

LIVINGSTON COLLEGE  
Department of Music  
New Brunswick, New Jersey 08903

Nov. 27, 1973

Dear Pauline, and Lynn!

Since your wonderful visit last year we've gotten a few "meditations"- yours and similar type things, into our work. I'd like you to see the material I've gotten together for the basis of a theory program. It's still quite rough (eternal revision!) but I think that the essential of what I wanted to do is in there: To start the learning process with new as well as old, with reference to various cultures, and to integrate theory and practice. I'd be most interested in your comments.

Hoping to hear from you,

yours,

Philip Corner



the program . . . . . planned specifically

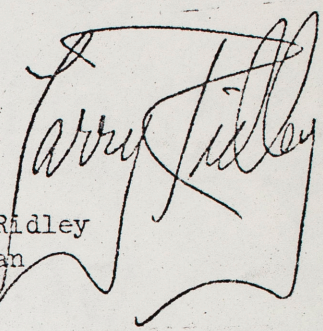
In a school which shares this premise : That the full gamut of potentialities is ideal.

With a music department which agrees ---- in principal and in action ----- that paper-works and real-doing must be brought together.

At Livingston College in the Fall of 1972/

from a letter from the  
chairman

I am looking forward to working with all of you this coming year in our continuing quest of developing an innovative, multi-ethnic, "like it really is",factual curricula dealing with the music of the World.

  
Larry Ridley  
Chairman

Thus, a first year's class, to start out from and be rooted in "the elements"

This shall be a foundation for whatever works & studies may follow.

For the second year (and then even further  
What is properly "theory"  
is added to the ongoing practices.

( in my terminology: )

ELEMENT-AL MUSIC CRAFT

/ANALYSIS/SYNTHESIS

scales, keynotes, intervals

Tonal organization  
Harmonic progressions  
Contrapuntal devices

Beats and Meter

motives -- of Melody, Rhythm

Time  
Unity  
the comprehending of Form

Here, with a minimum of verbalization, the ear is trained, and memory. With singing and instrument playing, live music is re-created and improvised. Then the tool of literacy is acquired.

Required "textbook": A melody instrument and a drum. And access to a keyboard.

Those skills are now to be built on ---a way to deeper insights. (Presented as speech--writing--design about the facts of music. And as arrangements and compositions to be used for performances.

something of Expression--which, if not determinable, may be at least taken in consideration.(Felt).

and (resolve this foundation-question) the very value of intellectualization in a "phenomenon of sensibility".



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Let creative uses always pre-cede the rules!

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Though these basic materials have been often taught as "theory", I ask for an end to this, for these are things and not at all "theoretical". Indeed they are the very stuff of real music---until presented as mental abstractions.

Of course the comprehensive principles will be mentioned as appropriate, when they come up from techniques sufficiently accumulated. These techniques become integrated through ideas, which then help to build further levels of technique.

The goal at this stage (seeing that all the higher accomplishments return to here) is to acquire from music a rich and intimate experience in its actual making.

Recognize how prone is the mind, searching for knowledge, to generalize on the basis of small experience. And how rigid ideas strive to impose limits; how a culture which tends to separate efficiency from its source in understanding has had its institutions of education share such problems. Believing these to be dangerous errors, I'll state (almost as a moral law) that the rational faculties are not to be engaged except when source experiences have been fully lived. In music this means that "principles" come only after a piece has been, in detail, "grasped" (for it is the body which is the only instrument which can serve the mind in this), and that Pure Thought has the purpose of feeding-back to MUSIC, adding to its (and ours) livingness with more Perform-ability and more, Appreciative Distinctions. Far from being at all anti-intellectual, this represents the finest functioning of intelligence.

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("I" am Philip Corner. These courses are a result of a painstaking formulation, in various situations over several years. There is an application to the professional training of musicians as well as general questions of education. Also working with the first class are Brian Dallow and Martha Curti.

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These two courses function together, and for the other offerings, by their inclusion of materials from global sources.



Not value - judgements which have for intent the annihilation of the worth of particular backgrounds.  
Not for standardization in the mannerisms of a bygone age.

(therefore) For Each Individual :

(I)  
The skills needed for tasks  
his own interest will choose.

(II)  
Consciousness of and Responsiveness  
to the UNITY within humankind's  
cultural expressivities....common  
factors in past and possible arts.

Pre-requisite for Involvements towards mastery ----- Co-requisite with in the special culture-forms represented in the persons of various accomplished musicians, as teachers. / The school does more than simply rectify the usual deficiency of opportunity..... more than just an addition of studies in "classics" and "folks" and "ethnics" and whatever, for people who will stay in their own areas.....rather, a system to favor cross-communication and interpenetration.  
Music-making among the whole community.  
Play-together opportunity.  
Heritage-experiencing sessions.  
Study-classes.  
Inventive synthesizing; growth of new means.  
An academy which does not have to be rebelled against.

Actual subject-matter in the two described courses,  
the tunes and rhythms for ear-training and the pieces for analyzing,  
shall be contributions from all the musicians in the program.

That this might be believed: That it is not only an ability but a desire-ability to expand powers of both perception and taste. Furthermore, that that increase requires no rejections. Each individual's starting point is a limited but unique locus in time and geography, and in a process of shared and generous efforts all become contributors in the flowing community of responses.



let's start with a song!

a thing that's real, <sup>"i like it"</sup> before theories — always

using the body

voice

"just because i want to"

so, living the value of music making.

Mantra, Round, Hymn

FOUNDATION OF MY FAITH  
EQUALS WORKING ASSUMPTIONS

Take the range of humankind's culture as our music!

Since so many people are playing so much of their music  
— and we're getting to know them, meeting in increased contacts,  
— they're in friendliness inviting us to join in.  
— and we reciprocate. I'm happy over that.

Since we find ourselves now in a time/place which is but a  
small and temporary part of the pool of possibilities. All of  
our sounds come from there. The limits of the few forms  
which are happening around . . . . are not enough.



Since all the creations — not just music either — which have ever been expressed, do represent here-once-only — never-again-replaceable entities . . . . . their preciousness is to be recognized, their destruction regretted, their endurance in life favored.

Since all the familiar styles: "popular" or "classical" or "folk" or "avant-garde" or "jazz" or "soul" or whatever are full of past things, the dependence of what we do now on a sense of that past is clear. Just as we may be assured that the current achievements have substance for preservation.

Since the tendency to value only one way (one's own!) causes the petrification of tradition in restraint of the new, and at the same time a quick turnover of novelties, and that destruction of and violent imposition of cultures in the wake of political power has been the consequence . . . our need in the present moment is to change such smallness of spirit.

Since the unquestioned validity of any single tradition has come to an end. And history is making available for the first time an opportunity to form human consciousness globally.

And since ignorance of and therefore rejection of the many contemporary modes contributes to strife and the perpetuation of self-delusion. And since the guaranteed forms of success do not exist anyway — complacent standards can be predicted to be swept away, as what finds acceptance changes continually; the effects of that are disturbing to professional careers.

Accept that the preparing of a musician in only a given stylistic manner will likely not sustain him for a full life time's work.



Therefore; an education should discover, value, and build on the common aspects of human achievement.

The disciplines of technique may be grounded in principles more universal than we've happened to be born into.

The same with powers of creative imaginations.

Every musician's share includes multiple cultural input.

All — or most! — modern expressions must come into play; the value of them (lasting or otherwise) to be searched into rather than glibly assumed.

There is a place for the words — though not in place of the musicmaking. Inspire; to clarify and communicate. To help bear learning and to favor growing appreciations.....  
..... and always with performance-practice.

Love to play

Love to listen

being able to.

i  
would  
have  
each  
class  
start  
this  
way.

and then, rhythmic, with  
hands & feet.



## ORGANIZING THE MUSIC\*CRAFT CLASS

Recommend long sessions, at least two hours each. Several times a week; actually as much as possible.

Students meet together as groups, at set times. (Possibly with teaching assistants present.) Commitment to a good number of practice hours.

Give out the folios. These contain the information base of this work in as succinct a form as possible.

They are not intended to be textbooks, although they might replace textbook-need. They refer to a collection of "Topics" kept in the library, where the headings, of subjects and definitions needed, contain reference to available writings. They invite a spirit of research and creative exploring; the possibilities are listed so as to indicate the variety of forms which may arise from fundamental principles.

The topics should be added to, expressing differences of viewpoint and further discovery, by involved teachers and students both.

The folios correspond to to the three areas into which music study has divided, Melody, Rhythm, Chording. This is a convenience applying to both the list of "Basic Skills" and to the procedure followed in class sessions. There is in addition a prep folio for Notation. And supplemental opening up of what might be called Nature & Ideas. This would include Numbers (Acoustics & Serial Thought) Counterpoint, and Expression, and Noise.

The several entrances to the music field lead out in parallel, forming inter-connections as they progress together. The student may (is invited to) pursue fascinating tangents, as they make suggestion. The degree of involvement, the speed at which one moves, is the individual's concern, for which this structure is intended as guide and stimulation.

A check-list of the basic skills is given from the first.

From this is known what are regarded as the minimum accomplishments.

The exact form and degree of these skills, applied to actual music, is not subject to an absolute determination.\* What that has been decided as by a given school situation, should be also made known at the start of the course; and this final exam should be open to anyone who attains it, at whatever time he/she has succeeded in reaching that.

(Our assessment, in this first year, is included.)

(There is also the test applied at the midyear, with necessarily different criteria.)

(Some experimentation with the form of examinations: so that levels attained and to-be-attained can be made clear without arbitrary measurements and competitiveness; and so the different needs of the non-specialist amateur and high standards for music majors could both be met.)

\* see the opening pages, "program for theory", page 3.

Note that not all the activities of the class is tested (or testable). It is permitted that things are explored because of their interest, as introductions to new ideas, not necessarily in graded sequence or conforming to a subject unit. It is not without value to struggle at times with projects which are a bit "too difficult".



ELEMENT-AL MUSIC CRAFT: EACH CLASS

MELODY

Hear a tune, sing it back. If a round, do in parts. If hymn tune or mantra, etc., improvise other voice parts. (Drones, counterpoint, etc.)

Put rhythmic accomp. to it, feeling the basic meter.

Play the tunes & accompaniments on insts. (by ear). Then notate.

Make up melodies

1. Short ground bass. Harmonies & counterpoints built on it.

2. Free improvisations

- x a) on a motive
- b) on a mode
- c) on chord progression

(1 solo at a time; others accompany as appropriate)

Write down something of what was just improvised. Conversely, imagine the music first & write it as a composition. Then play/sing what others have written.

Study systematic sequential patterns & solfege syllables. Use repertoire of contrapuntal devices. Recognize them in printed music.

Compose & interpret graphic scores. Use all 12 tones.

RHYTHM

Totally free group improvisation, leading to playing around a steady pulse.

Make up repeated pattern that will make people move. Let others add appropriate parts.

Become aware of metric organization by counting the beats.

Notate specific rhythmic motives

- a) first, ones that have been improvised
- b) pre-conceived patterns to be played back by others.

Add melodies.

Make up games; leader-response, canons, etc.

Conduct the group.

Invent interesting number patterns to be turned into rhythmic permutations, polyrhythms, etc.

CHORDING

Playing around the notes of any chord (sing too).

Write out all kinds of chords; learn to hear them. This must include perfect knowledge of intervals.

Take known melody, & either

- a) make up harmonization
- b) teach the accepted one.

← Improvise on chord changes (see Melody). With this, make up bass lines, counter-melodies, inner parts, etc.

Use more difficult progressions as basis for extended improvisation or written creation.

Reduce chords in standard notation to their correct abbreviations.

Realize figured basses.

Transpose all the above to all 12 tones.

Make up aggregates of unusual intervals. Play with tone clusters & relate them to rhythm.

DO EVERYTHING BY EAR, VOICES INSTRUMENTS, NOTATION, CREATIVITY.



A FIRST CLASS (specific realization of the general plan)

FOLLOW-UPS

The melody to be sung is

"All Is Loneliness" by Moondog.  
get pitches by ear, well in tune.  
count the beats, where necessary.

On paper, sketch the melodic curve.

Sing together in parts;  
Add light rhythmic accompaniment.

Quickly, another round, lively and very simple---should be only 2 hearings. Perform lustily. Beat rhythms to go with it, then moving into improvisation on the basic metric patterns. Rationalize these; invent a notation.

Solve this problem directly: make up a short, repetitive rhythm pattern, to which others move physically, adding touches of percussion to it.

Use a single major chord as the basis of freely invented singing and playing. Have pitches set down on the blackboard as they appear in different registers.

Construct, by calculation and on paper, a twelve-tone row.  
If there is time, develop number-permutation systems; apply them to time schema.

+++++\*\*\*\*\*  
Give out the elementary folio READING NOTES. This is to be assimilated individually. Start right in on the composite performance of Cage's "Music for Piano 3-84", one page prepared by each student.

\*\*\*Note that each of the folios ends with a self-guiding test. These indicate basic levels which have been set in consultation with the teachers of the more specialized, advanced courses; the consideration is what knowledge/skills would be necessary for participation. \*\*\*\*\*

POSSESSIONS: music, and graph, paper; writing tools.

- .a simple melody instrument (ex: RECORDER) possibly excepting players of other wind instrs. or bowed strings.(recommended anyway)
- .a hand drum(example: bongos. Also tambourines, finger-cymbals, etc. (Possible exception of percussionists, who should have these anyway.

Required is enough familiarity with the keyboard to use it as a tool; most likely the piano. Some of the harmonic uses might be realized on the guitar and such

\*\*\*\*\*Give copies of the "Checklist for Competence".....as a concise guide to intended achievements. Students may set themselves to finish this as quickly as they can, then going on to further development of their special interests.

Tunes to be memorized by listening; One-a-day. Use recordings of differing styles.

A folio: MELODY will be available in the library, to suggest directions. (Look forward to each student leading the class).

There will be also an indication of systematic solfeggio exercises, increasingly complex patterns in the various mode/scale forms. These should be practiced, both by singing with syllables and on an instrument.

Until this is sufficiently mastered, supplement the direct ear-learnings with "picking out" melodies from print.

Make up more of such rhythm patterns. First feel them spontaneously as infectious, danceable. Then write them down--for communication and retention. In the folio RHYTHM recordings to use as models, and written transcriptions. Also a structured exploration of metric and motivic possibilities.

The folio CHORDING: All types of harmonic aggregates (and of course, their interval components). How they serve tonal organization. How they relate to counterpoint and variations.

another folio: SERIAL THOUGHT. Start with Webern's idea: a piece with each note once. Prepare this.



The basic skills for ELEMENT--AL MUSIC CRAFT

A check list : knowledge in the practice of theory.

..... for convenience divided into three main areas (which certainly interpenetrate in reality.)

Everything rests on the sensitivity of our ears.

Each of these activities is an involvement in singing and playing of instruments and notation and creative ideas.

KNOW	BE ABLE TO
M the names of the notes, and E where they are located on the key- L board and on the staff.	find them fluently, and match any pitch by singing it.
O what are the various intervals.  Y the meaning of tonality; how scale- structures are based on the distance between tones. types of mode created in different cultures. how a melody makes a shape in space. how that may be represented on paper.	find the right notes from any note; recognize them by hearing.  find the tonality of a melody: recognize the scale-type, and locate the key tone. transpose them.  memorize a melody heard. sing it back. invent new ones in your head. write them down by ear.
R what is tempo; how measured. H the use of time-signatures to show Y the meter, the place of bar-lines. T the symbols for different lengths. H possibilities of changing meter, M and polyrhythmic textures.	keep a steady beat. play on percussion. control a rhythmic motive, repeating it--- varying it. improvise freely within a given meter. lead a group; use conductor's gestures.
C components of the kinds of chords: H (triads; 7,9,etc; other aggregates.) O what is the idea behind inversions. R the way chord-types are labled. D how a figured bass is to be realized.	play them; change positions; connect them recognize them in a written score. find the roots. write guitar chords; arrange from them. write upper parts from given figures
I N G	



skill levels for the end of Elemental Music Crafts:

- SONG** Teach it to the class and lead them in the singing of it. Then accompany on the piano, adding chords and a bass line. To be learned from the printed page; a folk song or a hymn.
- RHYTHM** On a given time-signature (a complex one, with irregular subdivisions) Write about 5 measures of different patterns, play them, and improvise a few more.
- SCALES** One of the more exotic modes will be given (in C). Indicate the interval structure of it, and then vocalize in that mode with correct naming of scale degrees. Include as part of it a short prepared melody.
- DANCE** From a recorded drum line, hear and write down the basic rhythmic pattern, with a time-signature. Use either Rock or Jazz or some Ethnic sources.
- MELODY** By ear, write down the line, and translate it into scale numbers. Indicate the mode (will be major/minor). Then transpose to an assigned key; put down the right key-signature. Then learn to play it on the recorder.
- HARMONIZE** Given, in writing, a tune (from jazz or popular style) with its "changes" given as Roman numerals. The melody is to be transposed to another key, and the chords identified. To this is added a moving bass line which supports the chord progression. At least this should be able to be played, on any instrument.
- CHORDS** From a piano (or guitar, lute, etc.) piece which features broken-chord patterns, those chords are to be named. Play a reduced version of them.
- CHORALE** The soprano and bass lines will be given. From indicated figures, add an alto and a tenor part which have some rhythmic interest and some melodic interest of their own. Do this in your head. Sing the parts to the class, and then conduct the 4 parts.

All the knowledge is thus presented in the form of live performances. As appropriate, books and recordings will be placed in the library. The realizations will be done, for the most part, during regular class times. The various topics may be prepared by the students on their own throughout the course of the term; and exams on them may be taken on request—all aspects of the work can be repeatedly tested, for improvement, up to the last day.







At the time of going on to the 2nd semester, give out the list of what will be asked at the end. (Which will be a specific formulation of the general "skills checklist", given at the very beginning as the direction of intended musicianship.)  
This page will be used at the halfway (first semester) point.

- A - a written test on the intellectual aspects, taken as a group.
- B - A performance demonstration, with the whole class and (or) individually.
- C - Prepared notations of music, some listened-to and some composed, worked out beforehand and submitted.
- D - Dictation, ability to hear; part in class and a part by individual session.

The details of which are to be:

- A/
  1. Transpose one of the modes and one of the "chords".
  2. Fill in the pitches which make up a named chord. To be included are: Augmented, Diminished, ~~4th~~, ~~and 9th~~-chords.
  3. Name the Major and the Minor key which go with a given key signature.
  4. Put in the bar-lines and show the meter by a time-signature, of a one-measure rhythmic pattern which will be written three times, the last slightly varied.
  5. Write a given 12-tone row 4 times, each with the pitches in a completely different register.
  
- B/
  1. Sing a melody from memory, and direct it.
  2. Play a melody fluently on the piano.
  3. Play the recorder from a written part.
  4. Play and write accurately a rhythm.
  5. Play a scale - Major and Minor
  6. Arpeggiated (Maj. & Min.) in various positions
  
- C/
  1. Given the chords by number, write their roots as a bass-line and name them, in two keys.
  2. Over a figured bass, realize the interval structure by three voices in smooth voice-leading.
  3. Write out four tunes which were learned by ear: a current "pop"; an American, folk or jazz; from the "classical" tradition; from another culture.
  
- D/
  1. Write, upon hearing, some short rhythm units.
  2. Translate into scale-degree numbers a few fragments of melody.
  3. Take down individual intervals: 2nds (Maj. & Min.) melodically; 5ths harmonically; 3rds both melodically and harmonically.



- Criteria: A "Almost perfect" IF NOT: Do not go on to next semester.
- B "Some imperfection allowed" Carry Incomplete into 2nd " .  
or Take the credit; do not continue.
- C "Finish, even if not well." ..... Diagnose need for improvement by the end of the year.
- D Accept even if poor, assuming serious effort. ---Understanding that it is to be ultimately achieved, as part of the course's work.

On the next pages The standards spelled out, with an indication of the next-level course for which each is pre-requisite.

Here a note, to the effect that nothing here is at all spectacular from the point of view of becoming a musician and that any interestedly involved person will on his own do much more and that perhaps by college age it is even a little late to be just starting on this and that even with a great talent and with skill in one or a few aspects of this musicianship, these levels in all the areas are the least a musician could be asked for and that given a normal intelligence and sensitivity this is all within the reach of anyone who applies himself throughout the year.

Question? Whether it would be possible or desirable to arrange for two grades; a "Pass" giving credit to the general students who undertake this out of love, and the "Honors" demanded of the ones who are going on to the farther studies.



Self - Study - Guide ( Element-al Music Craft )

DAILY (some routines. Check them against class progress and final accomplishment levels )

- / / Listen to a melody; sing it; memorize it. one, at least  
--see "MELODY" notes, P. 1
- / / Try to write down a melody--no help from instruments. one, at least  
--see "MELODY" notes, P. 1
- / / Write correctly all notes of a melody. Use the piano to check. Find the same starting pitch that you sing. one, at least  
--see "MELODY" notes, P. 1
- / / Work at playing well a written melody on the keyboard, and on the recorder (or other instrument) one of each  
--see "MELODY" notes, P. 1
- / / Transpose a melody to another key. one, at least  
--see "MELODY" notes, P. 1 & 6
- / / Study key signatures, memorizing sharps and flats all  
--see "MELODY" notes, P. 5 & 6
- / / Work on recorder fingerings. Play scales. some  
--see "MELODY" notes, P. 2 & 5 & 6.
- / / Study the intervals; write and play them from every note. a lot  
--see "CHORDING" notes, P. 3
- / / Sing through the systematic sequence of all the intervals. once  
--see "MELODY" notes, P. 3
- / / Pick a particular interval and work at perfecting it: sing it immediately from any given tone. a new one  
--see "MELODY" P.3 & "CHORDING" P.3
- / / To recognize intervals by ear, play them for a friend. Have that reciprocated. as often as you can
- / / Sing the exercise of whole and half steps around a tone. from several  
--see "MELODY" notes, P. 3
- / / Invent spontaneously a repeating rhythm. Commit it to memory. Try to notate it. at least one  
--see "RHYTHM" notes, P.1 - 4
- / / Choose a time signature. Make up patterns in that meter, and play what you have written. at least two  
--see "RHYTHM" notes, P. 2 - 4
- / / Memorize the notes of a triad. Play them in different positions on the keyboard -- with both hands. Practice for smooth connection; and increase of speed. one; later at least two chords changing  
--see "CHORDING" notes, P. 1 - 4
- / / Find a noise. Imitate and describe it.   
--see "NOISES & NATURE"
- / / Review things from yesterday.



READING NOTES

A detailing of the matter relating to item #1 of the "skills checklist", as part of the course : Element-al Music Craft; prepared by Brian Dallow & Philip Corner .

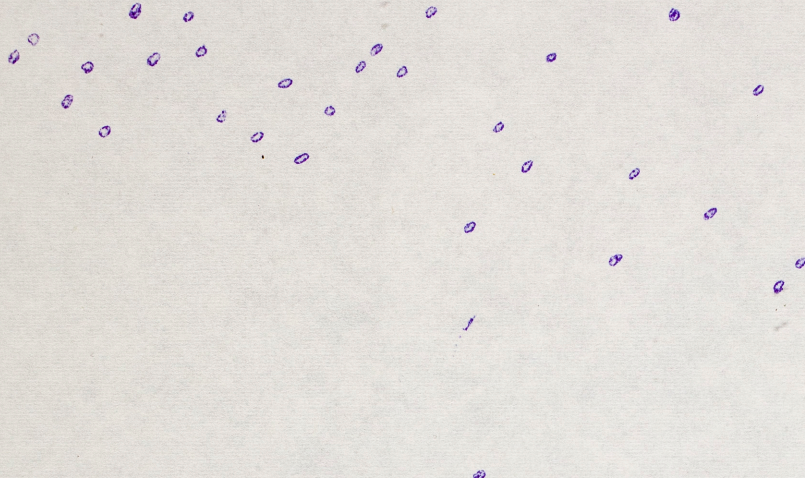


# READING NOTES

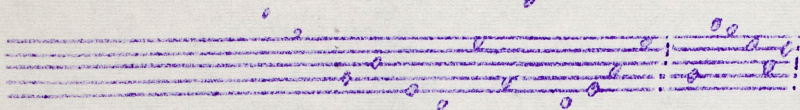
A piece of paper is useful for bringing perception of musical sounds from the ear to the eye. This it shares with speech.

The movement (read left to right) along the horizon line will be called the dimension of time. (This has been the norm for notation in the West.) The vertical dimension then represents a kind of space, "musical space", which shares some properties with physical space.

If each note/pitch/tone is represented by a dot -- and that has been so (a "point" which is in Latin punctus --- will come up again in referring to "counterpoint.")



If these note-points are scattered over a white page, then it would be kind of difficult to see their exact relationships. In order to better measure distances, a system of horizontal lines was devised. Through history it grew to the present standard form: 5 parallel lines, named a "staff". (2 staves)



Now if we throw the notes around on them, they are easy to read. See!

Naturally, such an arrangement of lines could serve to mark time, by being turned vertically. As such, they are in fact in use (the space of the time between them is called a "measure") though as a rule they are not written in until notes have been put in. They have a place in reference to "time-signatures" when rhythm is to be taken up.

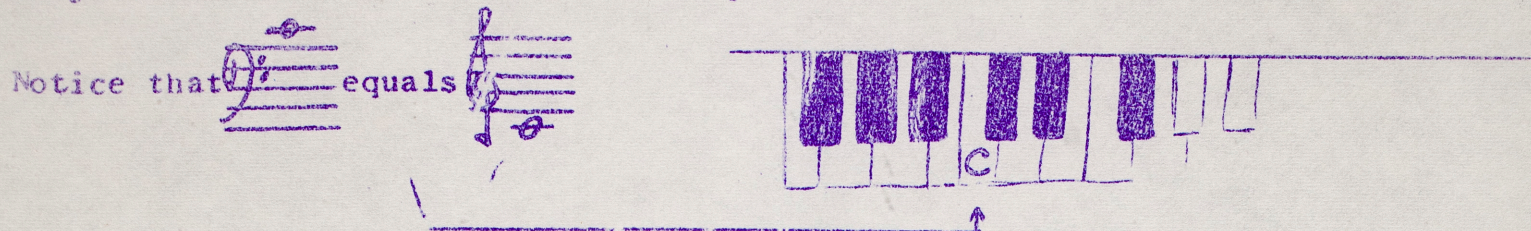
This section is about learning to read notes. Refer to its development, present state, etc. under: NOTATIONS. Look up, also, the word "Staff" for the music-use checked against its general meaning.

## Location Of Single Pitches

(Alphabet ends at G)



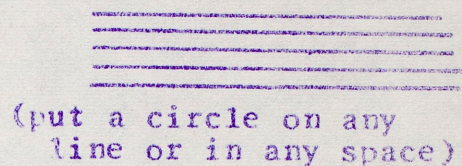
Now, find them on a keyboard. And visualize (mentally) that keyboard in conjunction with each note's written place.



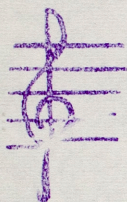
But there is something we haven't explained.

Question: What note is this?

Answer: None at all.

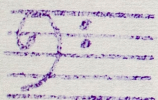


Because the staff by itself is a bit of an abstraction, showing only the possibility of relationships. In order to fix any real pitch there, there is needed.....a clef. (This word has its secret meaning, so look further into it.)



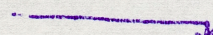
Treble Clef. (for high notes)

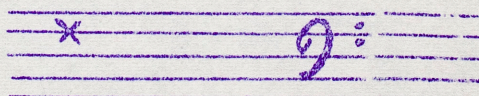
also called "G" clef, for the reason that G is the note which is fixed by it.



Bass Clef (for low notes)

.....look up "Bass/Base"

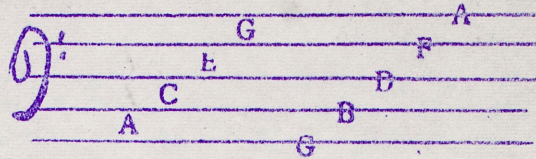
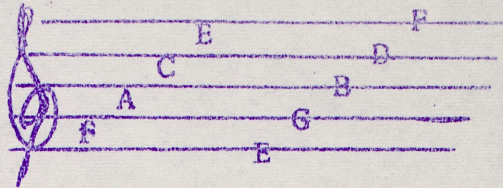
also called "F" Clef, fixing F here 



note the line which passes through the two dots.



memorize:



Letter names of notes are white only, always. (Thinking this way will save a lot of trouble later, concerning Intervals. The black notes will come up soon.)

Concerning intervals, notice that the G which is fixed by the G-clef is the one above middle C, a fifth above. And the F which is fixed by the F clef is the one a fifth below.

Since middle C is so important, how come it's not fixed by any clef? Actually, it is.

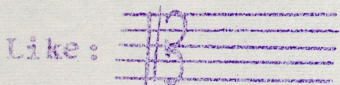
And it's not the middle of the keyboard! (Why not find out once and for all just where that center of the piano (You should sit there.) is?)

The C clef looks like:



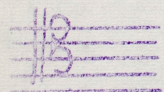
Note where the "cheeks" are.

Whatever line goes through there is where middle C is.



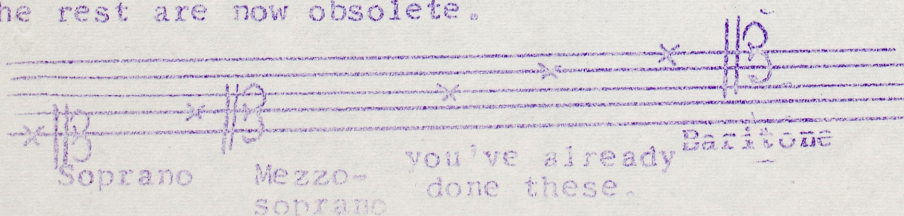
Like: which is the "Alto" clef. So called because it corres-

ponds to the range of the alto voice and is in current use for the Viola (called Alto in French). It may sometimes be found in chorus parts of older music, and the 1st Trombone in 19 Century orchestra music.



Here it is the "Tenor" clef. This was used for the 2nd Trombone, and is still in use by cellos and bassoons.

Theoretically the clef could be placed on any line. This was actually done, but the rest are now obsolete.



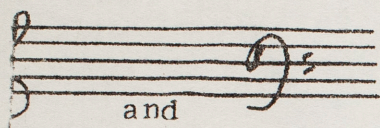
you've already done these.



key reason for the dropping out of all of these clefs from practical use (mastery of them can even now be useful for transposing) was the growing importance of the keyboard. At the most elementary stage of study one can delve into the processes which have formed the art. Under the topic "Keyboards" some observations and some references may be followed up.

The old clefs were designed to keep the various voice ranges centered on the staff with the two staves joined in the now-familiar way, the imaginary middle C line between them forms a "Great Staff" whereby there is no discontinuity in the notes. It is convenient, though not necessary, for the bottom staff to represent the left hand and the upper one to be taken by the right. (For some nice exceptions, look at the Variations Op.27 by Anton Webern, and numerous fast Sonatas of Scarlatti.

For the record, the other clefs could be transposed too. We've seen somewhere:



A close look will show that these duplicate a couple of the C clefs. Check for the appropriate names.

Just a final word: these clefs are often referred to as "moveable"...C or G or however, there's a danger in thinking of them that way, since the pitches themselves never move. Think rather of a 5-line segment of a "Greater Staff" which expresses all the notes, of which only a limited number are in use at a time

In any rate, with our "modern improvements" everybody knows (and knows about) just two of these clefs.

And the keyboard has become a standard tool.

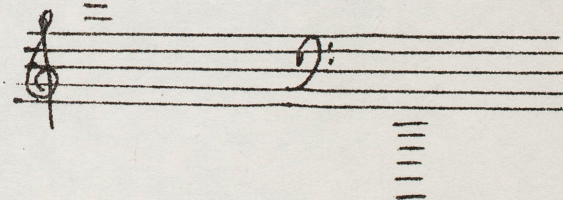
This is a really ingenious way of visualizing the sound spectrum. And an almost no-easy way of making the sounds. You should sing too.

Besides the piano, other instruments may serve the purpose: like organ, harp-chord, marimba, glockenspiel, accordion, etc.

Practice by inventing games: Make up letter sequences and write them down as music. Play them. Jump around the keyboard. Try to go as fast as possible, either the playing or the writing. It should all get to be instantaneous.

Extra notes have proliferated on both ends. They are placed on "leger lines"

and so on

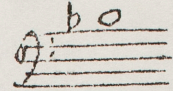


this is as far as it goes.



"black notes" are treated separately. Each has the name of an adjoining white one, with a sign as to whether it is above it, or below. These signs are: sharp, to sharpen # and flat, to flatten b. (I think that the inherent meanings of these words makes quite clear which one is which.) The arrangement of the black keys as we now see them evolved over history; following up the references under "Keyboard" would be of interest here.

For example) "B flat" but write the flat before the B.



It follows that every black note has (in this system) two possible names. On the keyboard, the adjacent white notes may (and there are appropriate circumstances) be each called the other's sharp or flat.

For example E# is F and Fb is E.

There also exist double-sharps and flats. Looking like:

bb

and X

( fancy ✕ )

Working with what you play.

You should not rely only on the mechanism, nor on intellect, but be able to match tones with voice. (Follow up: solfege.)

That aspect of notation which indicates timing has been left for a section where rhythms are played with.

And I'm assuming along with this reading a continuing individual process of music making, learning an instrument and playing it. In a section on "Children's Pieces" there are specific suggestions for material to build keyboard ability from simple written pieces. Also refer to the section "literacy" which, contrary to some ideas on it, is not everything.

Actually, ideal test for sheer ability to read, would be a music which uses all the notes in unsystematic patterns, independent of technical concerns. Such music has been written by some modern composers. A list of these is listed under "advanced note reading". These contain single notes. Music which features specially complex harmonic aggregates (chords) which have interest in themselves may be studied too, even at beginning stages. These are under "Harmonic Aggregates". This is purely deciphering work should lead quickly to attention being given to other musical qualities which come from keyboard touch: dynamics and timbre (color). With rhythmic considerations added, performance becomes a possibility, and there are pieces combining the above techniques which can be learned at a fairly early stage.

Even a thing so simple as this literacy in music should be learned as an exploration, to discover and thus appreciate the uses/values of notation systems, as well as their limitations. Following the recommended references will carry one into history and contemporary processes. A large part of this is just "practicing", living-with over a period of time, and can be done on one's own. Although the material may be found on the first page of many theory books, not to say the inside cover of spiral music-paper notebooks, it should become clear, as this course is followed, why we felt



## CHORDING

Why not just say "harmony", like they usually do?

Because this is about chords --- which may or may not be "harmonious"... whatever that is thought to mean. And, certainly, not all that is in harmony is a chord.

We are talking about music in its vertical dimension; entities which arise from slices of sound when time is stopped; the simultaneous combination of tones, in certain formalized configurations.

As in: a C Major chord. (Everyone will volunteer to start there!)

Let our discipline at this point be based on the normal acceptances.

Play the C Major chord.	Find its notes.	
Play C Major chords.	Name these notes.	(*)

Voice work: sing around the tones of the chord, in all possible combinations. Careful-----be more-than-approximately accurate.

With no accompaniment (anytime). And with sustained tones, on piano or guitar, etc.

Notice that the effect is like bugle calls.

Patterns are to start on any of the 3 tones.	Begin to be able to judge
Use skips too.	just where any tone is in
	the chord.

Do known patterns; and make up new ones.

Write them. Play them, on various instruments.

Find the major chords from every note, both black and white.

(Do it by picking around the keys until the sound is right. Then memorize what the right tones are.)

Write, on two staves, all the notes of a chord (all the chords), from very low to very high.

Play at the keyboard, all kinds of combinations of the tones of a given chord. Any of the notes may and should be put in the bottom, or on top.

Double them in all sorts of ways. Sing along with them.

--Do things that really sound good; try to make real music.

A chord of three tones like this is called a triad.

Because it has three tones. But only in a particular combination, where the notes are a third apart. (This means that there is, or could be, another tone in between, which would be the second note of a scale.)

The structure given by this is that of a 3rd and a 5th above a bottom-most tone, called the root.

\* Surely it need hardly be said that they are C E G. Even if that much had to be said, no more is, for the notes of all other chords can be worked out by ear.



Play different positions of the various chords.  
Practice. Become very quick.

Arrangements of the notes which give different intervals--- though they might be called "chords" ---- cannot be called "triads".

Note that freely moving within the many positions of a chord still gives only three possibilities if one judges from the bottom note.

/ To make this bass tone so significant is in a certain sense arbitrary, but does, in another sense, make sense. Anyway, this is the way many people have thought and do think of these things.

Mentally, set the tones in the closest relation to that bass. Reduce to "essentials" by eliminating the doublings.

Interval structures which may result are, in addition to :

- |       |     |       |        |
|-------|-----|-------|--------|
| o 4th |     |       | o 5th  |
|       |     |       | o 3rd  |
|       |     |       | o Root |
| o 6th | and | o 3rd |        |
| o 3rd |     | o 4th |        |
| o     |     | o 6th |        |

Notice that  $3+3=5$  ?  
The sum of the intervals is, in music, always one more than the numbers add up to. Because one of the tones is held in common.

If these are regarded as forms of a triad, turned inside-out as it were, then they are to be called "inversions".

(Finding the basic position from printed music is a fun game. See "Triads".)

Note: The Bass is always what (whatever!) is on the bottom. Contrast that with the Root, imagined as the base of a triad) which can be anywhere.

The music which really makes use of this theoretical construct is that which names each chord, from which the details are improvised....actual distribution of notes and real bass lines. Such is Jazz, Folk and Popular Songs, wherever the chords are indicated by their guitar abbreviations, as a means of accompanying a melody.

In a style where the expectation of harmony is strong, as a lot of what we hear, the melodies themselves are often so strongly affected by chords that their shape becomes an outline of them. Discovering this is a great help in figuring them out. The most extreme case is that of Bugle Calls, and many of these are collected under that topic. It also includes Fanfare riffs from a variety of sources.

In a collection called "Arpeggios", various patterns, melodic and accompanying, are culled from available sources, most of which will be European Music from about the 15 to 19 Centuries, but will also contain their occurrence in certain folk musics, like American "country", and Blues lines, and Flamenco, Balkan styles, etc.



These will be useful, as material to "throw in", in the group sound-games built on a single chord. I've put these into "C Major Chord".

Many rounds use only the Tonic harmony, as will be heard when sung in parts. These will usually have passing notes in between, though. Even those rounds which are a bit more elaborate will often show a building-up of voices on a triad. These are also collected.

The minor triad sounds noticeably different. So much so that it seems surprising that there should be only ~~one~~ note which is different. Form it by lowering the 3rd by a half-step. Restore various arrangements of tones to root position to do this correctly. Put them in the various inversions, and learn them well. In sound, as well as by intellect.

The half-step is the smallest distance used in the traditional western system, and hence available on instruments tuned in it, like the keyboard. It usually will involve a black-note, but not where there is none between the white ones.

A whole-step is, of course, equal to 2  $\frac{1}{2}$ s. This is invariably between two notes of adjacent letter-name. These are also known as semi- & whole-tones.

The familiar scales, like major and minor, and numerous modes of 7 tones, are built of these two kinds of intervals. (this includes not only the music of the European Middle Ages, but that of other cultures as well, if it is admitted that the tunings are approximate.) The general name for these scale types is "diatonic".

The minor 3rd can be now seen as, which seems most convenient, either the sum of 3 semi-tones, or one less than a Major 3rd. Learn fluently.

Certain mysteries or inconsistencies (depending on point-of-view), such as why there are two forms of the "same" interval, and only one kind of some other intervals, etc., are taken up in "Tuning".

The intervals below are given from G. Transpose them to all other notes. Notice that the tritone (which has an extra topic-listing to itself) divides the Octave exactly in half. And that above and below this all other intervals turn into inversions of themselves, and that the number of an interval subtracted from 9 gives its inversion. Also, intervals could be increased or decreased even further, making them augmented or diminished.

Perfect Unisson    Minor 2nd    Major 2nd    Minor 3rd    Major 3rd    Perfect 4th    Tri- tone    Perfect 5th    Min. Maj. 6th    Min. 7th    Maj. 7th



When chords are put together in succession they form (according to the cultural context) either "progressions" or "changes".

Instead of quoting some rules, let's begin by saying that when a creator is involved in "harmonization", he chooses what, to him, "sound good". Therefore, even at the earliest stage, chords should be tried out, listened to, and applied to familiar melodies.

Even so, particular styles have distinctive norms of usage. What learning does, if well applied, is to make conscious the kinds of patterns which are wanted.

The following concepts apply both to "classical" procedures, and the more modern applications in jazz, folk, popular, etc.

\* \* \* \* \*

The chords built on the first, fourth, and fifth notes of the scale are regarded as "primary". They have names, and are referred to by Roman numbers:

I -- Tonic.                      V -- Dominant.                      IV -- Sub-dominant.

These three sonorities relate to the mode, major or minor, in which they occur. (The dominant is often artificially altered in the minor; see later.)

Chords on other scale degrees are usable for color and variety and intensification. Any diatonic melody can, though, be accompanied by only the primary chords, and there are many of them which are best done so.

The familiar anasturish practice of plunking down all the chords in root-position in the left hand is to be avoided.

Consider that harmony-as-chords arose from counterpoint (simultaneous melodies) and therefore "voice-leading" factors are always operating.

The first thing is to play the tune well. Meaning not only accurately, notes and rhythms, but expressively, like it would be sung.

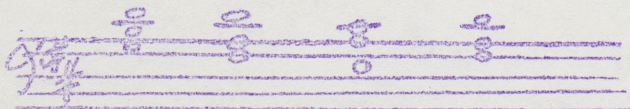
Next, add single tones in the bass. Use (to begin) the root of whatever the chord is to be. The choice of chords has been often predetermined by composer/editor/arranger/teacher. This note can be made appropriately rhythmic. And can be easily double in octaves, for sonority.

To add more notes to the right hand, they are best put, by the right hand, under the notes of the song. Sometimes just parallel thirds will do it.

In place of that, or with it, the left hand jumps to the middle register, playing the chord on the after-beat.

To get smoothness, learn to think as in the following example. (To be both written and played.)

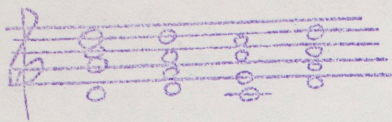
IV I V I in the key of D



To fit a tune, make this rhythmic. Or even in "breakdown" or "arpeggio" type figurations.



If you do the singing, your hands might be free for bigger chords. And if there is another instrument to take the bass line, try something like:



and double in the left hand.

and try out other arrangements of the chord tones.

A combination of these techniques will give a reasonable version of Woodie Guthrie's "This Land Is Your Land".

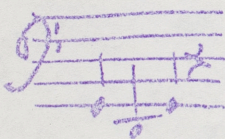
(up on Gvc)      general outline of melody

+ Gvc

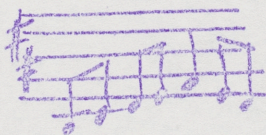
Repeat, going to D in last measure.

Fancy "play by ear" stylistic additions can be derived from this framework.

The bass can move around in the chords. Like:



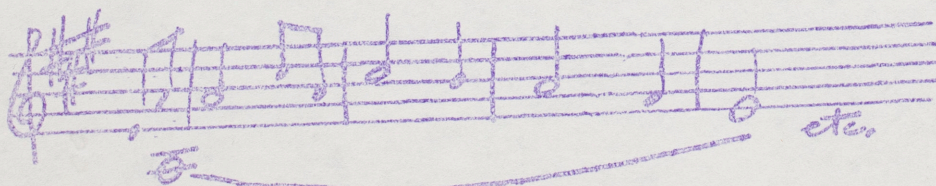
2nd meas, fancier.



(Transpose)

The above described processes will serve for a lot of music on our cultural scene. From this we can distill further possibilities.

There is a balance between "stationary" and "moving" factors. The purest statement of the former is the "drone". The tonic tone is sounded constantly in the bass. Applied to "Amazing Grace".....



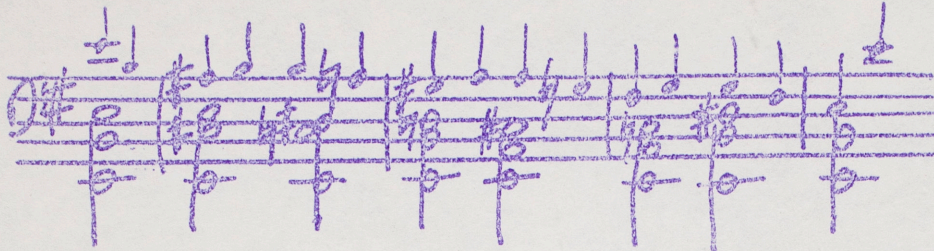
It is still possible, over the drone, to have chords too.

↑ Here, there could be a IV chord, appearing of course as an inversion. Another chord which does not contain the drone note at all may appear at another place.

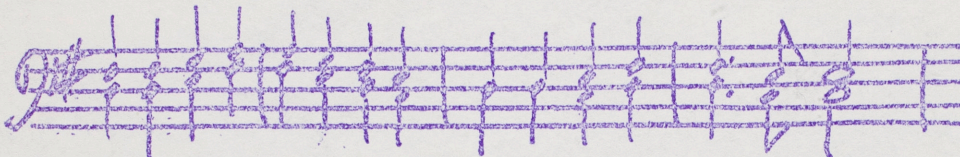


The kind of chant called a "mantra" (which see) often is based on a drone. This brings us to that part of the world centered around India, where the art music, in fact, always has the drone. We learn from there that the drone may be made rhythmic, indeed being played on a tuned drum.

European music which is inspired by folk sources has often a whole series of complex chords over a drone. Example from "Tambourin" by Rameau:



Notice the parallel thirds. Spontaneous vocal harmonizing often finds whole lines which can move in parallel 3rds with the melody. This may be all that is required; as the famous tune from Beethoven's 9th Symphony.



A safe generalization would be to watch where I is, because a third may not be able to go below it.

Other intervals can occur instead.



Thus, the parallel line of melody,

which is in essence "counterpoint", works with "harmony", the chord structure.

Now add parallel 3rds above the melody of "This Land Is Your Land". (Or put it as a 6th below.)

Not that other parallel intervals can not be used, if you like the sound. 20th Century music has used all kinds, including 7th and 9ths. In the Middle Ages it was normal to use 5ths in parallel. (This later became forbidden.)

Parallel 3rds over a bassline is found in the Baroque "Trio Sonata".

As a final word, other constructions of harmonic sonority exist, and any may be chosen as desired. Experiment, for instance, by superimposing 4ths. This could lead into some of the modern techniques, like polytonality (two or more keys at the same time.)

Further study will analyze the "laws" of harmonic movement in different styles. Ultimately, it is a question of using your ears.



Chords arose from the evolution of counterpoint.

Try a few creative projects: Add another voice to any tune, so that it always makes a 3rd (or 6th) above or below the tones of the melody, without moving in parallel with the melody. Learn to do this by ear while singing.

Next: Make up a little melody that is based on the notes of only a single chord. (Other notes may turn around and pass between the chord tones—only between the beats, relatively quickly. Chord tones may be sustained long.)

Turn this into a round by continuing the melody (indefinitely) within the confines of that same chord.

Go on to two alternating chords, etc.

### Figured Bass

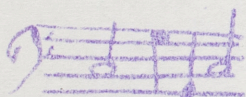
If you add the additional melody in the bass, you have the situation which prevailed just before the modern idea of chords and their inversions. This is how music was thought of and made in the Baroque period.

To try your hand at it: To a hymn-like tune, invent a bass line which sounds to you to go well with it (use any intervals which do) and gives it support. The harmonies (chords) will be expressed as the result of the parts which are added between the top and bottom.

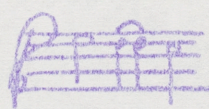
A good time may be had with the Bach Chorales, by adding voices according to his figures (the ones which are left so. With the 4-part ones, analyze the figures from what is there; perhaps make up new inner voices.)

Here are a few examples, taken from Bach's own rule book. They are "cadences". (which see. Many more things to work with are collected under "Figured Bass") Rather than a mechanical application of the old rules, try now to satisfy yourself within this framework. Do these things not only in your head but in your ear! Then sing the results. Also play at the keyboard, and make transpositions. Do this also with the above exercises. So:

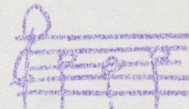
The numbers tell what are to be the intervals put above the real bass, whatever that note happens to be. 5 and 3 are assumed when there is nothing.



put above this:



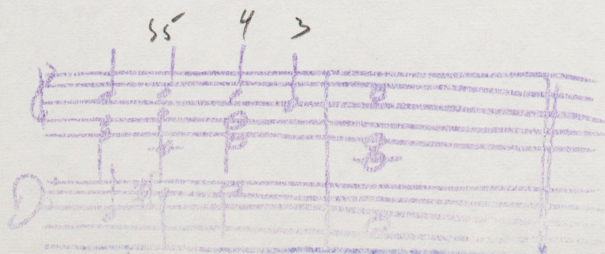
or:



etc.

Smooth voice-leading makes a connected feeling between the melody notes. To insist on this at the beginning will lead the mind to search for tight solutions. The only other rule I would require at this stage is the avoidance of parallel octaves, which simply reduces the number of voices.

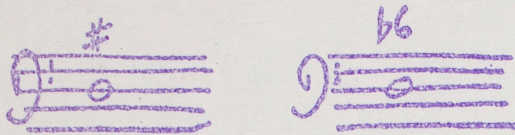
Suggested procedure: Over the bass, write the first voice so that there are no skips. Then add a second where you permit an occasional 3rd where it seems right to do so. And then a third voice in which you may do what you please. (It should please you.)



Just a few things to be explained, as the practice at this period assumed a few things, as well as having some inconsistencies.



Unless indicated otherwise, intervals are as they occur naturally according to the key signature. To artificially change major to minor or the other way round,



a sharp or flat is added. (With no number it is the 3rd which is assumed.) Note now that

the # is defined as raising by a 1/2 step, and a b as lowering by a 1/2 step whatever the interval normally is (which you will find to give curious results in keys with many #s or b s.)

A natural (♮) restores either one to what it would be normally.

Except that (as in the last example on the preceding page) the 5th, when diminished, even though naturally so, is shown as a flat.

All combinations of augmented and diminished intervals (chords) can be gotten as desired in this way.

In the case of 4 the assumed other interval is 5 (—not 3).

Anyway, the 4 is followed by 3, meaning that the movement is in the same voice. This is true of any other interval 9 8 ; 6 5 ; 7 6 ; and the like.

In 6 an additional 3rd is assumed.

This is of interest to more than the specialists in archaic styles. In addition to insight into the way harmonic systems grew, this technique has a liberating effect, permitting a new way of looking at things and thus generating musical results which would not have otherwise occurred. Notice also that by this way, contradictions within the theory of chord inversions may be resolved.

In the 20 Century, some styles have fully exploited the idea of "the chord" as such. Notably: Jazz, Blues, Folk, Country, Rock, etc. Chords are labeled by their letter names (ignoring inversion) and the intervals are indicated in the same way, with the difference that they are named above the root rather than the written-out bass note. Not the least of the connections between this practice and that of the Baroque is the role of improvisation by the player, within the systematic guidelines.

A repertoire of basic chord-types follows. (It is understood that, following the triadic principle, you can continue to pile up 3rds indefinitely, giving 9ths, 11ths, etc. As well as add any other kind of interval.

					3rd	5th	7th			
(fill	---	m	or	min.	or	-	= MAJOR	maj.	perf.	xx
the	---	Aug	or	+			= MINOR	min.	perf.	xx
blank	---	dim	or	o			= AUGMENTED	maj.	aug.	xx
with	---	7					= DIMINISHED	min.	dim.	xx
the	---	min7	or	-7.			= DOMINANT SEVENTH	maj.	perf.	min.
name	---	Maj7	or	Δ7	or	♯	= MINOR SEVENTH	min.	perf.	min.
of any	---	6	or	add6	or	Maj6	= MAJOR SEVENTH	maj.	perf.	maj.
note)	---	o7	or	dim7	or	o♯7	= ADDED SIXTH	maj.	perf.	6(maj)
	---	♭	(in jazz the 7th is assumed)				= DIMINISHED SEV.	min.	dim.	dim.
	---						= HALF-DIMIN. "	min.	dim.	min.

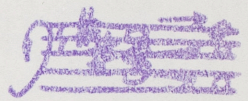


The special role of the Dominant Seventh Chord ( V7 ) :

This particular arrangement of intervals occurs naturally on the fifth degree of the major scale. It is frequently the only "seventh chord" used and is found in simple harmonic styles based on triads.

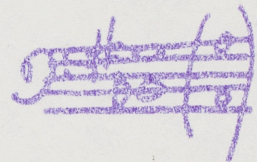
When serving in a cadence (which see) where the chord moves to I (the Tonic) it has a powerful effect, solid because of the way the root movement expresses a most simple vibration ratio (look in the topic TUNING), and dynamic because of the way its 3rd "resolves" up to the final (tone on "one"). That is an effect due to the closeness of the interval, a half-step, called "leading tone." It is so important that it is made to appear in the minor as well, where it does not appear naturally. This alteration of the seventh tone is what has caused the so-called "harmonic" (and thus the "melodic" too) form of the minor. This is a theoretical formulation which may be looked up in any harmony text, but which is best (I think) seen in the context of musical situations which create that alteration. For that, study some compositions in the minor mode from about the 16th Cent. through the 19th. (Earlier music some interesting combinations occur where the altered and unaltered notes sound at the same time, which also occurs in the blues.)

It will be discovered that that this function of the leading-tone evolved at first without the support of the dominant-chord, and can exist apart from it. Notice the "double-leading-tone cadence" from the late Middle Ages.



(Write the "figures" for this; as "chord inversions" the sense is not revealed.)

Another possibility, from a later period, is this:



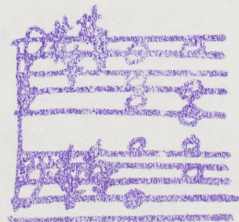
the augmented 6 chord.

It can be filled in in several ways, but the essential thing is shown by 6 /, where the slash shows the 6th raised.

Thus, "leading tone" is a principle which can apply to any scale degree, any part of a chord. A chromatically altered note (accidental) resolves by a half-step, and so intensifies the forward movement. This kind of harmony, when applied to relatively simple melodies, can give a lush effect; a good source is the style known as "Barbershop Quartets".

Returning to the V7 chord, we can notice that the 7th is serving to intensify its effect by, in effect, functioning as a leading-tone, downward, to the 3rd of the Tonic.

in the key of E:



This sound, this progression, is so characteristic of the classical Western culture, that the entire style, at least of what is sometimes known as the "common practice" periods, might be regarded as being based on the Dominant-Tonic relationship. It is very familiar as the final two chords placed at the end of a Sonata or Symphony movement. (And sometimes repeated over and over!). Not to speak of the "Shave and a haircut. Two bits" from country music.



The expression "modal harmony" is useful when the chords do not fit into the Major/Minor tonal system but rather conform to an unaltered mode, especially when the Dominant chord comes out sounding minor. Also the bVII, a chord now used in Rock, but previously not much heard for about 400 years.

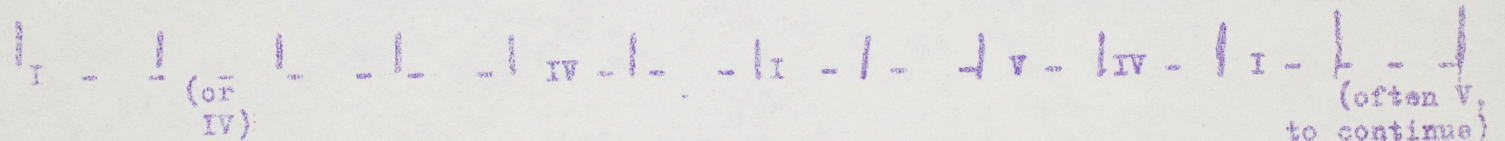
The idea of "resolution", based on an attraction between tones, leads to dissonance, or "non-harmonic tones".

The commonest use of these are the notes in a melody which pass between chord tones. They are between the beats and do not obscure the basic harmony. It is another thing when they fall on the beats, particularly strong ones, and so sound with the notes of the chord. This is a naturally occurring thing when a melody "swings", thereby coming in a little before, or holding back from, the accompaniment.

There is a static definition of what is dissonant, whereby 2nds, 7ths, 9ths, are so labelled. In some styles, this does accord with the practice of resolving them to "consonances". But if any interval is treated as an acceptable chord-tone, as in much "modern" music, then it might make no sense to speak of "dissonant."

On the other hand, a far-reaching application of the principle occurs in Oriental music when a given tone is "ornamented" by moving around and into it by micro-tonal (smaller than a 1/2 step) intervals, even though there are no chords. This kind of sound is not unfamiliar in American music, most noticeably, perhaps, in the Blues, where the gliding "blue note" has become a fixed part of the scale. There are some other noteworthy aspects to the Blues, as a style. Its basic chord sound is that same "Dominant 7", but in a different way from the "classical" rules. First, it does not have to resolve anywhere; it even makes a point of ending on the "dissonance". (sing: "How dry I am!") When this was done (incidentally, about the same time) by the French "Impressionist" composers, it was considered very radical.

In the Blues, the normal scale of the key it is in is being continually modified for the sake of, not only that chord, but more complex alterations of it. The chords themselves are basically the already-mentioned "primary triads", I, IV, V, but in a unique sequence, as in the now standard "12 bar Blues". Progressions of chords will be another year's study, but I will show the Blues changes here, noting that basing variations on the chords themselves (as opposed to the melody, or a "ground bass") is another inventive discovery which has been taken up by Jazz.



The chord-grammar typical of traditional theory assumes the triad and inversions of it in all cases. It relates to a style where, since all the details are written out by the composer, the underlying principles must be searched out. One should be able to see a chord's identity through numerous positions and distributions. And in some cases, the hidden roots do reveal something of the essential structure. (This is not our concern at this moment.)

When Roman numerals are used to show their relation, they can be in capital and small type, to show major and minor chords. As example, the unaltered major scale gives: I ii iii IV V vi vii° (check page 8)

ROOT POSITION	1st INV.	2nd INV.	3rd INV.
nothing for a triad.	6	4	none
7, if there is one	6	4	2

For the sake of completeness, the inversions are numbered so:



RHYTHM

Invent a short repeating pattern on a drum which makes people move.

Use a good-sounding hand-drum. To do this is within the power of everybody. It will be found that the real problem is less ignorance than inhibition.

So let the action be directly physical-----it will be clear when it "works". Let others who are around move with it, even adding their own rhythmic sounds, by clapping or with small percussion instruments.

The key word is "impulse". It is natural to "get into it" by striking the drum with great energy. This facilitates the effectiveness; when refinements are added the basic power can not be lost.

The "groove" is created, and kept going. Have the feeling that there is no tendency (not a desire or reason) to ever stop, and it is only with reluctance that interruptions are made for study. (Sometimes not.) While continuing playing, let awareness of the details come up in the mind, which can count and analyze the beats and proportions in the patterns.

Come back around to them, after an interval, having remembered.

And when writing them down, remember that your body is an excellent counting instrument, which works better than pure thought alone.

Gradually accumulate learned possibilities. Be in such command that any of the old discoveries could be brought into play just as "spontaneously" as any newly made one. Keep pushing for fresh discoveries. Explore simplicity as much as complication, which is just as interesting.

Listen to the patterns in the music you hear. Learn them. Figure out new possibilities, and test them.

We'll collect such possibilities, adding continually; call it "Rhythm Grooves"

A few principles:

Some rhythms will be continuous streamings of rapid notes. If these are even, being shaped solely by accents, then indicate the number of strokes in one repetition of the pattern. End this by a bar-line.

..... | etc.

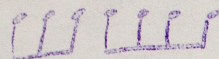
It will be likely not difficult to find out where the accents are.

Example: > . . > . . . . | Or express the groupings: ( . . ) ( . . )

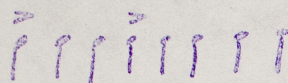
Note that this is, in this case, a sufficient notational expression.



If one wants to use the traditional notation, start to write it so:



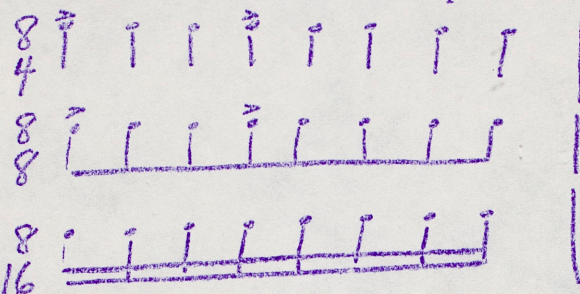
Here, the groupings of barred stems show the divisions which were heard as accentuations.



is another way.

When the unit of repetition has been "measured", an indication is usually (but not always or necessarily) of the number of counts there are going to be, and this is called a "time-signature".

In the case we have been considering, it would be 8. Since this shows exactly the number to be counted, it may be regarded as the real number. A second number placed below is an artificial one, referring to the conventional symbol which has been taken to express the standard unit. Choose between:



and so on.

These ways of writing the notes express the rhythm:



Double whole note  
(pretty much obsolete)



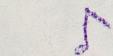
Whole note  
(it is this which is the whole of which the other values are part-fractions)



Half note  
(getting half of whatever the whole is)



Quarter note  
(do not say that it equals one beat)



8th note



16th note



32 note

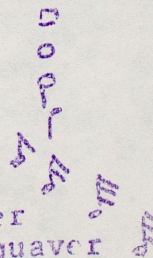


64 note

and so on

The English names (that is, in England) are worth noting:

- Breve
- Semi-breve
- Minim
- Crotchet
- (Quaver)
- Semiquaver
- Demisemiquaver
- Hemidemisemiquaver



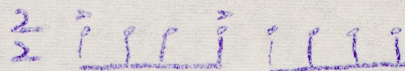
Other ways: An old system, Elizabethan England, as described in Morley's "A Plaine and Easy Introduction". A new invention in modern music, Cowell's Fabric.



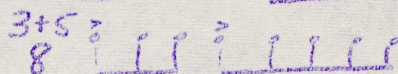
Let's look closer at that rhythm, with its count of 8. That number has a more than casual significance---as will be noticed in the majority of improvised rhythms, that they add up to multiples of 2. This gives an impression of balance, which is easily sensed.

To figure out a rhythm: Get an underlying larger pulse, and measure how a number of beats make a unit. And count the number of actual notes played, and the proportions between them.

Thus, that rhythm might be felt as

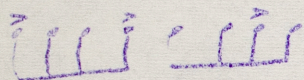


Which is a different conception from



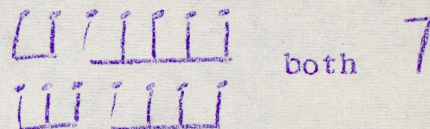
Such differences affect the played sound, by choices of which hand or finger does it, and the tonal changes necessarily caused by that. It would become exceptionally noticeable through the instrumentation. And even as a solo on a one-toned drum, some subtle effect of that difference is almost certain to show.

One more accent brings out one of the most well-loved rhythms in the world.

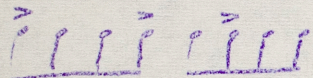


Of all the many appearances of this, our most familiar acquaintance is in the Rhumba.

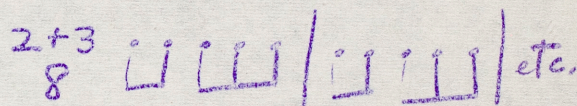
But developing the possibilities in another direction, there are the asymmetrical rhythms:



Of course, this is also possible:



Work with this Bulgarian rhythm used by Bartok:



This is the place to mention that none of the groupings of 3 are "triplets".

Which are specifically 3 put where there should be 2. In the above case, they

there would be:



This is a wholly other concept of rhythm. has been straightened out. ations shift "irrationally".

The irregular phrasing But the actual durations One is easy to do by

feeling the steadiness of the larger time-unit. The other by concentrating on evenness of the fastest units.

Any of the more complex numbers can be used in the same manner as the 3s in the triplets, 5, 7, 6 for 4, etc.





Something can be inferred about the nature of the music which has left this notation system, with its awkward "squareness", its bias toward the binary. (Look up the Ives song, "123")

This shoes up in <sup>time</sup> ~~xxx~~ signatases;



could be both regarded as  $\frac{6}{8}$ . Only

the second of them would be sensible as  $\frac{3}{4}$ ; that is what is used for  $\sharp$ .

The first rhythm actually divided the sum of the measure into 2 parts.

The "correct" signature for it would then be  $\frac{2}{1}$ ! Such things can be

found, but only rarely, in quite modern work. A strong convention has it that  $\frac{6}{8}$  be reserved for that meter alone.

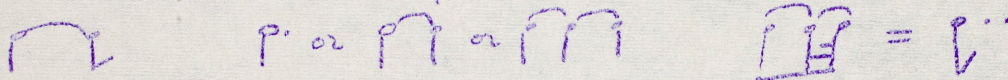
+ + + + + + + + + + + + + + + + +

A dot adds half the value of whatever note it is attached to.

This is also away of getting units of three.

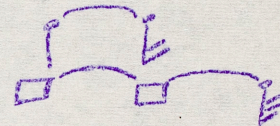
A double dot adds half what the first dot was.

Dots can be expressed by ties, a written connection between the right durations, not meant to be struck again.

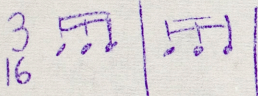


The choice is left to the best way of communicating.

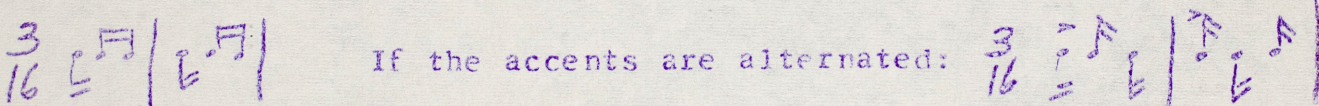
Other time values have no other way than to be tied:



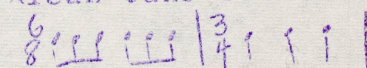
+ + + + + + +

This rhythm  $\frac{3}{16}$   might be assumed to be  $\frac{3}{16}$ , which would

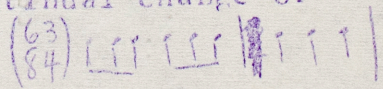
be expressed not only in accentuation, but in hand-stroke (say, LRR LRR) and possibly in pitch. This might want to be indicated.

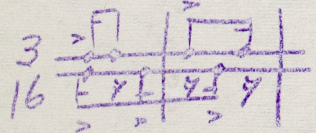


This opens a whole new area, because the two ways of dividing 6 beats both occur simultaneously. This can be brought out, especially by several instruments:

If alternated, we get the imitation Puerto Rican tune from West Side Story  $\frac{6}{8}$  

which is in fact common in Latin music as well as elsewhere.

To avoid the continual change of time-signature:  $\frac{63}{84}$  



Look further into this in the topic POLY RHYTHM

(They've given this procedure a name, calling it "hemiola".)



Important to note: This notation scheme does not show speed. (What it does show is proportions, how the details relate.) How fast or slow the whole thing goes is TEMPO, and was told in words. (Or just not indicated at all--- either because a number of possibilities would do, or because the context was enough to infer what the tempo had to be. This method could still serve.) There are standard Italian words (allegro, andante, etc.) which may still be found with enough frequency to warrant learning them. English (or whatever one's native tongue) may be, and is, used. Any words which serve the intention---and this may include suggestion of character---are possible. A listing of these is under the topic "Tempo". For a more objectively precise determination: find the setting on a metronome which gives the number of beats-per-minute corresponding to the movement of the music.

~~In writing down rhythms, choosing note values and time signatures to accord with the suggestion of tempo may be helpful. Usual is to pick the faster values for faster absolute speeds, though there are exceptions for which there may be compelling reasons. This sense comes through experience.~~

The distribution of note-events on the page may be suggestive of time-proportions, with more space allowed for longer tones. In some modern music--- "graphic scores"--- this is in fact the only method retained, sometimes being written on graph-paper.

Start a constant pulse. Either guess the metronome speed after, or check out with what exactitude a pre-determined tempo was carried out.

This is a beautiful experience combined with singing long tones. This meter of "1", which refuses to allow each beat to become part of a "higher" number-unit (an extraordinary concept!) is non-existent in western music---certainly as a written-down time signature; but it may be found in other cultures, particularly in a ritual context. Such references, with creative suggestions for musicmaking within such possibilities, are put under the topic "PULSE".

For now, use this as the basis for more calculated studies:

Over such a predetermined steady beat, put the patterns that have been intuitively discovered. As an ensemble game, superimpose these various rhythms. Trade them; pass them around. Conduct in and out of performing groups to make a real musical sense, and even compose ideas for ordering these. Keep the original pulse-beat!

Most of the rhythms which will be made up will have an underlying beat, and a limited set of time relationships. This will be the means of figuring them out, and getting them on paper. So:

1. Feel the underlying beat. Clap it or stamp it under the audible rhythm. Notice the beginning of the cycle (the first beat). Count.
2. Imagine the fastest values of the rhythm as a constant stream under the longer ones. Measure these by the proper number of units.



When playing together, for study of fun (make it both!) follow this process with the (rhythmic) grooves which have been invented:

Double the exact rhythm.

Reinforce the first beat.

Double the accents, leaving out the others, or

Fill the spaces with unaccented rapid pulses.

Mark the larger time units (2nd, 3rd, etc beats in each measure).

And even begin to add other parts to the basic rhythm, in between

beats and as cross-accents. Write these down after.

Then construct controlled ensembles.

This begins to get into a more elaborate area....look up POLYRHYTHM.

With a basis on the most elemental things, great richness can be attained. As the material for a controlled polyphony of rhythm, I take this rhythm, so amazingly self-contained and powerful, which is familiar from the "Hare Krishna" chants:

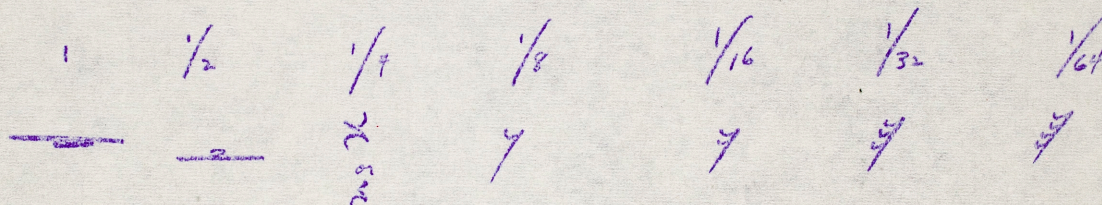


Figure out all of the "hidden" rhythms which are derivable by doubling one or another of the notes in the pattern. Score each for a different "sound". Play together.

Make patterns which span 2 measures; and so on. The tone-colors can be assigned to a specific rhythmic pattern, and the percussion instruments passed around among the players.

+ + + + + + + + + + + + + + + +

Notation of silences. (called "rests", or "pauses"....but need they be?)



+ + + + + + + + + + + + + + + +

Further sets of possibilities:

Taking this as a base  $\frac{3}{16}$  (fast) change a hand-

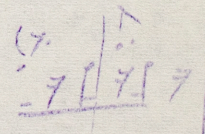
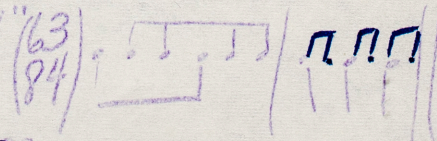
pattern of LRR LRR (or vice-versa)

to  $\overset{>}{L} R L \overset{>}{R} L R$  etc. Even on one drum

a subtle sound difference will result. This can be played around with, emphasized. Develop on a larger number of instruments. Bring out the two implicit divisions of 6 beats:

Play back and forth and together. I Refer to the Example from "West Side Story"

Example from



processes with other material.



Playing on the infinite combinations of color (different instruments) and accentuation (plus the full range of loud/soft contrasts), is a development to add when the repeating rhythms want more variety. In addition, the pitches of various drums gives rise to melodic combinations.....which can be applied to the tuned instruments---and voice---scales and such; so here rhythm joins the work with melody. Chords and harmonic clusters made of consciously fixed pitches may bear all the kinds of rhythmic processes here mentioned.

Even in purely rhythmic terms, variation can be achieved by making relatively small changes in a basic pattern which is kept perceptively constant.

Furthermore, a freer (non-repeating) rhythm can express a constant underlying pulse, and still maintain its power. Work at this by making up solos over the constant beat which has been laid-down. And by inventing such solos without such audible help, then having the proper beat put under it by the group.

Gradually incorporate the results of the following systematic study of rhythmic forms. Analyze professional drum styles for their repertoire. Transcribe them.

Work through sample sections of texts, such as Hindemith's "Elementary Training for Musicians" and Solfeggio books organized by rhythmic as well as pitch possibilities, like Ottman's.

Create written versions using many of the learned shapes, as well as improvising on them.

Play sections of compositions; and written-out oral performances.

Specific organization of rhythm multiplies and divides the pulse. (Time may, of course, be organized in other ways. The rhythms of breath and speech are a concern of MELODY. Rational systems not based on the pulse are taken up in "Serial Thought". The opposite of this are driving organic rhythms without underlying regularity found in "Free Jazz".)

1. Beats formed into larger units become METER. (which see). Expression of it is by time-signatures and bar-lines.
2. Beats in their subdivisions form distinct systems of 2 and 3. There is often difficulty in shifting from one to the other; and they cannot be notated without modification of the origin-metric indication. (The "irrational" numbers....5,7,etc. as well as progressive increase/decrease....like 2,3,4,5,6 etc. may be brought into being by intelligent direction of the will.

Learn these subdivision patterns. Use them in all combinations.)

\* \* \* \* \*

The "grooves" may be seen as "Mantras" in rhythm. Indeed, they go well with chanting. Therefore, see to this in the MELODY folio. In much current "soul" music, the groove takes the form of a short bass-line, thus serving not only "tune & time" but the harmonic-structure



in half

pulse-unit taken as 1

° 1 (and 7 5)

3 tones, in a duple system

1 1 1 (2<sup>nd</sup> half in half again)

1 1 1 (reversed)

combine 1 1 1 1 1 and 1 1 1 1 1

1 1 1 — — relates to — — — (the long value in the middle)

in thirds

° 1 1 1

(1 1 1 or 1 1 1)  
3

with silences

combines like:

7 1 1 and 7 7 1

1 1 1 1

(try all others)

7. 1 1 1

(filled with 6) 1 1 1 1 1 1

the time filled

1 1 1 1 - 4, (ordoubled) (8) 1 1 1 1 1 1 1 1

with 2 tones, unequal

combination

long + short

(Think of a value being tied. This can be expressed by rests, dots, and any notes which give the right durations.)

1 1 1

(3+1)

1 1 1 = 1 7 1 or 1 1 1

(2+1)

1 1 1 = 1 7 1 or 1 1 1

In slower tempos, there is room to shorten the short note:

1 1 1 or 1 7 1

(which often happens without being written for the effect — which is better than falling into the triplet — which also often happens)

reverse

1 1 1

short + long

1+3 = 1 1 1

Where the difficulty is keeping the short note right on the beat.

1+2

1 1 1



The foregoing repertoire exhausts virtually all the within-the-beat possibilities, and contains most of what we are likely to hear. With the proviso that all combinations of tying values with the, say, 2 and 6 s are left



like so:

Indeed, the whole of a book such as "The Rhythmic Structure of Music" by Meyer & Cooper scarcely goes outside.

And that rhythmic units are commonly formed over more than one beat. This, of course, enriches the musical possibilities, but will offer no problem to whoever has assimilated the above enumerated elements.

With ties and silences over beats and bars, a qualitatively distinctive kind of pattern arises. It is called a "syncopation", and although it quite clearly derives from the possibilities which have been discussed, is in reality "something else again".

Try any number of patterns where the beats are silent. Even with the simplest duple division, there is a wide range. See how many you can string together without losing the underlying beat. And combine this with the various meters. Gradually master all the patterns on p.8 with a silence at the beginning of them.

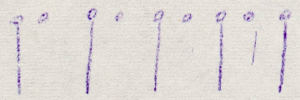
This offers no theoretical problem, yet though the head may easily understand, the body may not. Inability of execution is not rare.

Whole concerts of the literate European pieces could occur without any of these occurring. Though syncopations and other unusual rhythms may be found, occasionally.

When we play on drums, not having such rhythms absorbed by the melodic movement but putting down an independent layer, such as exists in Jazz, rock and other kinds of "pop", Gospel and other kinds of folk--and religious music all over the world, African and Afro-American, the talas of India, music of the Middle East and of the American Indians, we may feel the natural movement towards such rhythms in the kinesthetic elaborations of the parts of our own bodies. Indeed, by how stiffly we keep--or do not keep to--on the beats, is an essential part of how we are permitted to move, whether we set a Dance or a March. (In these topics are room for a lot more material).

One more kind of thing, related to this: rhythms where the division of a solid beat does not "rationalize". This may easily come up in improvising. In fact, it happens in the playing of formal classics, but is seldom admitted. Suppose you get into a short-long, where the proportion is more complex than 2 to 1. It might be eventually worked out to (within the beat! and fast) 2+3, or 3+4 or 4+5. But you don't want to do all that counting, and anyway it can be heard and held to quite well. "Our" notation system is totally incapable of dealing with this, and has caused a lot of confusion in getting down much of so-called "ethnic" music.

The simple solution is to set the notes on the page with the spaces proportional to the timing, perhaps on graph paper so that an estimation of the degree of regularity shows up clearly.

Like:  etc. as necessary.



Take note that a simpler rhythm quite often suffices to write down such an "irrational" pattern, such as a simple stream of steady 8 notes, with ~~the~~ the note: "syncopated". It may even be assumed (if one is very sure of the norms in a given cultural context) that such a simplified notation might be interpreted in a more "swinging" manner, without the need for verbal instruction. This kind of interpretation is well-known in relation to written-down melodies.

Some kind of comment would be required when transcribing music from an oral culture, to avoid giving the impression that the music as written is really exactly like that. I might add that notated music is manytimes, and correctly so, played differently than the printed page would suggest.

Rhythm is an indwelling and ongoing part of man's ~~life~~ <sup>life</sup> --- not to speak of the rest of nature. Its cultivation and practice as an art is part of the heritage--- and within the reach--- of all people.

This is therefore for more than study; it is an invitation to doing. In a culture (ours, today) which tends towards passive appreciations, the absence of ritual involvements has lead to attempts at creative participations (such as "be-ins") and the use of elemental and powerfully affecting rhythmic processes in radical theatre. Possibilities of more group performing, of ideas for schools and gatherings, are suggested in the topic "Rhythmic Minstrels".



## MELODY

Learn tunes. Hum along; afterwards, remember.  
Concentrate towards reducing the time it takes.

ON THIS ARE BUILT THE MASTRIES OF READING AND WRITING.  
(NEVER LET EVEN THE GREATEST LITERATE SKILLS OBLITERATE THE  
INTIMATE POSSESSION OF REAL MUSIC.)

Accumulate a repertoire.

Sing with groups.

Listening, to different kinds of things. Get the materials from  
current pops and symphonic classics and folk music of many cultures  
and jazz and operas and shows.

Ongoing study-processes:

---

Calculate relationships -- intervals  
and scale degrees comprising the tunes (hum; fing the tone which  
is the "tonic", the "final", the "one". Most melodies have this; it  
makes things much easier). Give a number to each note and determine  
skips by filling in, in imagination, the scale degrees in between.

Find the actual notes -- on the keyboard,  
on other instruments; name them and be able to play them, in several  
keys.

Eventually these two processes should come  
together, which will permit you to write down a melody by ear---and  
to play it-----without first having to search for the notes.

\* \* \* \* \*

To reverse the process (start doing this) decipher an unknown tune  
from the printed page. This is, to be sure, more difficult.  
Certainly try out sheet music, though.

Useful for study are collections of "children's pieces", such as  
beginning piano books, etc.

Also "rounds", which, because they are often based on the tonic triad,  
relate to what is known from "chording".

The first section of the sight-singing text-book by Ottman (recomm-  
ended for this) contains this kind of melody.

Also Hindemith's "Elementary Training for Musicians", which is to be  
praised for including both melody and rhythm, first as independent  
elements and then integrated. Use for spot-checking progress.

A marvelous and uniquely flowing music, and accessible as material  
for study, is Gregorian Chant.

The collection of topics attempts to define, and to collect referen-  
ces to, other types of melody beside "Chant". We've referred to  
these as: "Hymns/Chorales/Spirituals", "Mantras", and "Tunes."  
It is not that any song has to be pigeonholed into a category, but  
in recognition of variety in kinds of things, such separation seemed  
useful.



Systematic training in scale-patterns and the relationships of scale-degrees (of which there are several methods) is called "Solfege".  
(There is a topic on this)

Here are some "exercises" which may be used as start-offs for improvising. These should develop not only skill, but freedom of movement within a scale-formation. Creative arrangements of the ideas has a place; even though regular sequences have value, enliven them by pauses, repeats, and holding or playing around different degrees of the scale. Avoid such mechanical up-an-octave and then-back-down as are given to aspiring virtuoso pianists, "schools of velocity", and the like. \*

--- Go up the scale by step, naming (or rather, numbering) each tone. Return to the "One".

---- Use these scale types, each of which can be conveniently identified as different starting notes within a system of only-white-notes. They roughly correspond to usage in the earlier periods of European culture. (For a fuller presentation, look at the topic: MODES)

The image displays six hand-drawn musical staves, each representing a different mode. The notes are written as open circles on a five-line staff. The modes are labeled to the right of each staff:

- IONIAN** (the modern Major)
- AEOLIAN** (modern Minor, in its natural form)
- DORIAN**
- LYDIAN**
- MIXOLYDIAN**
- PHRYGIAN**



To avoid a tendency (caused by cultural conditioning) to think of all these as "C Major with a "wrong" starting note, sing without accompaniment, and from any given starting tone.

Since these can be transposed to all other notes, by preserving the characteristic intervals, this should be done. Write out the scale; then play those notes on piano and other instruments, alternating with and sometimes accompanying your singing.

To solve difficulties in recognizing the different scales, guide on the main structural intervals. In addition to the 8ve, all of these contain a perfect 5th, which is familiar from the chord-work.

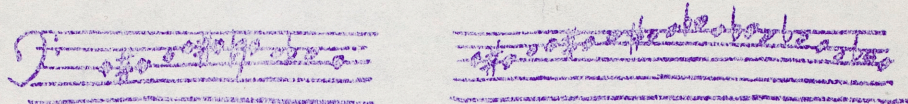
The 3rds are either Major or Minor, which are also familiar. That difference "colors" each mode. Other notes in the scale may be found by getting a 3rd (Major or Minor) from the 5th, or even the 4th, if that is well-known.

All tones may be figured out, if the whole and Half-steps are under control.

Practice whole & Half-steps up and down from any note.

Since in Modern Western tuning, all the intervals are accumulations of Half-steps, a sense of these leads to the others.

Practice chromatic scales up and back to ever-increasingly greater distances.



Make sure that the top note is the right interval. And that you know what that interval is.

Thus, any possible scale (in Equal-temperment) can be mastered. Live with each mode. After calculating its intervals, play with it---in it----so it becomes instinctive.

To this purpose, do the exercises of page 2 with a gradual unfolding of the scale. Remain long on individual tones, particularly the "keynote". Give a full and expressive sound, even if that should cause an emotional quavering. Repeat the tones; talk in them, with the free rhythms of a direct communication.

On instruments, add trills, and add the practicing of technical difficulties to the expressive sense.

When moving around tones, and swooping through the scale, push speed.

The way to deal with difficulties, when they find you, is to integrate the repetitions and slowing-down of such passages into your performance. Work with failed intentions without letting them stop the music.

These things may be done as single-line melodies. Or over a drone. That keeps the tonic ever-present, and permits hearing the intervals in their harmonic sense.

Getting into the tones, simplifying motion to sheer sound, moves us in the direction of meditation, the ultimate expression of which, in chant, is "OM".

\* The abstract technical prowess which leads to the dullness of the typical "étude", is vividly demonstrated by Saint-Saëns in "Pianists" from "The Carnival of the Animals".



For now we'll accept as a common meaning for "modal scale": linear arrangement of the component melodic tones, whatever the intervals may be. Some more subtle considerations are taken up in the Topics.

The familiar major/minor system represents a reduction to two types. That this is to serve the interests of clarity may be seen by the chords which form on the main structural tones. These are considered to be on the 1st, 4th, 5th degrees of the scale. (Compare this to the "perfect" intervals in the table, page 3 of the "Chording" folio. Also the topic "Harmony".) Above each of these tones is a 3rd which conforms to the particular mode; and which determine the triads formed there---all three of them major in the major mode, and minor in the minor. (With the proviso that in the minor there tend to be alterations. As these are less considerations of the melodic dimension, but are caused by certain needs of the European "tonic-dominant" harmonic system, they are taken up in "Chording". For this reason, I treat the so-called "harmonic" and "melodic" minor not as scale-types; they are rather alterations to be seen under the conditions which cause them in real music.

To be remembered: Any scale/mode/key is a pattern. It is not the notes themselves which are "fixed" but the proportions.

In singing, the subconscious mind does all the calculating of interval-relationships necessary to "make it sound right". And that is all that an untrained person is aware of. Naturally, it doesn't matter (except for range) on what specific pitch a tune is started.

With instruments, one needs to know, consciously, what the right notes are.

When a melody-form is moved to a new place within musical space, it is called "transposing".

As an example of a culture which has brought variety in scale-types to an extremely high level, I mention the "ragas" of India. An enormous (reputedly thousands!) number of combinations are derived from 10 basic "thats". Ravi Shankar, in his book "My Life, My Art", lists them, accepting Western convention, on a tonic of "C". Rather than notate them here (which is for the student to do. And from every note, playing them) I'd prefer the interesting presentation once shown me by Gitendra Abisheki, when he was on tour with Shankar.

|   |          |          |                |   |          |          |   |       |          |
|---|----------|----------|----------------|---|----------|----------|---|-------|----------|
| C | D        | E        | F              | G | A        | B        | C | ..... | BILAVAl  |
| C | D        | E        | $\overline{F}$ | G | A        | B        | C | ..... | KALYAN   |
| C | D        | E        | F              | G | A        | <u>B</u> | C | ..... | KHAMAJ   |
| C | D        | <u>E</u> | F              | G | A        | <u>B</u> | C | ..... | KAFI     |
| C | D        | <u>E</u> | F              | G | <u>A</u> | <u>B</u> | C | ..... | ASAWARI  |
| C | <u>D</u> | <u>E</u> | F              | G | <u>A</u> | <u>B</u> | C | ..... | BHAIrAVI |
| C | <u>D</u> | E        | F              | G | <u>A</u> | B        | C | ..... | BHAIrAV  |
| C | <u>D</u> | E        | $\overline{F}$ | G | <u>A</u> | B        | C | ..... | PURVI    |
| C | <u>D</u> | E        | $\overline{F}$ | G | A        | B        | C | ..... | MARWA    |
| C | <u>D</u> | <u>E</u> | $\overline{F}$ | G | <u>A</u> | B        | C | ..... | TODI     |

( The dash     shows a half-step, # or b, depending on whether it is above or below the letter.)



Use these in manners similar to those described on page 2, and 3.

Other possibilities have arisen in many cultural settings. The "blues" is a familiar one, and marvelously unique.

An exotic sounding scale, typical of the Middle East, is known through songs such as "Wiserloo" and "Hava Nagilla".

Further exploration would bring one to the "Pentatonic", five-note scales, not only from China but from less distant folk music, as from Scotland.

The Japanese have a five-tone scale with large and small intervals, bringing in the idea of "gap" scales. And in Bali and Java are 5 tone, and in Siam 7 tone scales, which cannot be even approximated by our tuning. In some cultures, melodies occur which seem to go outside the concept of a scale. I would direct attention to the chants of some tribes of the American Indians.

\* \* \* \* \*

A few other syllable-systems may be sung, beside the numbers (page 2).

One of these is the Do-Re-Mi etc, descended from the Middle Ages, still used in European conservatories.

The names in use in India ( Sa Ri Ga Ma Pa Da Ni Sa ) are particularly appealing; they can be applied to any Raga-structure, and are sometimes sung at performances. These are elaborated in the topic; "Solfege".

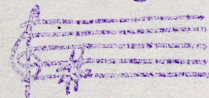
\* \* \* \* \*

As an interesting side point, notice that the scales seem to be conceived between octaves, and ascending. Melodies, of course, do more. The Medieval nodal system listed a "hypo" form for each of the modes, meaning that the melody moved around the tonic-note, being bounded, above and below, by another tone. This is mentioned here as a concept to free us from only straight-line determined shapes. Bring this idea into your melodic improvisations.

\* \* \* \* \*

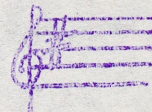
The black notes needed for a given scale/tonality may be indicated at the beginnings of the lines, as "key-signatures."

Before presenting the traditional system (Page 1 or 2 of any book of "rudiments") I want to point to the functional innovations found in Bartok's Mikrokosmos. One may find things such as:

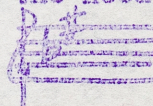


The usual place for the F# is on the top line, but this piece does not go so high.

Instead of the normal first sharp, instead of F there may be



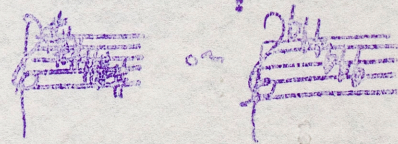
Such techniques may be easily extended to fit the need, even to putting together a # and a B. Say,



Or, as a special arrangement for pentatonic scale:

Obviously, any and every mode might be given a key-signature, provided that it have no more than 7 tones, which can be given a different letter-name.

(One could imagine a music where the higher octaves do not duplicate the lower ones!)



However, the usual solution, because of a general familiarity with the traditional key arrangements, is to avoid many signature in unusual cases, and rely on "accidentals", the sharps and flats written in wherever needed.



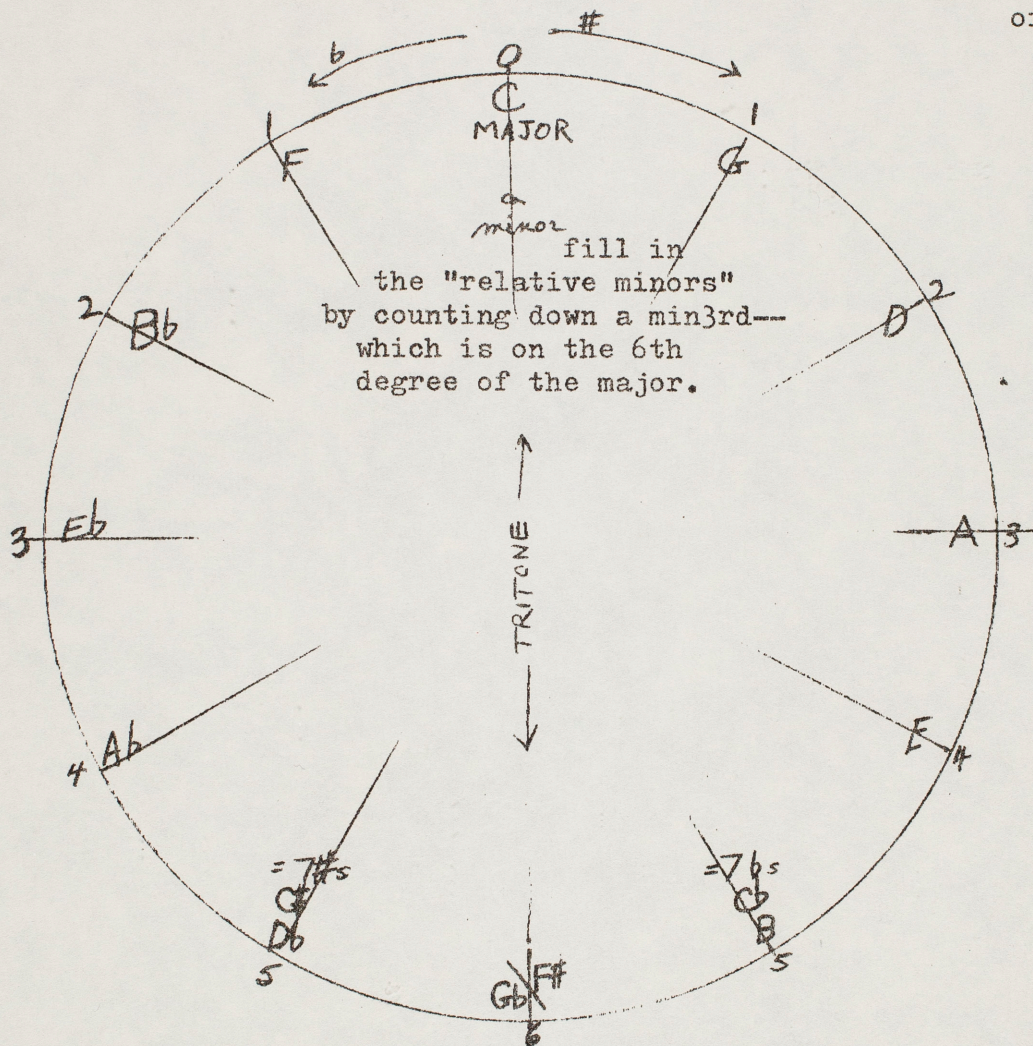
An important thing to notice is that the actual keynote--- the "number-one-tone" cannot be assumed from the signature alone, but must be discovered by analyzing the music itself.

Though often forgotten by students who have dutifully memorized all the key signatures, this has always been the situation. Even when the choices are reduced to two, only a look into what is happening in the music will tell either/or: major/minor.

The older modes are rarely seen written with their correct signatures. Outside modern music (like the Bartok example mentioned), an occasional Bach Chorale is in Dorian mode, with a flat less than would have been expected. My favorite example of an unusual tonal procedure hiding behind a seemingly normal key-signature, is the first "Gymnopodie" of Satie.

To see the Major/Minor keys in a systematic arrangement:

(called "Circle of Fifths" )



The overlapping of "flat" and "sharp" keys at the bottom are known as "enharmonic" relationships.

Ear-training should, at this point, go on to the learning of melodic lines "too difficult" to pick up by ear. This would include modulatory, chromatic, and completely atonal things. Look in the folio "Serial Thought", for material.



## A few observations on the Circle of 5ths:

The enharmonic relations are made possible by the relatively recent tuning system called "equal temperament", in which all the semi-tones are the same ( $1/12$  of 8ve).

In the context of key-changes from simpler keys, one might go even beyond the keys which use white-note sharps and flats, into areas which necessitate the use of double-sharps and double-flats. These are never written as key-signatures though, and often, when going too far out, a sudden reversion to "intellectual sanity" is brought about by a sudden switch to notation in an easier key, sharps from flats, or vice-versa.

This shows that there is no absolute starting point, but the arbitrary one chosen for convenience.

Subtraction of a flat is tantamount to adding a sharp.

At the C-Major, or "0" place, our constructed keyboard presents the image of the unchanging form uncomplicated by black notes.

Hypothetically, one could go around and around forever. If this system had not been artificially (artfully!) "closed", by compensating for the "Pythagorean comma", then there would be in fact no enharmonic identities, and therefore neither overlapping keys nor any return to the beginning.

When the coherent system was made, by reducing infinity to a smaller set of approximations, the number formed was twelve.

This number-for-tuning was discovered theoretically in a number of places (Crete, China, for example) though the music itself did not use it.

In the West, all the keys were made equally possible. Bach's "Well Tempered Keyboard", in the 18th Century, used this in a comprehensive way.

The next possibility, movement in one piece from one system-of-limited-possibilities (keys) to all others, was exploited by subsequent generations of composers.

The changes of mode, keeping a constant tonic, as used in an Indian "garland of ragas", is an analogous but not entirely similar procedure.

The first (that I know of) music to use the whole system as a totality, was the "advanced" atonal music of the early 20 Century. Its systematic formulation is the 12 Tone Technique constructed by Schoenberg. It has been taken by "free jazz". Other developments have, in a number of ways, gone beyond the measurement of 12, which is on the way to a return to the untuned cosmos.

The intermediate possibilities, extended chromaticism which preserves something of key-centers and chord-structures, was normal in 19 Century European music, and continues to be very much a feature of jazz.

The arrangement of keys around the circle shows a curious balance between dynamic and structural elements. The closest distance in purely geometrical terms (ex: C to C#) involves a change of many scale tones, producing an abrupt effect. Thus movement of  $\frac{1}{2}$  step is a distant relation.

The leap of a 5th changes only one tone of the next scale, and so these keys are the closest. The 5th, as an interval vibrating at  $3/2$  ratio, is "close" in a fundamental sense; by this is reconciled spatial and arithmetical proximity. Opposite points across the axis give the tritone. Though the vibration ratio is the most distant (for this reason it is "active", historically treated as requiring "resolution"---or being banned altogether) it divides the octave in two equal parts (and so paradoxically can be regarded as as a "balance").

An undifferentiated movement through the entire system (chromatic scale) produces an effect of free-floating, absence of stable locations in any clearly known place.



The notation of the tune/melody/song will always be less than the real way it sounds. Out of a direct feeling, many slides of the tone, and alteration of phrase and timing due to the breathing, will be occurring. The melody will be a little (or a lot!) changed by each singer of it. And even by each repetition. The notated music, though accurate, will be rather a kind of skeleton, for reminding, and for mass-media communication. This attitude towards the written is common today, and most spectacularly noticeable in the kinds of "soul" music.

Most written versions of music from other cultures need to be compared with the recordings or live performances of that music.

Try the song "Amazing Grace" with great fervor, adding ornamental melodic changes and dynamic swells, and holding the long tones by feeling rather than counting. When this is done in a group, the timing is picked up by a sensitive awareness and is not rigidly precise. Many interesting and unpredictable sounds and ~~relationships~~ relations are produced. This actually corresponds to a kind of Oriental counterpoint (see for examples the Court Orchestras of Japan and Korea) named "heterophony". The performance of songs like "Amazing Grace" can consciously cultivate that possibility, rather than move in the direction of a smoothed-out version. Of course, the notation will have to indicate such possibilities.

Melody is essentially movement in musical space. In this sense, all living creatures have a song, and music is in the world around us. We can imitate the wind, and rise and fall in untuned "whooshes". Out of this dimension come ideas for musical processes which are different than the cultural methods we have been dealing with. New ways of ordering come to mind. A beginning for this will be a folio called "Serial Thought".