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HARMONY FOR EAR,
EYE, AND KEYBOARD
(FIRST YEAR)

ARTHUR E. HEACOX



Eye, And Keyboard

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1941)

HARMONY

FOR EAR, EYE, AND KEYBOARD

(FIRST YEAR)

BY

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EAR-TRAINING OUTLINE IN EACH LESSON

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PREFACE

The aim of this little book is to provide, in lesson form, attractive material for the first year of harmony study in high school or college. The principal features of the plan are as follows:

1. Provision is made in each lesson for a three-fold approach to the subject; that is, approach through the ear, through the eye, and through the hand. In other words, ear-training and keyboard-training *lead to the written work* and are co-ordinate with it.
2. Practice is provided in several styles of original composition, thereby linking up the student's harmony course with his practical music.
3. A substantial beginning is established in pure part-writing from both melody and figured bass, with the purpose of laying the foundation necessary for intelligent advanced study.

The plan is not a new one. On the contrary, it is based upon standard authorities, supplemented by observation of what many of our foremost educators in this field are doing at the present day.

Grateful acknowledgment is here made of the generous assistance and friendly counsel of Dr. Charles Hubert Farnsworth, Associate Professor of School of Music, Teachers College, Columbia University; Mr. Glenn H. Woods, A. A. G. O., Director of Music, Oakland City Schools, Oakland, California; and of Miss Lucy M. Haywood, Head of the Department of Harmony and Music History in the high schools of Lincoln, Nebraska. I am also genuinely appreciative of the co-operation of my colleagues at Oberlin College: Karl Wilson Gehrkins, A. M., Professor of School Music; Dr. George Whitfield Andrews, Professor of Organ and Composition; Friedrich Johann Lehmann, Professor of Theory; Mrs. Bertha McCord Miller, Principal of the Children's Department and Assistant Professor of the Normal Course in Piano;

Miss Florence Livingston Joy, A. M., Instructor in English; and, finally, of Miss Gladys Ferry Moore, Mus. B., Assistant Professor of Harmony and Ear-Training, who, from the laboratory of her own class-room, has provided the indispensable ear-training outlines which form a part of each lesson.

Arthur E. Heacox

Oberlin, Ohio.
July, 1922.

TO THE TEACHER

The Book

The book can be completed in 120 60-minute recitation periods or in 150 45-minute periods, with approximately an equal amount of outside preparation. This makes a one-year course for the high school class which meets five times per week and allows ample time for review lessons and examinations. If taken as a one-year course it is recommended that the second semester begin with the subject of *Modulation* (Lesson 38).

In many schools it may be desirable to extend the work over a longer period of time with but two or three class sessions per week. If taken as a two year course, begin the second semester with *Passing Tones* (Lesson 20), the third semester with *Modulation* (Lesson 38), and the fourth semester with *Harmonizing a Folk-Song* (Lesson 49). Suggested examinations for the end of each of these divisions will be found in Appendix B.

A. E. H.

Ear-Training and Sight-Singing









For the ear-training and sight-singing course, teachers who use this book should always supplement the text material with material from other sources. To give, here, the requisite amount of working material is impossible: the size of the book prohibits; the emphasis to be placed on any one point varies with the individual student; obviously, much material should be new to the learner. That the teacher may have wide supplementary resources, he should aim to own many of the text-books named in Appendix A, I to V inclusive. If creative, he can invent exercises. He should not change the key frequently — probably it is best to use only one key in each lesson — and he should increase the difficulty of the exercises as fast as the class gains assurance and speed.

The choice of sight-singing material is left to the teacher. It should be planned in such a way that it will correlate with

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HARMONY

For Ear, Eye, and Keyboard

(FIRST YEAR)

LESSON 1

**Study of
Harmony like
Language
Study**

The study of *Harmony* is much like the study of a language. In fact, the parallel is strikingly close. In a language one must learn in detail the letters; how they appear to the eye, how they sound to the ear, and how to write and to pronounce them. Just so, the scales are the A, B, C of harmony; and one must know how they are constructed, how they sound, and how to write them, sing them, and play them.

In a language one learns to spell words and construct sentences. So in harmony, from the musical scale one builds intervals and chords, and from these builds the phrases which form the basis of practically all harmonic writing.

Then again, in a language one studies the masterpieces of the great classic writers and thereby acquires an appreciation of and a taste for the purest and noblest forms of thought expression. Furthermore, it is not enough merely to read such things. One needs the guiding hand of an inspiring teacher who can reveal the beauty of these masterpieces through analysis of their content and a more minute study of the technic of thought expression. So, in the study of harmony, one may be said to enter the laboratory of the great composer, become acquainted with the medium in which he works, observe how he builds his rhythms, his melodies, his chords; see, eventually, how he combines all these in his phrases and periods, and fashions, at last, complete works of enduring beauty.

Those who bring to this subject a musical ear, a fine enthusiasm for earnest work in this field, and the courage and faithfulness necessary to succeed in any worthy endeavor, may confidently expect to reap a rich reward from their study of this beautiful tone-language, the language of music — Harmony.

Preliminary Sound may be considered under two general divisions: **Definitions**¹ *Tone* and *Noise*. *Tone* is a sound which has definite pitch; *Noise*, a sound which has no definite pitch.

A *Tone* is produced by a body (for example, a violin string, a reed, or a column of air) vibrating *regularly* more than sixteen times in a second. Middle C on the piano is produced by 261 vibrations per second. This is International Pitch. Band instruments are often made at a so-called concert pitch, which makes Middle C nearly a half-step higher than International.

A *Note* is a character which expresses relative duration. When placed on a staff it indicates that a certain tone is to be sounded for a certain relative length of time.

The *Staff* consists of a number of parallel lines, usually five, with the spaces belonging to them. Each line or space is called a *degree*.

A *Clef* is a character which causes the degree of the staff with which it is associated to indicate a definite pitch. By inference the pitch of the other lines and spaces is shown.

The *G clef* locates the first G above Middle C on the second line of the staff; the *F clef*, the first F below Middle C on the fourth line. The *C clef*, used in ancient vocal scores and for some orchestral instruments, locates Middle C on any degree on which it is placed. These clefs are in fact corruptions of the letters G, F, and C which were formerly used just as we now use the clefs.

The *Signature* is the sign of the key; i. e., the sharps or flats (or their absence) at the beginning of the staff.

A *Key* is a family of tones bearing a definite and close relation to one principal tone called the keynote (key-tone).

¹ For study, or for reference only, at the discretion of the teacher. Much will depend upon the previous preparation of the pupils.

The *Keynote* is that tone of a key from which all the others are determined and which makes the best point of closing.

A *Half-step* is the distance from any tone to the next available tone either above or below; e. g., on the piano, C to B, C to C#. (In our notation we have no means of indicating distances smaller than the half-step.)

Half-steps are of two kinds; *chromatic* and *diatonic*.

A *Chromatic Half-step* is one whose pitches are indicated on the same degree of the staff; e. g., C-C#, or C-Cb.

A *Diatonic Half-step* is one whose pitches are indicated on adjacent degrees of the staff; e. g., C-B, or C-Db.

A *Whole-step* consists of two half-steps. It is indicated on adjacent degrees of the staff; e. g., C-D.

Enharmonic means the same pitch differently notated. For example, the enharmonic equivalent of F# is Gb.

A *Sharp* (#) causes the degree of the staff on which it is placed or with which it is associated, as in a key-signature, to indicate a pitch a half-step higher than the degree would without it.

A *Flat* (b) causes the degree of the staff on which it is placed or with which it is associated, as in a key-signature, to indicate a pitch a half-step lower than the degree would without it.

A *Double Sharp* (x) indicates elevation a whole-step, and a *Double Flat* (bb), depression a whole-step from the unaltered degree, whether or not previously sharped or flatted.

A *Natural* (h) used on any degree cancels the effect of all sharps or flats that have been used on it.

A *Scale* is an ascending or descending series of tones arranged according to some definite plan. Of the many scale forms that have been used at various times and in different countries, but two have any direct bearing on our present study; viz., the *Diatonic* and the *Chromatic*.

A *Chromatic Scale* progresses always by half-steps and contains thirteen tones in the octave.

A *Diatonic Scale* is one which progresses (generally) by steps and half-steps, always in alphabetical order, with eight tones in the octave.

There are two classes of diatonic scales; viz., *Major* and *Minor*.

A *Consonance* is a combination of tones sounding together which requires no further progression; e. g., C-E.

A *Dissonance* is a combination of tones sounding together which gives a sense of unrest, demanding resolution or progression to a consonance; e. g., B-F.

LESSON 2

Major Scales In order to build and use chords intelligently we must know the scales from which they are derived. We need first to acquire the ability to think, spell, play, and write readily the *major scales*.

The white keys on the piano, from C to C, represent a typical *Major Scale*. Listen to it and observe its pattern. See how it progresses in *alphabetical order*, and note the exact position of the whole and half-steps (the dash indicates whole-steps, and the slur, half-steps):

1—2—3—4—5—6—7—8. The chief characteristic of a major scale is the *Major Third* (two whole-steps) from 1 to 3.

Form a major scale by applying this pattern beginning on G; also on D, then on A. Observe the necessity of using certain black keys. Visualize this pattern and trace it on the surface of the keys in any octave.

We may also build a chord on each tone of the scale, using 1—3—5 for the first chord, 2—4—6 for the second, and so on. This may be called playing a scale of chords.

A Chord A chord is a group of tones (three or more) sounded together and bearing a harmonic relation to each other. The simplest chord is the *Triad* (tri=3).

A Triad A triad consists of a root (fundamental) with the third and the fifth above it. Play a scale of triads in C, in G, in D, in A. Visualize each of these scale-pictures carefully.

Position A triad does not lose its identity when its root or its third is at the top. These are simply different positions of the chord. Arrange now a scale of triads in C with the root of each at the top. Do the same with the scales of G, D, and A.

Next play each of these chord scales with the third of

each triad at the top. Do all you can to fix these in your memory through the eye, the ear, and the fingers.

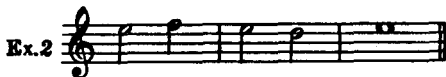
Primary Triads Now return again to the white keys and the scale of triads in C major. Compare the sound of these triads and you will agree that there are three kinds. The chords on I, IV, and V (marked with large numerals) form the most important group. See Ex. 1. These three are called the *Primary Triads*. The ii, iii, and vi belong to a second group, while vii^o is different from all the others:—



For many lessons our work with chords will be confined to the use of the primary triads, and when we can use them well we shall have made substantial progress in harmony study.

**Harmonizing
a Melody**

Let us see what we can do with the primary triads by putting one of them under each tone in the following melody:—



	I	C-E-G
Our Vocabulary	IV	F-A-C
	V	G-B-D

The E belongs to which triad?	I.
" F	IV.
" D	V.

You will then play: I-IV-I-V-I. These will lie in the right hand and are easily reached, for they are within the octave.

What will improve the sound of this? The addition of a bass, or foundation. Like the foundation of a house, the root — or foundation — of each of these chords must be strong. So we will put the root of each triad in the bass also. A chord is in *Root Position* when its root is in the bass. The root now appears both in the bass and in one of the upper parts¹. This is *doubling the root*. In four-part writing, if the root of these chords is in the bass it is almost always in one other part also.

Now play Ex. 2 harmonized. Sing each part in turn. Play three parts and sing the fourth one. Do this with each part in turn. Can you write it? Two or three may work together at the board in a group if desired. Test each exercise at the piano. Let it be a matter of ear and fingers quite as much as of writing.

EAR-TRAINING

Listen to our completed model and name the chord numbers by ear. When the order of the chords is changed, can you tell the difference between IV and V? (The teacher will play I-V-I-IV-I part of the time.)

ASSIGNMENT

Keyboard Work: Play the major scales of C, G, D, A. Play the scale of triads in each of these four keys, and in each of the three positions, i. e., with the root, third, and fifth in turn at the top.
Harmonize Ex. 2 once more.

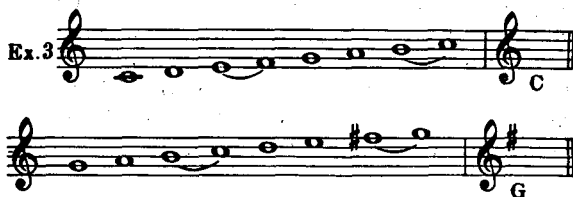
Written Work: Write the major scales of C, G, D, A. Harmonize Ex. 2 in four parts and number the chords with the proper Roman numerals.

Oral Recitation: Recite the four scales we have studied, with their signatures. What is the fifth degree in the scale of C? The third in G? The fourth in D, etc.? A is 2 in what scale? D is 6 where, etc.?

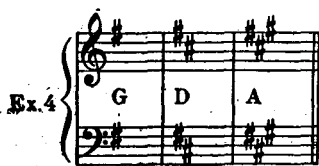
¹ The illustration of this harmonization, *purposely omitted here*, may be seen, if needed, in Ex. 5 (a).

Bring your written work copied neatly in ink in a suitable blank book. In these first lessons write the chord for the right hand with one stem, and the bass alone on the bass staff. Place each sharp exactly on its line or in its space. For preliminary practice in pencil you should have a music pad and a good eraser.

In writing the scales follow a model—like the following—where you use the sharp as needed in the scale, and after the scale write the signature and the key letter. A capital letter is used to indicate a major key:—



In writing the signature arrange the sharps in the order of their first appearance, f#, c#, g#. Their particular grouping on the staff has been established by custom as follows:—



ADDITIONAL EXERCISES

(EAR-TRAINING)

Harmonic: (For meaning of 8, 5, 3, see footnote 2, page 43.)

1^8 IV I	1^8 IV I	1^5 1^3 V I
1^5 IV I	1^5 IV I	1^8 V V^5 I
1^3 V I	1^3 V I	1^5 IV IV^5 I
1^5 V I	1^5 V V^3	V^5 V^3 I IV I
1^8 V I	1^8 V I	IV I V I
1^3 IV I	1^3 IV IV^3 I	1^8 IV IV^3 I

LESSON 3

Apply the major scale pattern beginning on E, on B, on F#, and on C#. Test each scale by the ear as well as by the eye. Observe that the new sharp occurs each time on *seven* of the scale. These successive sharps are a fifth apart; therefore the successive keynotes must be a fifth apart. From this may be derived the following rule:

To Find the Keys In Sharps **The fifth degree of any diatonic scale is the keynote of the following scale in sharps (i. e., with one more sharp).**

As you play each scale, trace the pattern carefully on the keys and acquire a visual memory of it. Spell each scale as you play it. Be sure to use the word *sharp* where needed. Do not say *d, e, f* when you mean *d, e, f#*.

Play the scale of triads in E, B, F#, and C#. Arrange them also as in Lesson 2, with the root at the top, then with the third at the top.

Now play the three *primary triads* of C major, and then those of G, D, A, E, B, F#, and C#. See how quickly and accurately you can do this.

Your written work for today contained Ex. 2 harmonized and figured, as in Ex. 5 (a):—

Ex. 5

C: I IV I V I

Selection of Triads Let us put primary triads under (b). The note C belongs to both I and IV, but the first and last chords would better be I. There is still a chance to choose the triads for the other C's. Try each way. We could play I-I-IV-V-I, or I-I-I-V-I,