities of these children that it seems worthy of mention here.

Interest in learning to sing was apparent in the entire group; though some children manifested a more enthusiastic concern than others, and this interest fluctuated with nine
boys and two girls.

It is well to mention here the changing voice since it is always closely associated with conceptions of adolescence. The physiological growth which determines it and the problems and theories involved in its training are well known and shall not be discussed here. This development manifested itself in eight cases. However, the process of changing impeded the progress of only one boy.

The characteristics stated above cannot be disassociated easily from the children themselves. They seemed to be an integral part of the personality of each child who exhibited them. This brings to mind certain questions: What is the relation of these attributes to adolescent personality and what is the relation of personality to physical growth which so obviously characterizes adolescence?

It is very difficult to define adequately what is generally meant and so well understood by the term personality and there are many and diverse opinions concerning it.

Personality is simply the designation of an individual "as a going concern" - the sum total of a living human being ... In reality, as we use the term to-day, it is synonymous with ego; it represents the unity of consciousness. 1

Personality is the individual's peculiar integration of instinctive, emotional-and-habit-reaction systems together with his merely physical differentiating characteristics. 2

"Personality" means that whole combination of mental and physical qualities by which an individual may be identified. It is practically the same as the idea of "self".¹

From the above examples it may be inferred that there is no general agreement as to what personality is. However, in most references there was reference to "self" as representing the whole personality.

The fact that great changes take place during the period of adolescence is common knowledge. The interest here lies in the effect of these changes on the personality of the child, and especially in the item of self-consciousness which has been previously pointed out as a characteristic evidenced by all the adolescent monotonies studied.

There is something about a human being whether it be called self, soul, or ego that makes it possible for him to organize a conscious, intelligent, socialized personality.²

It is difficult to determine the earliest beginnings of self but it is gradually evolved through childhood until by the end of adolescence the essentials of its life pattern have been selected.³

We think now that self-consciousness is not produced by any delayed instinctive development, but rather that like so many other reactions it is the consequence of normal growth in a social environment which brings much pressure to bear upon that growth.⁴

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This growth is evident in both the physical and mental aspects of the individual. There are certain characteristics of the physical growth, which influence self-consciousness.

Clumsiness and awkwardness are not only due to the lack of proportional growth of the physical apparatus alone, but also to the increase in mental mechanisms which find in the muscles and other anatomical structures of the body a less ready and less facilitated outlet. There is, it may be said, not enough practice. So much of the mental content at any one time demands a physical expression that when sudden acceleration in growth takes place there is no means of physical expression and the pathway outward is blocked. There is no way to appreciate the external aspects of the adolescent other than to look at him as a sort of living machine with the capacity of that machine overburdened for a time by the demands made upon it. There is almost a state of conflict between what the body is able to do and what the content of mind insists that the body do.

This is also discussed by Kirkpatrick. The clumsiness which is always associated with adolescence may be due to a lack of correlation of bones, muscles, and tendons, or a loose-jointedness resulting from too rapid growth of the above. Further it is probably due to an imperfect connection between the various sense and motor centers of the brain.

The pubertal period is preeminently the period when self-consciousness develops. It may be present at other times, but almost surely becomes so during this period... The fact that the bodily self is rapidly changing and thus modifying the background of consciousness as well as calling attention to various parts of the body, tends to draw attention to self.

Physical changes contribute to the content of thinking about the self. The child is often unaware of what is con-

sidered normal anatomical and physiological features of development. Through ignorance he often misinterprets these; his state of health is thought about and questioned; notions of personal strength and weakness flourish.  

The instinctive impulses are also changing, so that the young person, without intending it, finds himself acting and feeling in novel ways; and this also tends to draw attention to himself.  

It is evident then that there is a definite relationship between the physical growth of the adolescent and his self-consciousness.  

It has been suggested that the adolescent indulge in great motor activity as an aid to eliminating a self-consciousness which is based on the lack of physical coordination.  

There is good reason to believe that a great variety of motor activity during the period is highly desirable in order that all of the muscles of the body and the centers controlling them may be effectually connected so that they can be used in any desired combination, now with one group, now with another, so that in every case every part of the body shall adapt itself to the movement and assist instead of hindering it.  

Self-consciousness may find its source in the lack of physical coordination. This lack of coordination is not only due to rapid physical growth but to an increased mental growth which makes demands upon the body which it cannot fulfill. This has a bearing on the monotone class when we consider that such motor activity is suggested as a remedy. Is not singing a motor activity?  

2. Gruenberg, Benjamin, op. cit., p. 256.  
Adolescence requires certain mental adjustments of the child. It is that period in the life of a human being when he is no longer a child but yet is not an adult. This period has been characterized as one of "storm and stress."¹

The answer for the use of such descriptive terms comes from the realization that it is a period in which it is necessary for the human being to adjust himself to a new environment. This environment is of course not actually new, rather, the individual has changed. The physical growth, the sexual development accompanied "by the unfoldment of those special sex features of mind and body which are differentially characteristic of the male and female of the species"² are responsible for the appearance of what seems to be a new individual.

The adolescent in a sense begins to feel himself and to establish a precise sense of personal awareness. The oftentimes mentioned self-consciousness of the maturing boy or girl in this regard a positive framework, preceding the realization and formation of the existence of the self as a definite thing and as a distinct and recognizable figure.³

Previously in the life of the child there has been self-consciousness but of a different type.

Now instead of being concerned chiefly with what he may do or get, his consciousness is turned toward his own mental status, and the youth thinks more of what he is and may become. He therefore often finds himself more interesting than anything else. The very fact of having ideals calls attention to characteristics of the self that need to be changed, and this also fosters self-consciousness and some-

². Sadler, William, op. cit., p. 3.
³. Schwab, Sidney and Veeder, Borden, op. cit., p. 65.
times produces hesitation and constraint. ¹

Conklin discusses two kinds of self-consciousness as displayed by the adolescent. One is the cognitive which is the habit of thinking constantly about the self when the individual is alone. The second is the emotional which is caused by a social situation. The former is not without emotions and the latter is not without cognitive features but the terms show the preponderance of content in the reactions.

The cognitive interferes with social activity and may become a dominating habit. Training and social experience may have developed an excessive conscientiousness but also there may be some serious maladjustment or physical weakness. When the youth is in the habit of thinking first of himself as to his capacities, possibilities or inabilities he is likely to appear negative, resistant or uncooperative when a situation calls for cooperative action.

The emotional type of self-consciousness is essentially a disturbance and the sooner it can be replaced by control and self-confidence the better. This type of response may result from such things as a social blunder or a public appearance, but a more outstanding stimulus for such a reaction is the presence of members of the opposite sex. A mass of conflicting tendencies are aroused and though the youth knows what to do and how to do it, many mistakes and unnatural responses

¹ Kirkpatrick, Edmund, op. cit., p. 232.
appear. Fatigue and any form of physical depletion are also conditions which cause this disturbance to appear. However the most common cause for the frequent appearance of the emotional self-consciousness in the adolescent is that of cognitive self-consciousness, for often when he is thinking a great deal about himself the thoughts stir shame, inferiority and hopelessness.¹

Environment has definite effects on self-consciousness. The youth is being pushed by everything from within and much that is about him to an awareness that he is soon to be an adult and that much is expected of him. All these pressures and energies operate not only toward the development of inferiority notions, homesickness and daydreaming but also towards the habit of thinking much about his own self.²

Garrison emphasizes the influence of sex development when he says that in early adolescence a shyness is discernible especially in relations with members of the opposite sex.³

There are many factors which influence the unfolding of the consciousness of self and Tracy considers that the following are of special importance:

1. Self-preservation.
2. The instinct of possession.
4. The unfolding of sex life.
5. The passion for achievement.
6. The vocational idea.
7. The moral and religious instruction.⁴

² Ibid., p. 79.
³ Garrison, Karl, op. cit., p. 105.
Through tests and their tabulation Dimock found that the adolescent becomes more critical of himself in the light of his ideal but that there is no increased feeling of superiority or inferiority in relation to his associates of his own age.¹

It is possible for self-consciousness to become excessive. The results may produce harmful and lasting effects. There is no period at which there is so much danger of the individual becoming too self-conscious, since objective interests are needed to divert attention from self. If one's own personality becomes more interesting than any other persons, there is serious danger that through the constant inbreeding of thought and lack of fresh vitalizing experience of things and persons, the conscious life may be out of harmony with the objective world and with social environment.²

It would be a simple matter for the idea that one is not perfectly normal in some respect, to take definite shape and for this established idea to poison the whole of conscious life.³

It has been suggested that objective stimulation and a development of self-confidence are necessary combatants to self-consciousness.

It is obvious that all of this is pointing in the direction of the establishment of response patterns such that attention shall be primarily, if not exclusively upon the objective situation and not upon the self concept and its relations. So often we find that young people who are much troubled by emotional self-consciousness are quickly relieved from the serious features of their trouble by the simple trick of interesting them in the behavior of others. Developing an

³ Ibid., p. 233.
interest in the way others are acting, observing their posture, carriage, voice and so on and they may be led and controlled, bringing about what is commonly referred to as an objective attitude of mind, is often a sure road to the development of self-confidence because it eliminates the causes of emotional self-consciousness.  

In order that a person should not be too much occupied at this time with thoughts of self, he should be surrounded by plenty of objective interest and should be occupied a considerable portion of the time with sports, games, work and study.  

It is necessary to find something in which he is interested, that stimulates him to achieve, even though it is not valuable in itself.  

Self-consciousness in adolescence is so marked that it pervades all activity. How does this affect the treatment of adolescent monotones? When manifestations of self-consciousness are brought to light it would seem that this factor would make the problem too difficult to attempt at this time. Further investigation, however, brings forth reasonable proof that the problem is not unsoluble.  

The adolescent is evaluating himself, and in this process would consider his inability to sing. In this regard self-consciousness may have existed before and has probably increased during this period. The monotone knows that his inability to sing is not normal; it may produce a lasting detrimental effect upon his personality. Objective activity has been suggested to counteract this possibility. The gaining of

3. Ibid., p. 235.
an ability to sing is made objective by placing the child in
a group in which the deficiencies and improvements of others
can be observed. Thus self-confidence will be gained.

The desire for social approval has been pointed out as
a feature of adolescent self-consciousness and this can be
satisfied in a monotone class consisting of both boys and
girls, where individual attention and instruction is given,
and where constant allusion is made to individual rather than
comparative improvement. Attention may be directed away from
self in such a situation by fostering attention on the im-
provement of other children. The informal atmosphere of a
class of this nature should help the child to cope with situa-
tions involving the opposite sex.

The desire for achievement can also be satisfied for who
can deny that the gaining of the ability to sing is an
achievement?

Moodiness, the second characteristic to be discussed, has
its source in those very things which stimulate self-conscious-
ness and there is a definite relationship between the two.

The conflict between the identity of the individual and
the identity which environment gives him is a central factor
in the problem of adolescence. Along with this, bodily
growth results in a feeling of inadequacy and discomfort. This
feeling, in combination with a feeling of futility produced by

1. Schwab, Sidney, and Veecher, Borden, op. cit., Chap. IV.
the conflict process, produces a sense of fear.\(^1\)

Moodiness, then, which may be described as the alternation of the vague fear of death with over compensation in the feeling of relief, produces contrasting states of depression and elation. These make easy the variabilities of conduct, associated with states of this kind and give the pictures so often described.\(^2\)

Moodiness has been interpreted in terms of self-confidence.

The outlook of the adolescent may not be very broad, but it is intense; there is a driving power behind it. This energy especially manifests itself in two ways: in pride, independence, elation - the development of mind and body - in contrast with these, in humility, fearfulness, diffidence and self-abnegation. These are the positive and negative forms of self-confidence, and these oftentimes war with each other in an effort to gain the center of the stage during these important years.\(^3\)

The youth with all his brazen effrontery may feel a distrust of self and a sinking of the heart, which all his bravado is needed to hide. He doubts his own powers, is perilously anxious about the future, his self-love is wounded and humiliated in innumerable ways keenly felt, perhaps at heart resented, but with a feeling of importance to resist. The collapsing moods bring a sense of abasement and humiliation, which sometimes seems like a degree of complacency to all that comes, suggesting spiritlessness.\(^4\)

The inconsistency of moods can be explained.

Egotism and sociality, ascendency and submission, selfishness, altruism, radicalism, conservatism, heightened ambitions and loss of interest; these tend to make of this period a contrast in moods, which can be manifested by a single individual in slightly different situations. These contrasting moods make it probably more difficult to predict an individual's behavior during adolescence than at any single period.\(^5\)

This changeableness finds its source in the newly developed

5. Garrison, Karl, \textit{op. cit.}, p. 96.
interests and broadened outlook as the adolescent comes in contact with social reality. The mood changes are more rapid than it is possible for habit systems to change and develop and become integrated into a unified personality; therefore inconsistencies in outlooks, beliefs and emotions are found in the child along with contrasting moods and attitudes towards situations and topics not altogether different in nature.¹

Tracy points out the two forces working within the individual when he discusses the unfolding of sex life.

On the one hand those new occasions of strength and capacity tend to make him overconfident of himself, so that he takes himself very seriously, makes large claims for himself, and expects great things from himself. And the leading motive in all this is his desire to gain the esteem of others and to appear well in the eyes of others. On the other hand the intenseful consciousness of the presence of others, with the increased sensitiveness which comes to the whole organism at this time, produces a fear of failure, a heightened self-respect, a dread of being thought stupid, or clumsy, or incompetent, that makes the adolescent the most bashful, diffident and self-distrustful creature in the world.²

The moods of adolescents are said to fluctuate more slowly than in childhood, but to a greater extreme and recovery, the move from depression, is especially retarded. The past is involved but the future still more so. Youth apparently cannot be temperate in the philosophical sense. Each day brings a fresh joy of being alive and the adolescent has the ability to gain pleasure from everything as can an individual of no other age.³

¹ Garrison, Karl, op. cit., p. 209.
² Gruenberg, Benjamin (ed.), op. cit., p. 258.
³ Tracy, Frederick, op. cit., p. 127.
Moodiness has been described and its sources traced. One author mentions an aid to the stabilization of these moods.

The growth of self-consciousness, with the conflicting alternatives, of shyness and self-assertiveness is also a factor in the play of moods. There is need for the experience in self-assertiveness that teaches unmistakably the meaning of others in daily life. There is needed a technique for self-expression, or self-assertion in relation to others.  

It is of course very probable that an extreme of mood is showing itself prominently when the observer characterizes the child as "demanding attention." However we find allusions to it in connection with a discussion of the sex drives.

McDougal points out that self-display during the mating season, particularly by the male species, is the first manifestation of self-feeling.  

In man it is connected with a self-conscious attitude relating to the self's well-being and therefore a basis of pride.  

In the human race this self-assertion can be seen. Witness the young adolescent, with his daring spirit, overexertion, and constant display of strength and skill and the same can be said of the female of the species; her feminine manners, her shyness, and her persistent effort to outwit her rivals are all manifestations of the same tendency.

The adolescent exhibitionist has been explained in terms of conditioned behavior.

In infancy comfort is brought about by the presence and attention of others. Being looked at and talked about in those years is definitely associated with comfortable reactions. The inevitable consequence is that being looked at

3. Ibid., p. 97.
4. Ibid., p. 98.
and talked about becomes substituted for the originally effective stimuli, that the comfortable reaction becomes conditioned to the pattern of stimuli designated as being looked and talked about. This goes on through the years. Those individuals who in adolescence and maturity still have their most happy reactions aroused by social situations of attention to the self are those who have never been subsequently reconditioned.¹

The real exhibitionist then is not a product of adolescence.

The show-off seeks indulgence.

Growth of mind and body is so rapid that it is felt to the point of overestimation. Self-feeling is fed by all the compliments and sweet flattery of affection which is the food often tasted for the first time with real gusto.²

It would seem that moodiness and the closely allied demand for attention would hinder any activity but they have their redeeming features and these can be applied to a monotone class. Moodiness derived from the same sources as self-consciousness may be perceived as an outgrowth if not a manifestation of it. The exhibition of two extremes of emotion are due to the seriousness with which the adolescent takes himself. On the one hand he is desirous of demonstrating his new found powers to gain the esteem of others; on the other hand this very bravado may be an attempt to hide his lack of confidence in himself. The other extreme of mood tells also of self-consciousness. The desire for social approval has been discussed previously relative to a monotone class. The gay moods, the pleasure gained from seemingly insignificant things cannot be disregarded. Another item not to be overlooked is that of the satisfaction

in compliments sought by the adolescent. The monotone class
gives ample source for legitimate flattery in each new tone
gained, the slightest improvement of tone quality, or use of
a new register.

Moodiness can be relieved by self-assertion and self-
expression both of which a new found ability to sing can give.

Dreaminess is the next topic for discussion.

The adolescent is conscious of himself. He attempts to
evaluate his personal make up, physical, mental and moral.
This is the period in the life of an individual in which he
plans for the future. No longer a child, he foresees adult-
hood and the necessity of his taking a definite responsibili-
ty in the complex organization of life. He is seeking to
find himself. He is not certain just where he wants himself
to fit into his conception of the world at large and he
imagines himself taking various roles. Thus self-conscious-
ness links itself closely with dreaminess.

With the awakening of self-consciousness and the capacity
for introspection, there comes realization of vast unexplored
mental experience and a conviction that the new life which
adolescence has opened for the individual can be appreciated
through the mind. He learns that he has something in his
mind and that this is his. Consequently the withdrawal of the
adolescent into himself is in essence an experimentation with
his new found mental mechanism. The imagination forms an
additional instrument and the extension of mental experience
affords the child day-dreams in which he can react uninfluenced by time or space or unimpeded by his awkward bodily self. This imagination is linked no doubt with his earlier childish fantasy.1

Day-dreams have been described as a temporary thwarting of life plans.

Although the period may be described from the intellectual side as a period of thought-development, in contrast with the preceding which was a period in which the imagination is very active in picturing future possibilities, most of the influences that tend to make the individual self-conscious at this time, also tend to lead him to imaginings of all kinds.2

The combined effect of the social pressures upon the adolescent and the urges or drives with which nature endowed him, is the establishment of many hopes and expectations to be realized. But the intellectual and economic and social situations confronted, prevent their early realization. The consequence is that many find a temporary realization in the make believe world of the day-dream. Youth in the teens is developing a consciousness of independence, the attitudes of self-reliance, and is beginning to think of activities which will bring full satisfaction of the desires for independence and self-reliant activity.3

At the same time one can easily think of day-dreams which are not easily explained in terms of a theory so simple. Where the content is quite bizarre, recurrent and perhaps even annoying, one may be inclined to turn to the psychoanalytic system of thinking for a more adequate scheme of explanation. Behind such there may be a complication of repressions and conflicts and very likely also a complex. The same may be true of compensatory dreams where there has been much trouble with inferiority feeling and ideas, and very likely also of many, although certainly not all, of the sex fantasies.4

Dreams may be derivatives of wishes or vice versa but

1. Schwab, Sidney and Veeder, Borden, op. cit., p. 69.
4. Ibid., p. 227.
whichever attitude the reader chooses to take he cannot deny the close relationship that exists between the two. Ellsworth Fores made a comprehensive study of wishes of adolescents:

1. Wishes dealing with appetites and sensation.
2. Wishes pertaining to recognition and distinction.
3. Wishes respecting responses or intimacies.
4. Desires which arise from a sense of comparative inferiority.
5. Secondary or derived wishes such as those for new experiences, excitement, desire for security, and the wish to avoid danger.
6. Negative wishes, those growing out of disgust, anger, dread, monotony, etc.¹

Ordinarily day-dreams are thought of as being agreeable, however, it is almost certain there are some of a disagreeable nature. These are imaginative disasters which pertain to the every day life of the adolescent. Such things as failure, teacher prejudice, difficult examinations and the like are the subjects of these dreams and border on the field of worry.²

It is interesting to note a peculiarity of these dreams. Not only do they portray accomplishment but they include an audience for this achievement.

All day-dreams at this period include not simply a representation of something as being done, but also of another person of persons as witnessing the achievement. The pleasure experienced is not so much in the thing itself, as in the thought of how it will be viewed by others or by one particular person.³

This is not difficult to understand when the strong desire for social approval in adolescence is recalled.

There are references to the possible harmful effects of

day-dreams. If fancy and reality become confused, if dreams take the place of overt action, if they interfere with effective contact with the outside world, then they produce ill effects. They may come to occupy too large a place in the child's life; they may become so satisfying that he will resort to them as an escape from grim realities.¹

In imagining his potentialities and achievements the adolescent may have some difficulty in gaining a true measure of actual ability.

Day-dreams and ideals regarding physical achievements are more readily normalized than are those connected with intellectual and artistic efforts. It is not difficult to get one's self properly appraised as a runner or a jumper, but it is frequently very difficult to get youths to form a more sane judgment of their intellectual, artistic, or literary abilities.²

Before the period has passed they should be taught how to change these dreams into actualities and to substitute achievement for them.³

The parent or teacher can do little for the child in determining what the imaginative activity will be during this period. Indirectly, however, much can be done by providing literature which will furnish opportunity for a choice of ideals; and by providing a large amount of objective activity in competition and in cooperation with others.⁴

In dreaminess there is again a relationship to self-

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3. Sadler, William, op. cit., p. 34.
consciousness. However a study of the former characteristic discloses a desire for distinction, a desire for self-reliant activity, an allusion to a complex and comparative inferiority.

When the monotone class is called a special group implying that it is made up of "special" people distinction is realized. The gaining of an ability to sing aids in producing a feeling of self-reliance. Some day-dreaming has been attributed to a complex and a feeling of comparative inferiority. Perhaps these have their source in monotonism and can be removed by work along this line. The unpleasantness of some day-dreams might be caused by the fear of being asked to sing.

The necessity for activity in competition or cooperation with others; changing day-dreaming into reality and directing it towards achievement; and producing an adequate measure of skill, at least in one line, are requirements which the monotone class can fill.

In discussing interest the chief concerns are expansion of interests in adolescence, and the nature of interest, in so far as it affects music.

It might be well to give a well known definition of interest before proceeding further.

Genuine interest is the accompaniment of the identification, through action, of the self with some object or idea, because of the necessity of that object or idea for the maintenance of a self-inflicted activity.1

"There is a physiological and neural basis for all

interest."¹ In this statement we see in interest the same correlation with physical growth that we have seen in connection with the other characteristics studied.

Interest is dependent upon experience but native ability has also a part. The physical growth of the human organism is an important factor in the development of interests. It is not necessary to go into the physiological basis of interests. Suffice it to say that ultimately they have a biological basis, which may either be organic or functional. The development of interest however depends upon experience. The interests of adolescents are within the limits of training and environment and are limited by physiological development and innate ability.

The human organism must be considered in terms of biological and social desires and the adolescent with his growing knowledge, developing experiences and integration of special habit patterns has both intrinsic and extrinsic interests between which there should be a balance.²

According to Brooks, interests have four important functions in the development of the adolescent.

1. Interests serve as an exploratory or "try out" function.
2. A wide range of wholesome interests tends to insure breadth of experience and of personality.
3. A wealth of interests facilitates in the case of thwarting and is an aid to mental health.
4. Intense abiding interests in a few things are desirable for efficiency.³

³ Brooks, Fowler, op. cit., p. 303.
He cites three ways of developing interests among adolescents.

1. Contact with a wide range of desirable activities.
2. Activities proportional to capacity.
3. Presence of conditions insuring satisfaction.\(^1\)

Interests are developed in harmony with those of the group: sympathy, approbation, and general approval having a large influence in determining their extent.\(^2\)

Adolescent interest is said to wax and wane according to the condition of the physical being and activities follow his interests.\(^3\)

The well known fact of the varied interests in adolescence is easily understood in view of the physical development which necessitates physical activity and from an understanding of his personality the chief feature of which is the finding of self.

The age of adolescence has been referred to by psychologists as the period of varied and peculiar interests. It should be recognized, first, that all interests grow out of experience, and the life experiences of the organism tend to guide and erect the development of further interests.\(^4\)

Some psychologists allude to an interest in music naming the interest "aesthetic" with little further explanation. However some give more definite information.

Certainly in no life-age is its (music) appeal stronger than in the teens. Nothing perhaps is more enjoyable than for a group of people in their teens to gather around a piano, or at a radio, and sing the popular ditties to their heart's content.\(^5\)

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\(^1\) Brooks, Fowler, op. cit., pp. 303-304.
\(^2\) Garrison, Karl, op. cit., p. 160.
\(^3\) Tracy, Frederick, op. cit., p. 108.
\(^4\) Garrison, Karl, op. cit., p. 126.
Interest in reading, musicians, nature, music painting, and the like is widening; yet if civilized nations are to rise to a higher plane, these interests must be far more thoroughly cultivated among growing citizens. The interests with which we are concerned here are not to be thought of therefore, in terms of momentary emotional excitation, but rather of long-time effects produced on maturing boys and girls. They should, indeed, aid considerably in the development of a well-balanced personality, and should be encouraged and guided by all suitable means.¹

Life is not merely a matter of earning a living, a matter of work — life is more than that and involves the proper use of much leisure time. It is important then that the youth be prepared for leisure as for work.²

Interest has a great bearing on the treatment of monotony. The necessity of it in any activity has been explained. It would be well to point out that the interest shown in learning to sing, by the group studied, was acquired. It was established through an understanding that the child concerned was not peculiar but had some bad habits which he could overcome. Thoroughly convinced that it was possible for him to sing the child evidenced a desire to join the class. This can be explained by a reference to causes of self-consciousness but, what is more pertinent here, by the fact that interests lie within the limits of training and environment, and grow from and through experience.

The fluctuating interest in learning to sing of the nine boys referred to in the introduction may be explained by the fact that physical conditions may produce a waxing and waning of interest. Six boys were hampered by temporary difficulties in using their vocal chords due to the changing voice. When

¹ Garrison, Karl, op. cit., p. 147.
² Conklin, Edmund, op. cit., p. 589.
it was not possible to produce tones readily, the interest in learning to sing lessened temporarily. However the change of voice of these children was gradual and the interest was revived. It should be pointed out here that in the case of one boy in which the changing voice arrested practically all progress the interest was constantly high even though the voice broke badly shortly after the class started. Further in the case of another boy, the process of changing was so gradual as not to affect singing or interest. The seventh boy was in poor health during the entire semester. As to the eighth boy, the change from restlessness to a more settled condition during the semester, the development of a greater ability to concentrate together with a more attentive attitude were attributed to physical growth by his teachers.

The varied interest of the ninth boy and the two girls referred to in the introduction had a different source. One girl was unable to remember words or tune. Interest was said to be dependent upon native ability. In the other case interest increased as progress provided further experience in singing. The ninth boy was given a guitar during the semester and in this he found a new musical experience and a new use for his singing voice.

Interests can be developed in adolescence more readily than any other stage of growth and their development has a definite effect upon personality. It is not certain whether this new interest will be strong enough to be substituted for
some other thwarted interest or whether it will be lasting, but these possibilities are suggested.

Interests are said to be developed when activities are proportionate to capacity and under conditions securing satisfaction. A monotone class can certainly qualify for the former and probably for the latter.

The aesthetic interest may have some bearing on the interest of these monotones, but the enjoyment gained by groups of adolescent children in singing together undoubtedly has a function which lies in the use of leisure time. Singing surely puts this time to good and wholesome use.

The class affords the sympathy and approval which nourish interests.

Personality of the adolescent, as was evidenced in the case studies, has been discussed fully, in an effort to determine whether the period of adolescence makes itself at all conducive to the treatment of monotones. As far as benefits to the child are concerned it would seem that this period would be excellent. As to adolescence as a period of development in which the treatment is to take place, it would seem that the difficulties of self-consciousness, and the consequent moodiness and dreaminess, plus the changing voice, are somewhat balanced by positive factors of personality appearing at this time. Adolescence should then be as well suited as any earlier period to the treatment of monotones.
CHAPTER V
CONCLUSIONS

The ultimate objective of every teacher of vocal music is to give to each child the type of training which will enable him best to fulfill his place in society. The purpose of this study was to determine whether or not it is possible for a teacher in junior high school to give monotones found in the music classes the use of their singing voices as a medium of musical expression. The problem of teaching junior high school monotones to sing involved several subordinate problems: organization of the pupils into a class, determining the causes of monotonism and devising suitable remedies, the changing voice and adolescent personality.

It has been shown that an extra class can be arranged within a school which is already functioning without disrupting the school schedule or requiring extra teacher help. The children who make up the class can receive ninety minutes of work per week without loss of time from other classes sufficient to interfere with educational progress along other lines.

Some equipment not ordinarily found in the average school system was required in order to record the voices of the members of the class but the mechanism was not used as a teaching aid. The recordings were made as a supplement to this study to furnish evidence of the singing ability of the child at the beginning of the experiment, his progress after six weeks' work, and his stage of development at the conclusion of the
experiment. The work was done by men from a local business establishment at a cost which was not prohibitive. However, the quality of the records is such that they may be worn easily and care should be taken not to play them unnecessarily.

The causes of monotonism of those children who took part in the experiment were found to be lack of vocal coordination, lack of use of the correct singing voice, and lack of sufficient attention to discern pitch changes. However, the factor involved in each type was attention and the basis of the remedy in each case was an exacting effort of attention. Therefore, attention was an all-important factor in the teaching of monotones. The attention thus involved is not only that required to discern pitch changes and reproduce them but it also involves attitude and interest. The negative attitude which is usually held by a monotone concerning his ability to sing may be changed to one which is receptive and conducive to learning when he is approached properly. His interest may be maintained by devices and exercises suited to his mental development, his understanding, and his capabilities. Along with these a great deal of encouragement is necessary, commendation must follow any slight improvement, and the work must be so organized that a feeling of accomplishment is easily gained.

Monotonism is considered an individual problem but individual work carried on in a large public school system is
impracticable. It was found that it was possible to work successfully with twenty monotones in a class. However, the work must be so organized that both individual and group activity may be carried on during the class period. Further, it was learned that organizing children hampered in singing into a group was an aid to their learning. The children realized the difficulties of the other members and self-consciousness concerning singing was thus lessened for each child. They learned much concerning their own problems when aiding in the diagnosis of the problems of their fellow students. Further, individual work along this line would have been beneficial only when given for short periods of time. In the class it was possible to vary the work to such an extent that actual learning procedures were introduced over a much longer period.

The case studies reveal that the voices of eight boys of the thirteen who took part began to change during the course of the experiment. The progress of only one boy, however, was impeded by this change. It would be well to note here that of necessity the children were selected a few weeks before the class went into session and this voice broke badly at the outset of the work. In the case of five of the boys the difficulties created by the changing voice caused discouragement but interest was easily revived with encouragement as certain problems were overcome and even the slightest improvement became evident. In the instance of one boy, the fact of the
FIGURE II
Comparative Progress Chart of Boys with Changing Voices

<table>
<thead>
<tr>
<th>Any Known Melody</th>
<th>Any Rehearsed Melody Unaccompanied</th>
<th>Any Well Rehearsed Melody Unaccompanied</th>
<th>Most Well Rehearsed Melodies Unaccompanied</th>
<th>Many Well Rehearsed Melodies Unaccompanied, Pitch Imperfect Accompanied Melodies, Satisfactory Unaccompanied Melodies, Key Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. Unaccompanied</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td></td>
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<td>8.</td>
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<td>7.</td>
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</tr>
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<td>1.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Case Number  1.  2.  4.  13.  15.  17.  19.  20.
### TABLE II

**Age and Grade Distribution of Boys with Changing Voices**

<table>
<thead>
<tr>
<th>Age</th>
<th>8A</th>
<th>8B</th>
<th>7A</th>
<th>7B</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 Years</td>
<td>2</td>
<td>x</td>
<td>1</td>
<td>x</td>
<td>3</td>
</tr>
<tr>
<td>14 &quot;</td>
<td>1</td>
<td>2</td>
<td>x</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>8</td>
</tr>
</tbody>
</table>

### TABLE III

**Age and Grade Distribution of Boys with Unchanged Voices**

<table>
<thead>
<tr>
<th>Age</th>
<th>8A</th>
<th>8B</th>
<th>7A</th>
<th>7B</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 Years</td>
<td>x</td>
<td>x</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>13 &quot;</td>
<td>x</td>
<td>x</td>
<td>2</td>
<td>x</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>x</td>
<td>x</td>
<td>3</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>
changing voice made little difference in his progress for he was disinterested in school activities as a whole, a chronic failure and very difficult to approach. In the case of another boy, the voice changed so gradually as to cause no singing difficulties. By way of summary it may be pointed out that the voices of sixty one per cent of the boys who joined the class began to change during the experiment; twelve and one-half per cent of the boys whose voices changed made no progress; sixty two and one-half per cent became discouraged when difficulties arose but this was overcome; as to twelve and one-half per cent, the changing voice was not an important factor in the progress (consult Case History 19) and in twelve and one-half per cent the change was gradual so as not to cause difficulties in singing. Difficulties of the changing voice affected the interest of six of the boys but this was easily revived. The vocal range of seven of these boys increased and the tone quality of six was improved.

Figure II shows a great variation in progress of the boys whose voices were changing. Therefore it would be just as unwise to conclude that the changing voice is an altogether prohibitive factor in teaching monotones to sing as it would be to conclude that all monotones with changing voices can be taught to sing. It is further revealed by Figure II that in no case was a complete measure of success attained. Therefore it is evident that progress is impaired by the changing voice. This fact is further substantiated by the effect that the changing
voice had upon interest as was revealed in the case histories. All learning suffers when interest is not constant. It should be remembered that the conclusions are drawn from a study of only twenty cases. Studies of larger groups might alter the percentages but it is probable that the general conclusions would be the same.

Table II indicates that the boys whose voices began to change were taken from all four grade levels. Table III shows that none of the boys whose voices remained unchanged during the experiment were taken from the 6B or 8A grades. Further, sixty two and one-half per cent of the boys whose voices were changing were fourteen years of age and the remaining were thirteen years of age. However, forty per cent of the boys whose voices remained unchanged were thirteen years of age. If this group could be considered average, and the case histories would indicate this to be true, it might be advisable to eliminate boys fourteen years of age and those from the eighth grade in an effort to reduce the number of changing voices were the study to be repeated. The tables would also indicate that a monotone class in junior high school must of necessity, in some instances, cope with the changing voice. However, the case histories and the recordings prove that work may be carried on with success despite the difficulties caused by the changing voice.

It has been pointed out that this class may be considered a normal group of junior high school pupils. The case histories
show that the average age was thirteen years and that the average intelligence quotient was ninety seven. Since children of this age are adolescent the reactions of this group should be normal. The study of adolescent personality based upon these reactions proved that, though this period of growth presented difficulties of self-consciousness and the consequent moodiness and dreaminess, these are balanced by positive factors or personality appearing at this time. Adolescence is as well suited as any earlier period to the treatment of monotones. It was shown that as far as benefits to the child are concerned this is an excellent period for the organization of a class of this type. This fact was further substantiated by many visitors to the class, both technical experts and administrators, who remarked often concerning the lack of self-consciousness of the children performing alone before a group and the poise and assurance which they exhibited as a whole.

It is a matter of record that the tone quality of fourteen children was improved and the range of fifteen children was increased. It should be noted that, at the beginning of the experiment, the tone quality of four more of the children was good and that the range of four was adequate. Nineteen children showed improvement in singing by the end of the study and four of these gained complete command of the singing voice. It is assumed that, had the work continued, eight more of the children might have gained complete control of the singing voice for after fifteen weeks work these children reached the seventh step
and beyond as shown in Figure I. If a child is able to sing most well rehearsed melodies unaccompanied in this length of time the probability is, that with further study, he will be able to sing any tune unaccompanied at any time.

It could be concluded that since ninety-five per cent of the children showed improvement the experiment was successful. However, a fact of even greater importance is that there is a possibility that forty per cent of the class would have gained control of the singing voice at all times had the experiment continued. The fact of greatest importance is that twenty per cent of the group actually gained control of the singing voice at all times by the close of the experiment.

It has been proven that despite the difficulties of the changing voice a class of adolescent monotones can be conducted successfully if concentrated attention is stressed; if individual work and class activity are properly combined to suit the interests and capabilities of the child; if encouragement and commendation are freely given. As a result the personality of most of the children will be benefitted and the use of the singing voice of many will be gained. If a greater number of monotones are eliminated by music teachers of the junior high schools greater personal and social benefits would accrue to all the children and greater efficiency in public school music would be attained.
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Books


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**Books of Songs**


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