

PREFACE

I am honoured to introduce the Royal Scottish Pipe Band Association's Structured Learning Book 3. This Publication marks the culmination of a project which has spanned three years. Throughout this time the views and ideas of devoted, talented musicians have fused together resulting in a new series of music education manuals.

Increasing sales volumes at home and overseas are evidence of the acceptance of Books 1 and 2 and there is an assured feeling that Book 3 will prove to be well sought after.

The Royal Scottish Pipe Band Association is grateful to all who have contributed to the completion and presentation of the series and wishes success to all who will make use of the Structured Learning Books.

E. Sturgeon

PRESIDENT, 1998 to 1993

SECOND EDITION 1995

Introduction

The publication of Book 3 in Structured Learning Series, covering the revised curriculum of the Advanced Certificate Course, marks a significant milestone in the progress of the Music Board of the Royal Scottish Pipe Band Association.

The evolution and development of our musical culture is a fundamental feature of the Associations objectives. The Structured Learning material contained in Books 1, 2 and 3 makes available the most up-to-date educational material relevant to the instruction of piping and drumming. This will ensure that the development of our musical culture is based on the highest standards of musical theory and practice.

Every effort has been made to present the lessons in as logical a manner as possible, with the overriding emphasis on clarity and consistency of presentation.

The Music Board is indebted to Jim Wark, John Kennedy and John MacInnes for providing their original source material freely for the purposes of this project.

A unique record was established on the completion of this series of instruction manuals in that John K. MacAllister now has the distinction of having participated in the production of the original Tutor & Text Books Volumes 1 & 2 and also the complete Structured Learning Series. This involvement has spanned a total of 40 years and is indeed a remarkable achievement worthy of recording in this introduction.

An immense debt of gratitude is due to Iain Duncan for his contribution in lesson layout and graphical presentation and to the members of the working group listed below who researched and generated the full work.

Thomas Andrews	
Iain Duncan	- Graphics and Presentation Co-ordinator
John Kennedy	
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John MacInnes	
James Wark	
Wilson Young	- Group Co-ordinator

As in the previous publications, a special thanks must be given to Sandra Sutherland for her dedicated work in typing all the documentation associated with this book.

Finally, for invaluable support in all aspects of reprographics throughout the Structured Learning Series, we are indebted to Christine Ross.

The Music Board commends this publication to the membership and all who wish to further their musical knowledge and skill in piping and drumming.

Wilson Young
Music Board Curriculum Development Convener

Structured Learning

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STRUCTURED LEARNING – BOOK 3
THE ADVANCED CERTIFICATE

It is essential that prior to reading this tutor, all students should have familiarised themselves with the content of **Structured Learning, Books 1 and 2.**

TECHNIQUES OF STUDY

Whether in the formal class situation or working at home it is important that the student develops a responsible attitude to learning and study which suits their particular circumstances. Study is difficult and demanding work but it can also be very enjoyable and personally rewarding as your knowledge and practical ability develop.

A feature of this presentation is that students can progress through the theory or practical aspects of the work at a pace which is consistent with their particular level of ability in each area, thereby avoiding the frustration of being held back say in the practical side because their theoretical knowledge does not match their practical ability, or vice versa.

In order that full advantage may be taken of these features it is suggested that the following broad guide-lines be adopted in approach to effective study.

1. Plan in advance how you intend to progress through the theory part of the curriculum. I.e.; sequentially – Lesson 1 followed by Lesson 2 etc. or perhaps in some other arrangement to suit your level of knowledge.
2. Organise your study and practice to avoid the trap of wasting time. Ask yourself whether you are really learning or thinking – or are you merely frittering away your time?
3. Understanding is the key to learning and remembering. If you understand a principle, it is easy to remember it and apply it in developing your practical musicianship.
4. In memorising details of musical theory, put your books aside from time to time and test yourself. This will help you to identify the point which are most difficult to recall and allow you to give them special attention.
5. Make a note of the points on which you are not clear and discuss them with your instructor or with an experienced piper or drummer.
6. Do remember that to write neat and clear musical notation takes practice so make sure that you spend sufficient time on this important aspect of your studies.
7. An instructor may find it beneficial to ask the student to study certain theory lessons at home at their own pace and concentrate on practical instruction in the classroom situation. Where this is done it is important that the instructor tests the understanding of the student on these particular theory lessons at the next formal teaching session and clarify any points of doubt.
8. Both pipers and drummers should study musical theory together and only when it comes to practical instruction should they be treated separately.

Not all these suggestions are necessarily suitable for every student, each person must develop the technique of study and practice which suits them best. But it is important to consider from time to time whether your study methods are most effective for you.

The Music Board wishes you every success in your studies.

STRUCTURED LEARNING – THE ADVANCED CERTIFICATE

THEORY SYLLABUS

CONTENTS:

3.1. Scales (Part 1)

Tetrachords, the Diatonic Scale, Major and Minor Thirds

3.2. Tonality (Part 1)

Major Scales and Minor Scales (accidentals)

3.3. Relative Scales

3.4. Tonality

Major scales and Minor Scales (upward and downward movement).
The circle of Fifths

3.5. Scales (Part 2)

The Chromatic Scale

3.6. Scales (Part 3)

The Whole-tone Scale, the pentatonic Scale, the Diatonic Scale.

3.7. Scales (Part 4)

The Bagpipe scale

3.8. Scales (Part 5)

Harmonic and Melodic Minor Scales.

3.9. Intervals

3.10. Inversions

3.11. Transposition

3.12. The constituents of Music

Rhythm; Melody (forms, phrases, motifs, cadences), Harmony.

3.13. Musical Form

3.14. Ensemble

3.18.1 to 3.18.10 Structured Learning Index

This index is a comprehensive listing of musical terms as found in the Lessons in Structured Learning, Books 1, 2 and 3.

STRUCTURED LEARNING – THE ADVANCED CERTIFICATE

PIPING AND DRUMMING PRACTICAL

THE GREAT HIGHLAND BAGPIPE

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| Exercise No. 2 | - | Top Hand and D doublings |
| 3.15.2 Exercise No. 3 | - | C, B, and Low A Doublings |
| Exercise No. 4 | - | Grips and Taorluath |
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3.1.1

LESSON 1

SCALES (PART 1)

The earliest scales consisted of four notes called **Tetrachords** (tetra, meaning four). These were developed by the ancient Greeks. Each tetrachord had a different arrangement of sounds or mode. The modes were named after Greek sects.

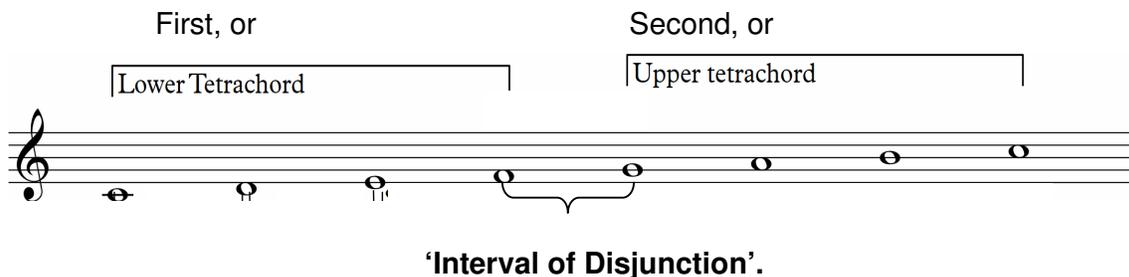
i.e. Dorian, Ionian, Lydian, Aeolian.

The modes or scales were developed to become the foundation of music typical of Western Culture.

An example of this development was the combining of two tetrachords to form an eight note scale.

Tetrachords

The two tetrachords are separated by either a tone or a semitone. This is referred to as the '**Interval of Disjunction**'.



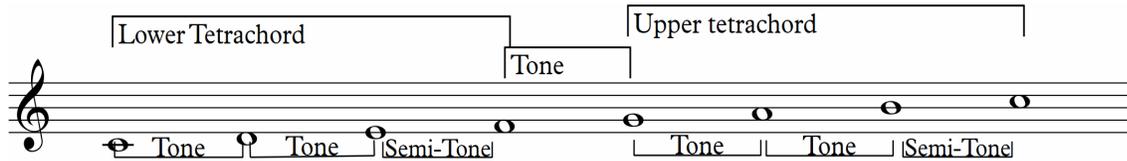
Many different scales are in use, the more common being the **diatonic, chromatic, whole-tone and pentatonic**.

3.1.2

The Diatonic Scale

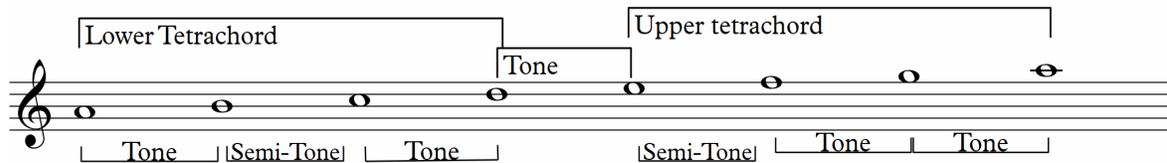
The diatonic scale consists of an arrangement of eight notes separated by tones and semitones within the octave and can be divided into two different groups as follows :-

Major (T T S T T T S) Ionian Mode



C Major Scale (both tetrachords have the same pattern)

Minor (T S T T S T T) Aeolian Mode



A minor scale (both tetrachords have different patterns)

In the above illustrations, the particular pattern of tones and semitones shown, are the features which give major and minor scales their distinctive characteristics. Major music may be generally described as bright, light hearted or extroverted.

Minor music may be similarly described as dark, sad or introverted.

These are extreme comparisons as composers have indentified new qualities in music by drawing Major and Minor Music closer together.

When playing a scale on the white keys of a keyboard instrument ascending from 'C', a pattern of intervals consisting of T T S T T T S is obtained. This is known as the 'Natural' major scale.

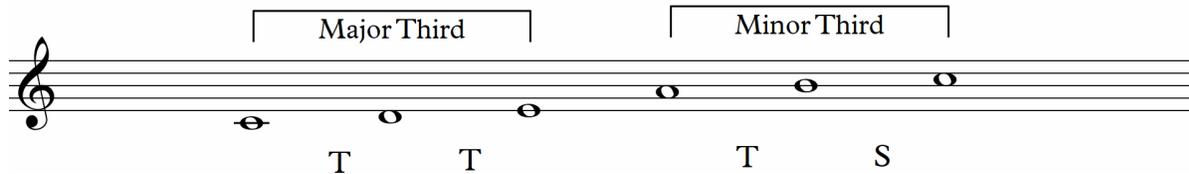
3.1.3

When playing a scale on the white keys of a keyboard instrument ascending from 'A', a pattern of intervals consisting of T S T T S T T is obtained. This is known as the '**natural**' **minor scale**.

The **C major scale**, and the **A minor scale** are said to be **relative** to each other because both contain no sharps or flats.

Major and Minor Thirds

It should be observed that the distinction between major and minor scales is the characteristic interval between the first and third degrees as illustrated below.



The major third has four semitones. **i.e.** 2 tones

The minor third has three semitones **i.e.** 1 ½ tones

The major and minor patterns must be understood and memorised as they are very important in relation to later lessons on **tonality**.

Tonality may be defined as the ordered arrangement of tones and semitones from the tonic to which all other notes relate.

3.1.4

LESSON 1 WORKSHEET

ORAL WORK

1. What is a tetrachord?
2. What names are given to the Tetrachords of an eight note scale?
3. What is the name of the interval which separates the Tetrachords?
4. What is a Diatonic Scale?
5. What is the pattern of tones and semitones in the following :-
 - a) The Major Scale?
 - b) The Minor Scale?
6. What is the pitch name of the following :-
 - a) The Natural Major Scale?
 - b) The Natural Minor Scale?
7. What characteristics distinguish major scales from minor scales?
8. How many semitones are there in the following :-
 - a) A major third?
 - b) A minor third?

3.1.5

LESSON 1 – WORKSHEET (CONT'D)

Written Work

1. Draw a blank staff and then illustrate the following :-
 - a) The treble clef and the C major scale using minims.
 - b) Show the pattern of intervals by the use of the letters T (tone) and S (semitone) placed between each note as appropriate.
 - c) Using brackets, show the tetrachords.
2. Draw a blank staff and illustrate the following :-
 - a) The bass clef and the A minor scale using crotchets.
 - b) Show the pattern of intervals by the use of the letters T (tone) and S (semitone) placed between each note as appropriate.
 - c) Using brackets, show the tetrachords.
3. Compare the tetrachords in the diagrams produced from Questions 1 and 2, and write a short answer to describe 'similar' and 'dissimilar' tetrachords.

3.2.1

LESSON 2

TONALITY (PART 1)

Introduction

Major and minor diatonic scales provide the basis for music typical of Western culture. Prior to the mid-17th Century, enharmonic notes such as **C**♭ and **D**♭ were not of the same pitch and consequently keyboard instruments were bulky and unwieldy.

To reduce the number of keys on keyboard instruments, the modern scale was created, and became known as the **mean tempered scale**. During the 18th century, J.S. Bach, using the mean tempered scale, produced a series of 'piano pieces' which were structured so that in each, a different semitone was used as the tonic. The 'piano pieces' were written in both major and minor modes.

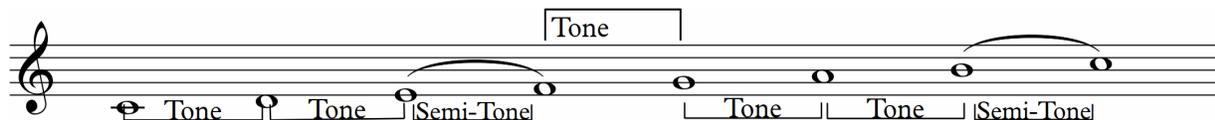
Using the different semitones as the tonic, means that the pattern of tones and semitones within the scale changes from one tonic to another. In order that the correct tone and semitone patterns are established, particular notes have to be adjusted by means of accidentals. These must apply throughout the duration of the music. The number of accidentals required varies, depending on the tonic selected.

3.2.2

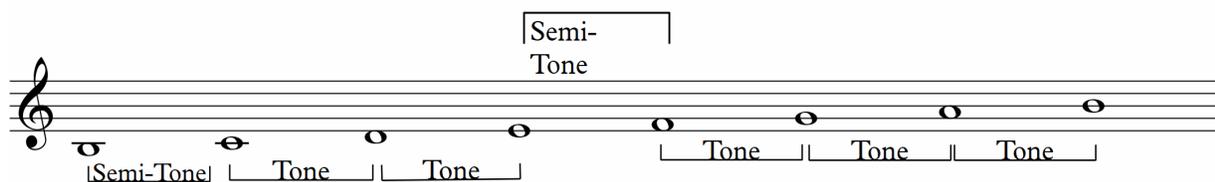
Major Scales (Incorporating Sharps)

Using C major (the natural major scale) no accidentals are required.

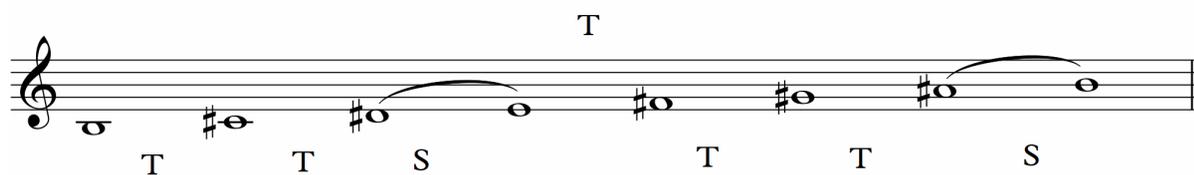
The C major scale would have the following pattern of tones and semitones:-



However, the scale with B as the tonic, would have the following incorrect pattern of tones and semitones :-



This would require accidentals to restore the major scale pattern as shown below.



Resulting in the scale of B major (B is the tonic, major is the mode).

In the case of B major, five sharps must be used. As a result of these requirements, the staff can become complicated and inevitably cluttered with symbols. To reduce the possible confusion and to ease interpretation, a procedure for simplifying the placement of accidentals was developed.

3.2.3

To avoid writing these sharps every time they occur in a scale which has B as its keynote, the sharps are placed in a group on the staff after the clef, but before the time signature, forming a key signature. This indicates that in the B major scale **all** F's, C's, G's, D's, and A's are to be played sharp.



The above diagram illustrates the B major scale with its five sharps forming the key signature correctly positioned following the clef sign.

The key signature determines the pitch of a composition within the compass of a particular clef.

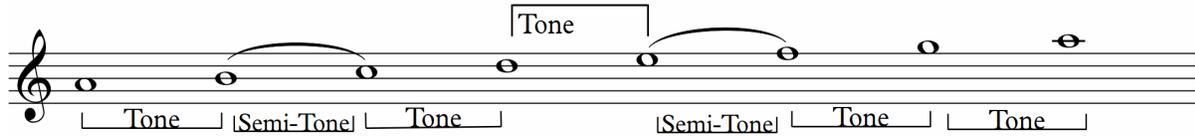
The process of positioning accidentals in Key Signature formation is explained in greater detail commencing on Page 3.4.1

3.2.4

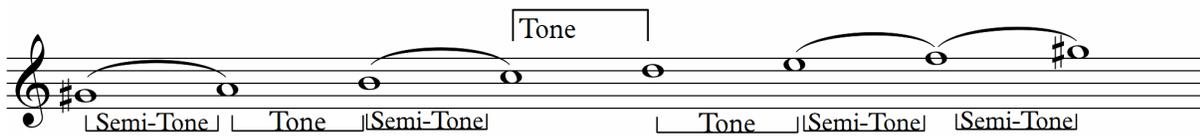
Minor Scales (Incorporating Sharps)

Using A minor (the natural minor scale) no accidentals are required.

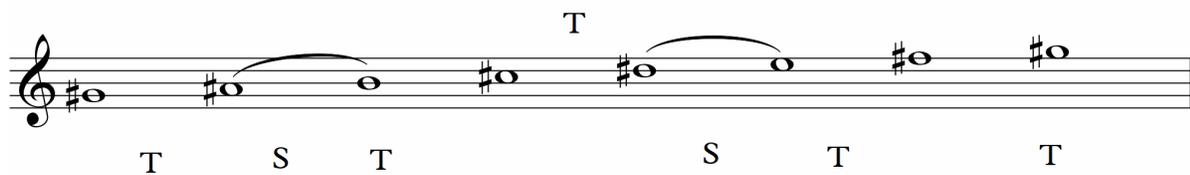
The A minor scale would have the following pattern of tones and semitones:-



However, the scale with G# as the tonic would have the following incorrect pattern of tones and semitones :-



This would require accidentals to restore the minor scale pattern as shown below.



Resulting in the scale of G natural minor, five sharps must be used. To avoid writing these sharps every time they occur in a scale which has G as its keynote, the sharps are placed in a group on the staff after the clef, but before the time signature, forming the key signature. This indicates that in the G natural minor scale, **all** F's, C's, G's, D's and A's are played sharp.

3.2.5

Examination of the key signature reveals that G is affected by a sharp and for that reason the scale is known as G \sharp minor.

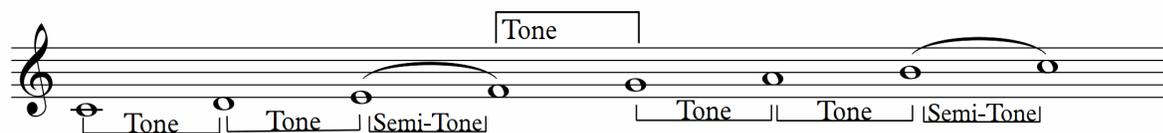


The above diagram featuring the key signature, illustrates the G \sharp minor scale with its given sharps correctly positioned immediately following the clef sign.

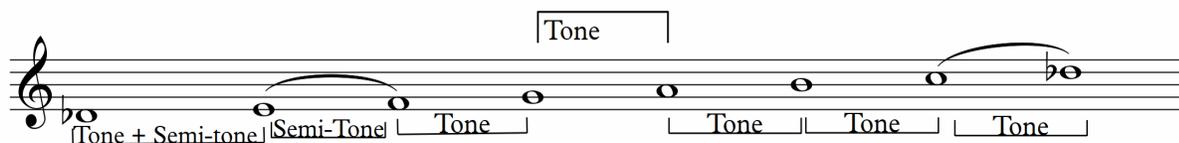
3.2.6

Major Scales (Incorporating Flats)

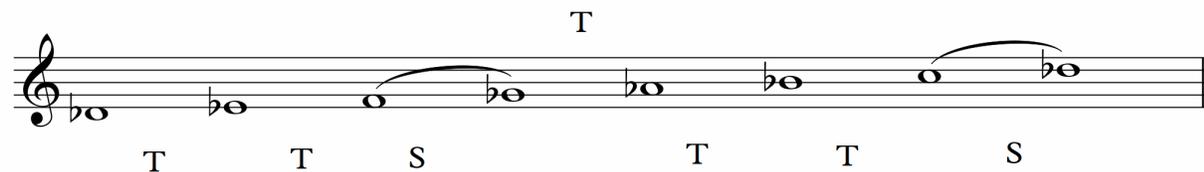
The C major scale would have the following pattern of tones and semitones :-



However, the scale with D \flat as the tonic would have the following incorrect pattern of tones and semitones :-



This would require accidentals to restore the major scale pattern as shown below.



Resulting in the scale of D \flat major (D \flat is the tonic, major is the mode).

In the case of D \flat major, five flats must be used.

To avoid writing these flats every time they occur in a scale which has D \flat as its keynote, the flats are placed in a group on the staff after the clef, but before the time signature, forming the key signature. This indicates that in D \flat major scale **all** B's, E's, A's, D's and G's are to be played flat.

3.2.7

Examination of the key signature reveals that D is affected by a flat and for that reason the scale is known as D \flat major.

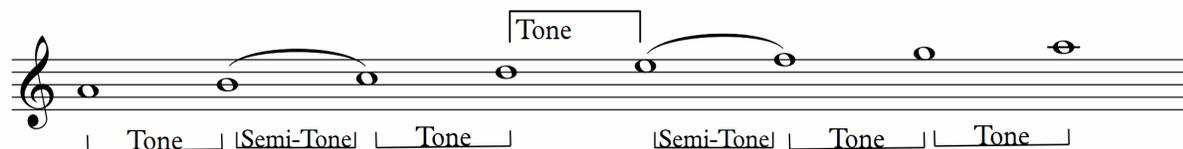


The above diagram shows the scale of D \flat major with its key signature correctly positioned.

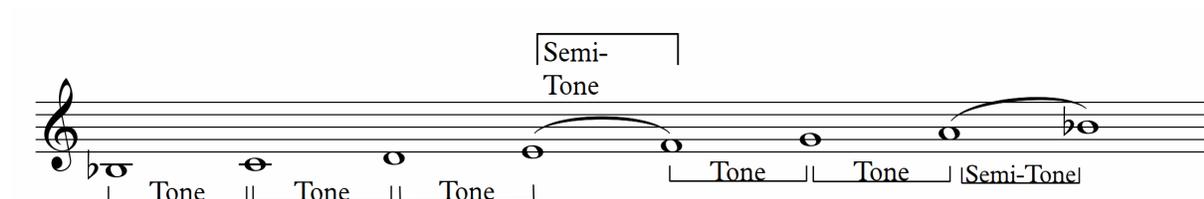
3.2.8

Minor Scales (Incorporating Flats)

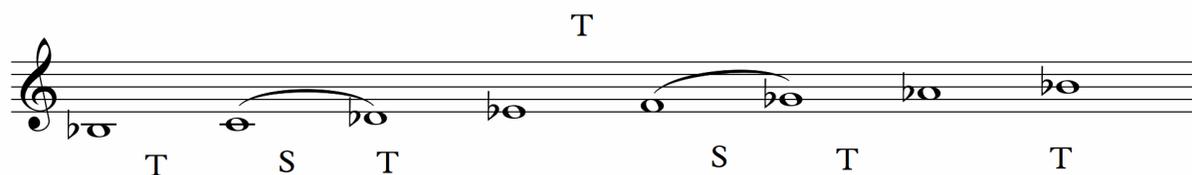
The A minor scale would have the following pattern of tones and semitones :-



However, the scale with B \flat as the tonic would have the following incorrect pattern of tones and semitones :-



This would require accidentals to restore the minor pattern as shown below.



Resulting in the scale of B \flat minor (B \flat is the tonic, minor is the mode).

In the case of B \flat minor, five flats must be used.

To avoid writing these flats every time they occur in a scale which has B \flat as its keynote, the flats are played in a group on the staff after the clef, but before the time signature, forming the key signature. This indicates that in the B \flat minor scale **all** B's, E's, A's, D's and G's are to be played flat.

3.2.9

Examination of the key signature reveals that B is affected by a flat and for that reason the scale is known as B \flat minor.



The above diagram shows the scale of B \flat minor with its key signature correctly positioned.

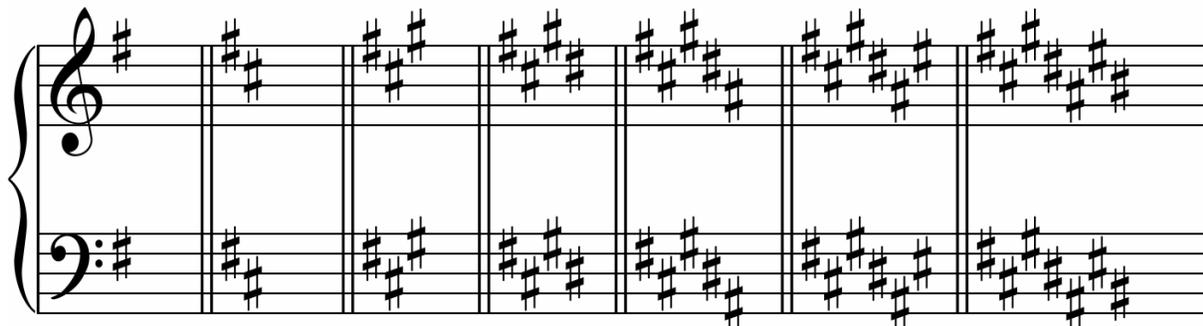
3.2.10

Major Scales – Accidentals

The diagrams which follow show the progression and placement of accidentals in common usage in major scales.

Name of Key

G Maj D Maj A Maj E Maj B Maj F# Maj C# Maj

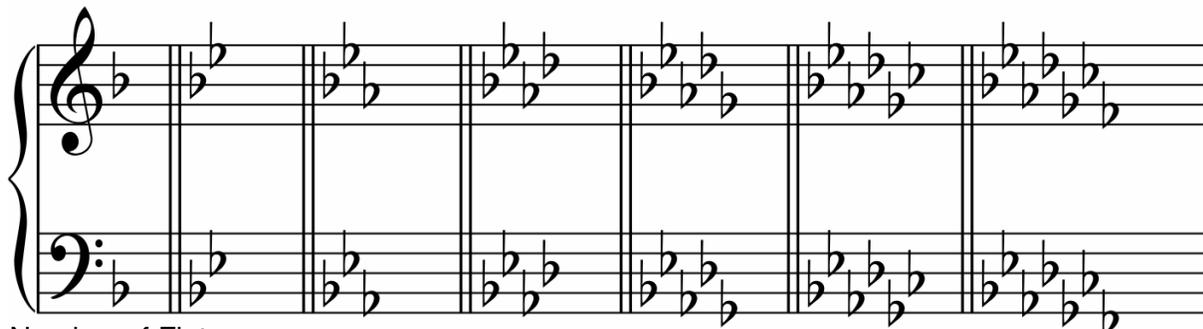


Number of Sharps

1 2 3 4 5 6 7

Name of Key

F Maj Bb Maj Eb Maj Ab Maj Db Maj Gb Maj Cb Maj



Number of Flats

1 2 3 4 5 6 7

3.2.11

Minor Scales - Accidentals

The diagrams which follow show the progression and placement of accidentals in common usage in **minor scales**.

Name of Key

E Min B Min F#Min C# Min G# Min D# Min A# Min

Musical notation for seven minor scales with sharps: E Min, B Min, F#Min, C# Min, G# Min, D# Min, and A# Min. Each scale is shown in a two-staff piano format with a treble and bass clef. The notes are arranged in ascending and descending order for each scale.

Number of Sharps

1 2 3 4 5 6 7

Name of Key

D Min G Min C Min F Min Bb Min Eb Min Ab Min

Musical notation for seven minor scales with flats: D Min, G Min, C Min, F Min, Bb Min, Eb Min, and Ab Min. Each scale is shown in a two-staff piano format with a treble and bass clef. The notes are arranged in ascending and descending order for each scale.

Number of Flats

1 2 3 4 5 6 7

3.2.12

LESSON 2 WORKSHEET

ORAL WORK

1. What is meant by the 'Mean Tempered Scale'?
2. What is an accidental, and what is its function?
3. Define 'Keynote'.
4. Explain the term 'mode' as it applies to music.
5. What is tonality?
6. What is a key signature, and what is its function?

3.2.13

LESSON 2 – WORKSHEET (CONT'D)

Written Work

Prepare four blank (barred) staves using the example illustrated as a model.



1. A) On the first blank staff, draw the treble clef, and in each bar, using sharps, enter each key signature from C major to C \sharp Major.
B) Write the name of each key signature under the appropriate bar.

2. A) On the second blank staff, draw the bass clef, and in each bar, using flats, enter each key signature from C major to C \flat major.
B) Write the name of each key signature under the appropriate bar.

3. A) On the third blank staff, draw the treble clef, and in each bar, using sharps, enter each key signature from A minor to A \sharp minor.
B) Write the name of each key signature under the appropriate bar.

4. A) On the fourth blank staff, draw the treble clef, and in each bar, using flats, enter each key signature from A minor to A \flat minor.
B) Write the name of each key signature under the appropriate bar.

3.3.1

LESSON 3

Relative Scales

A comparison of the diagrams in Lesson 2 indicates that both major and minor scales may use the same key signatures.

These are known as relative scales.

Typical examples of major keys with their relative minor keys are shown below :-

The image displays two rows of musical notation on five-line staves with treble clefs. The first row shows four major scales: C Major (no sharps or flats), G Major (one sharp, F#), D Major (two sharps, F# and C#), and A Major (three sharps, F#, C#, and G#). The second row shows four minor scales: A Minor (no sharps or flats), E Minor (one sharp, F#), B Minor (two sharps, F# and C#), and F# Minor (three sharps, F#, C#, and G#). Each scale is represented by a single note on the staff, with a key signature symbol (sharp or flat) placed above the staff line. The notes are positioned on the lines of the staff: C Major (C1), G Major (G2), D Major (D3), A Major (A3), A Minor (A2), E Minor (E3), B Minor (B3), and F# Minor (F#3).

It may be observed that the submediant (or sixth degree) of a major scale is also the tonic of its relative minor scale.

Conversely, the mediant (or third degree) of a minor scale is the tonic of its relative major scale.

As C major and A minor are relative scales, so also are those scales which share the same key signature.

3.3.2

Figures 1 and 2 show fifteen major scales and fifteen minor scales in common use.

Students must familiarise themselves with all relative key signatures. A simple method of memorising the sequence of sharps and flats as they are shown on the staff forming the key signature, is by using the following phrase :-

1. **Few Can Gain Distinction And Escape Blame**

i.e. For Sharps – **F C G D A E B**

2. By reversing the above, the sequence for flats is obtained.

i.e. for Flats – **B E A D G C F**

It may be observed from the above diagrams that six of these keys are enharmonic in that they share the same tonic (i.e. 3 major and 3 minor).

The enharmonic major keys

C \square and D \square , F \square and G \square , B and C \square .

Are also relative to each other

The enharmonic minor keys

A \square and B \square , D \square and E \square , G \square and A \square .

3.3.3

A table of Major Keys with their Relative Minors in the Treble Staff

The image displays a table of major keys and their relative minors in the treble staff, organized into four rows. Each row contains two staves: the top staff for major keys and the bottom staff for their relative minors. The keys are listed above each staff, and the corresponding notes are written on the staves. Vertical double bar lines separate the columns for each key.

Major Key	Relative Minor
C Major	A Minor
G Major	E Minor
D Major	B Minor
A Major	F# Minor
E Major	C# Minor
B Major	G# Minor
F# Major	D# Minor
C# Major	A# Minor
F Major	D minor
Bb Major	G minor
Eb Major	C Minor
Ab Major	F Minor
Db Major	Bb Minor
Gb Major	Eb Minor
Cb Major	Ab Minor

3.3.4

A table of Minor Keys with their Relative Majors in the Bass Staff

C Major	G Major	D Major	A Major
A Minor	E Minor	B Minor	F# Minor
E Major	B Major	F# Major	C# Major
C# Minor	G# Minor	D# Minor	A# Minor
F Major	B b Major	E b Major	A b Major
D minor	G minor	C Minor	F Minor
D b Major	G b Major	C b Major	
B b Minor	E b Minor	A b Minor	

3.3.5

LESSON 3 WORKSHEET

ORAL WORK

1. When written as letters of the alphabet, how are the major and minor key signatures distinguished from each other?

2. Explain what is mean by 'Relative Scales'.

3. Name the major keys which contain the following :-
 - a) Three flats
 - b) Four sharps
 - c) One sharp
 - d) No flats

4. Name the minor keys which contain the following :-
 - a) Two sharps
 - b) Two flats
 - c) No sharps
 - d) One flat

5. What is meant by 'Enharmonic Keys'?

3.3.6

LESSON 3 – WORKSHEET (CONT'D)

Written Work

Prepare a blank (barred) staff on the basis of the example illustrated here.



1. On the blank staff, draw the treble clef and in the bars enter each of the following key signatures :-
 - a) D major
 - b) B \square Major
 - c) F Major
 - d) G Major
 - e) F \square Major

2. Name the relative minor key signatures for the following key signatures :-
 - a) D major
 - b) B \square Major
 - c) F Major
 - d) G Major
 - e) F \square Major

3. Prepare a blank staff then carry out the following :-
 - a) Enter the alto clef on the staff
 - b) Enter the C major scale. Use semibreves.
 - c) Indicate the position of the semitone intervals by using 'slurs'.

3.4.1

LESSON 4

Tonality Part 2

Major Scales

To simplify the allocation of a key signature when constructing major or minor scales, the procedure of using **fifths**, either upward from the tonic, or downward from the octave is applied.

Upward Movement (Major scales)

When movement is upward from the tonic, a key sign consisting of sharps is used.

The following text and diagrams illustrate an example of the construction of a major scale upward from the tonic.

1.1

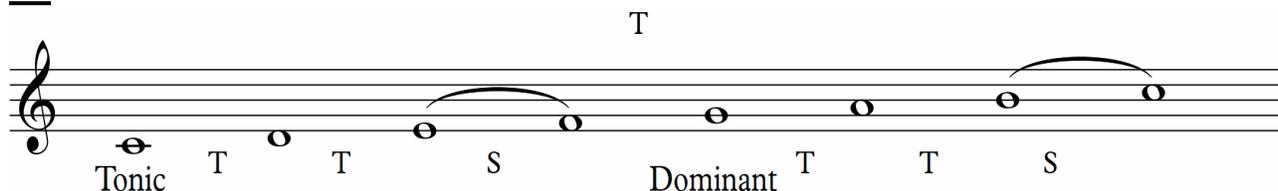
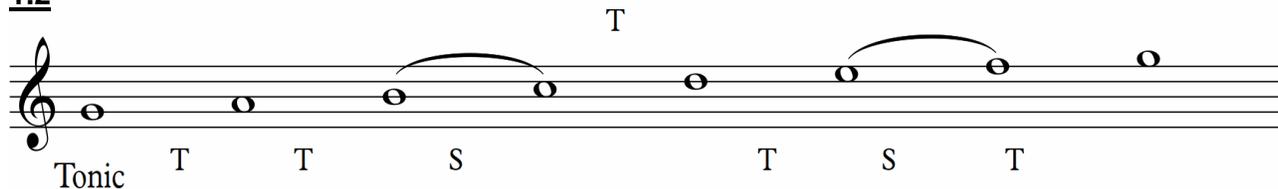


Diagram 1.1 shows the C major scale. Observe that this scale has no sharps or flats. The dominant, or fifth upward from the tonic in this scale is G.

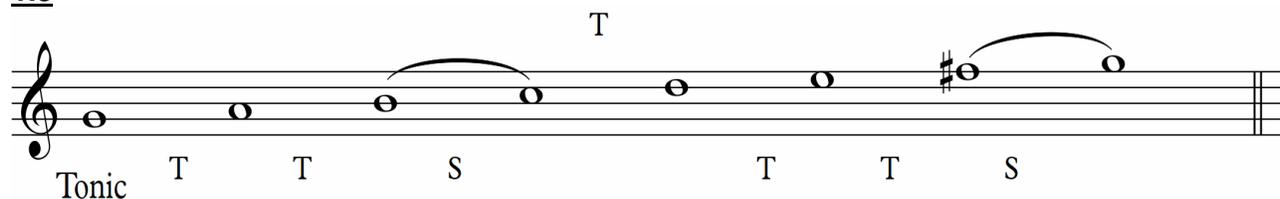
1.2



To construct the scale in G, take the dominant of the C scale (**i.e.** G) and make this the tonic of the new scale. The scale pattern as shown in diagram 1.2 is incorrect because the upper semitone should appear between the seventh and the octave.

3.4.2

1.3



To maintain the correct pattern of tones and semitones, the seventh or leading note must be augmented or sharpened as shown in diagram 1.3.

1.4

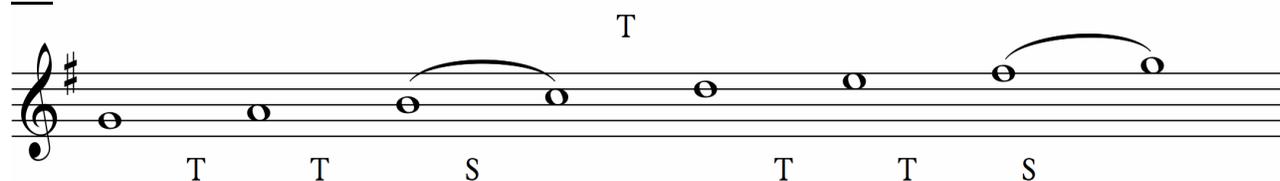


Diagram 1.4 illustrates the G major scale with its single sharp correctly positioned immediately following the clef sign.

The next scale in the **upward** sequence is D. The note D being the fifth or dominant of the G scale.

1.5

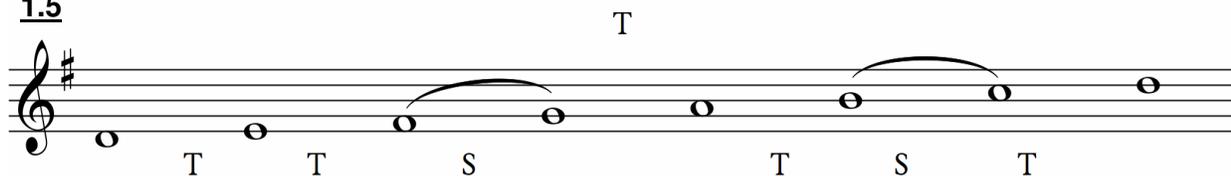
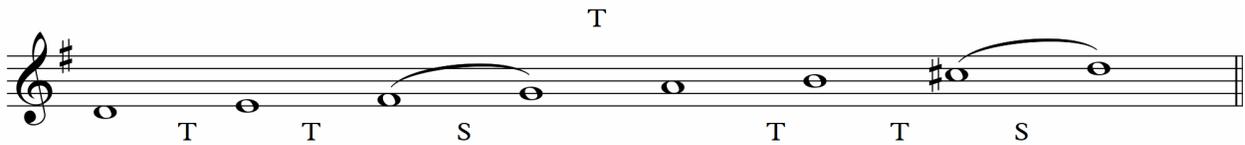


Diagram 1.5 shows a scale with D as the tonic with the upper semitone incorrectly positioned. The upper semitone should appear between the seventh and the octave.

3.4.3

1.6



To maintain the correct pattern of tones and semitones, the seventh or leading note must be augmented or sharpened as shown in diagram 1.6.

1.7

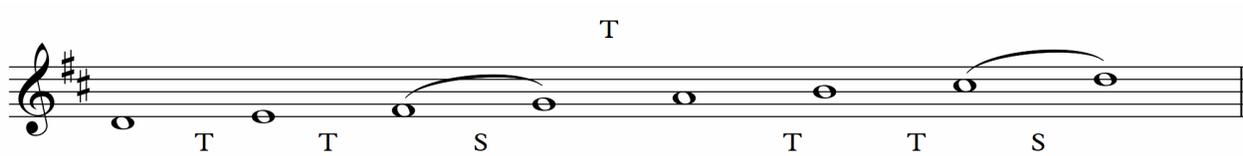


Diagram 1.7 illustrates the D major scale with its two sharps correctly positioned immediately following the clef sign.

The above diagrams illustrate an important law that from the **DOMINANT of any major scale**, a new scale can be built which needs only one note from the previous scale altered.

This note is always the LEADING NOTE of the new scale.

N.B. This applies to the upward movement in major scales.

By continuing this process, we may successfully form the scales of A, E, B, F and C.

3.4.4

Tonality Part 3

Downward Movement (Major scales)

When movement is **downward** from the octave, a key sign consisting of flats is used. The following text and diagrams illustrate an example of the construction of A major scale downward from the octave.

2.1

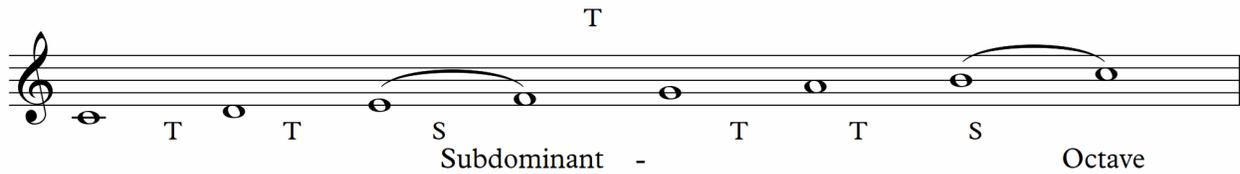
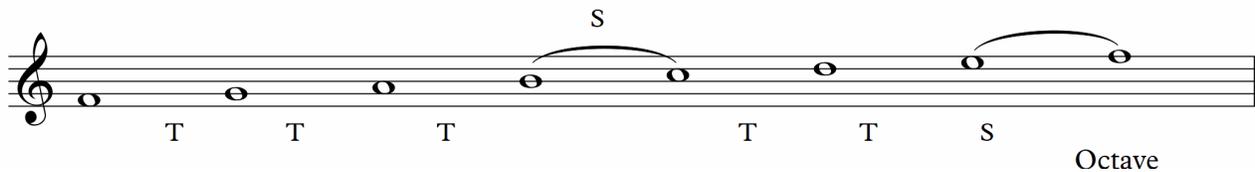


Diagram 2.1 shows the C major scale. Observe that this scale has no sharps or flats. The subdominant, or fifth downward from the octave in this scale is F.

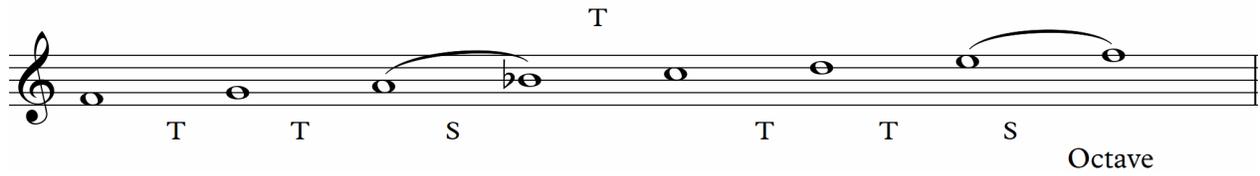
2.2



To construct the scale in F, take the subdominant of the C scale, (**i.e.** F) and make this the tonic of the new scale. The scale pattern as shown in diagram 2.2 is incorrect because the lower semitone should appear between the third and fourth interval.

3.4.5

2.3



To maintain the correct pattern of tones and semitones, the fourth or subdominant note must be diminished or flattened as shown in diagram **2.3**.

2.4

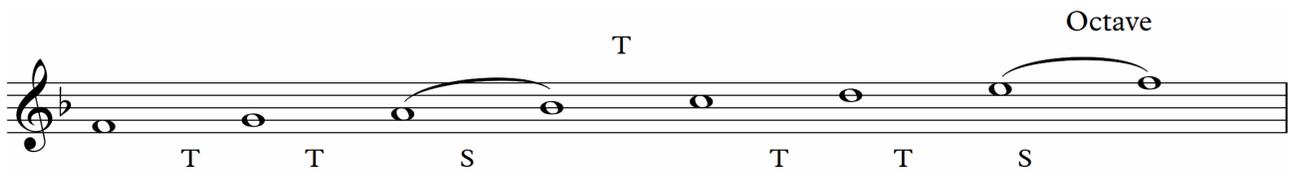


Diagram **2.4** illustrates the F major scale with its single flat correctly positioned immediately following the clef sign.

3.4.6

The next scale in the **downward** sequence is B. The note B being the fifth **downward**, or subdominant of the F scale.

2.5

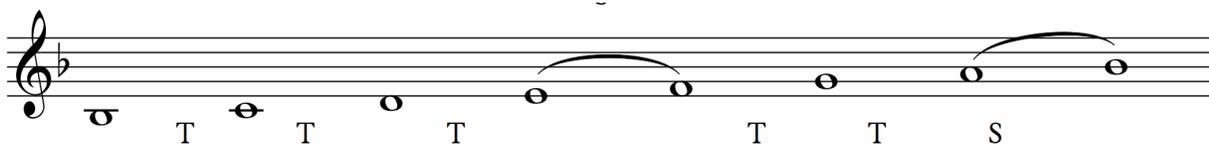
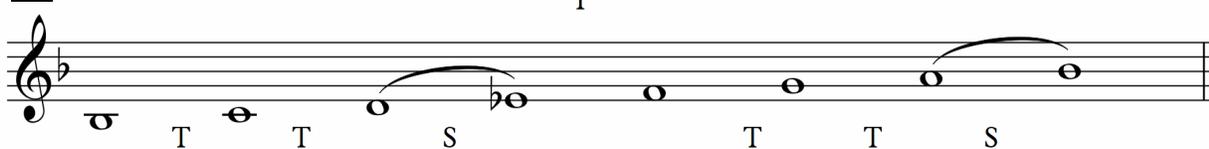


Diagram 2.5 shows a scale with B as the tonic, with the lower semitone incorrectly positioned. The lower semitone should appear between the third and fourth intervals.

2.6



To maintain the correct pattern of tones and semitones, the fourth or subdominant must be diminished or flatted as shown in diagram 2.6

2.7

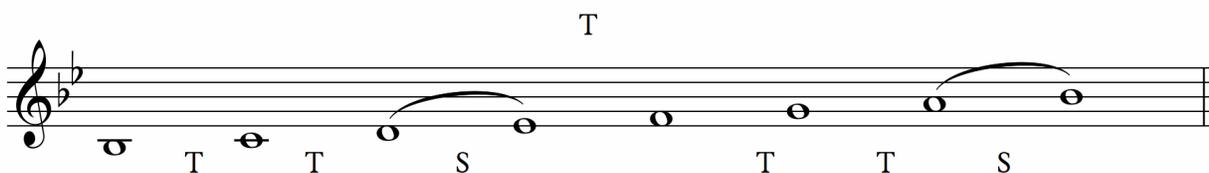


Diagram 2.7 illustrates the B major scale with its two flats correctly positioned immediately following the clef sign.

3.4.7

Examination of the key signature reveals that B is affected by a flat and for that reason the scale is known as B \flat major.

The above diagrams illustrate an important law that from the **SUBDOMINANT of any major scale**, a new scale can be built which needs only one note from the previous scale altered.

This note is always the SUBDOMINANT of the new scale.

N.B this applies to the downward movement in major scales.

By continuing the process as previously described we may form successively, the major scales of E \flat , A \flat , Db, G \flat and C \flat .

TONALITY PART 4**Minor Scales**

To simplify the allocation of a key signature when constructing major or minor scales, the procedure of using **fifths**, either upward from the tonic, or downward from the octave is applied.

Upward Movement (Minor scales)

When movement is upward from the tonic, a key sign consisting of sharps is used.

The following text and diagrams illustrate an example of the upward movement from the tonic using sharps.

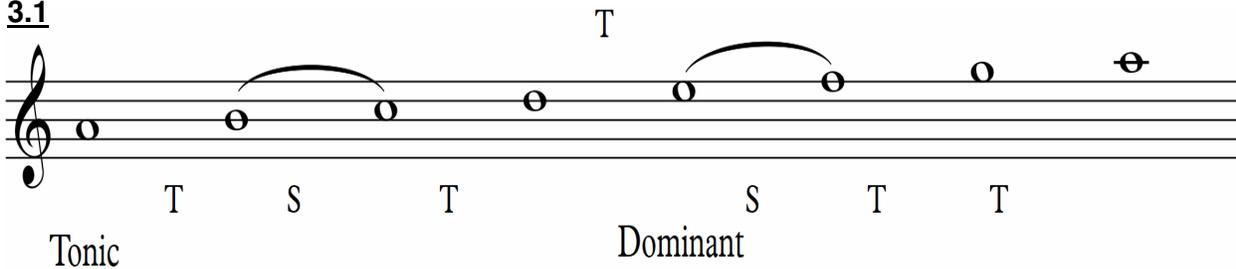
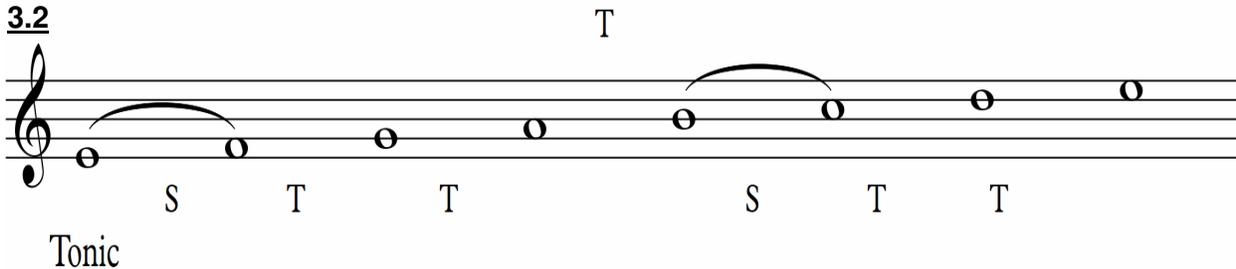
3.1

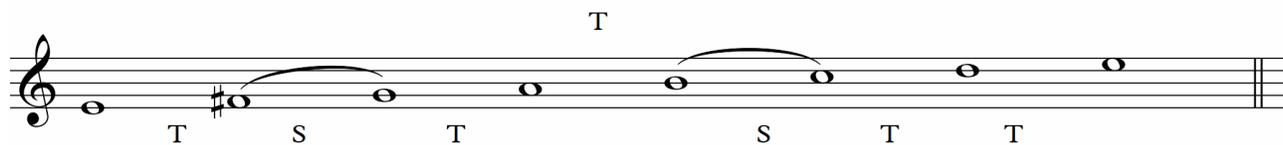
Diagram 3.1 shows the A minor scale. Observe that this scale has no sharps or flats. The dominant, or fifth upward from the tonic in this scale is E.

3.2

To construct the scale in E, take the dominant of the A scale (**i.e.** E) and make this the tonic of the new scale. The scale pattern as shown in diagram 3.2 is incorrect. The lower semitone should appear between the second and third notes.

3.4.9

3.3



To maintain the correct pattern of tones and semitones, the second note, or supertonic of the new scale must be augmented or raised by a semitone by using a sharp as show in diagram 3.3.

3.4

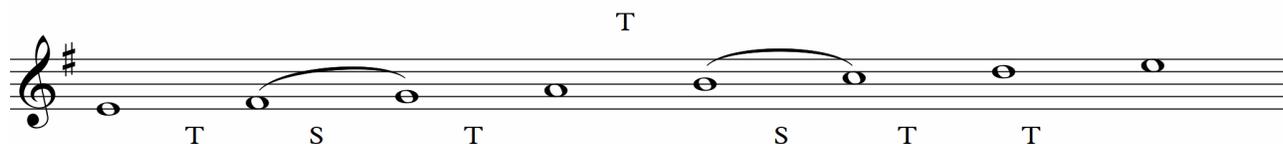


Diagram 3.4 shows the E minor scale with its one sharp correctly positioned immediately following the clef sign.

The next scale in the **upward** sequence is B. The note B being the fifth or dominant upward from the tonic of the E minor scale.

3.5

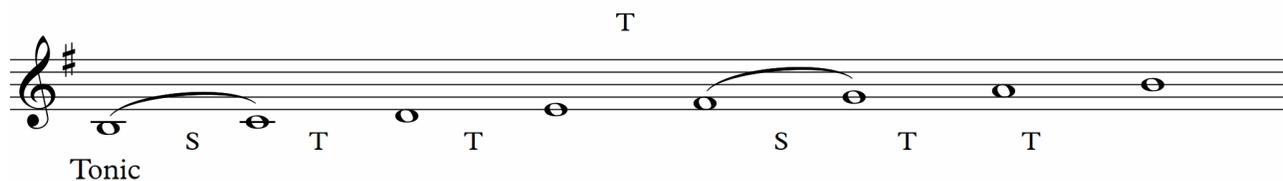
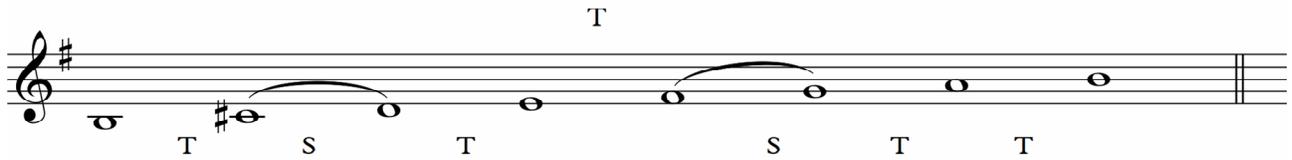


Diagram 3.5 shows a scale with B as the tonic with the lower semitone incorrectly positioned. The lower semitone should appear between the second and third notes.

3.4.10

3.6



To maintain the correct pattern of tones and semitones, the second note, or supertonic of the new scale must be augmented or raised by a semitone by using a sharp as show in diagram 3.6.

3.7

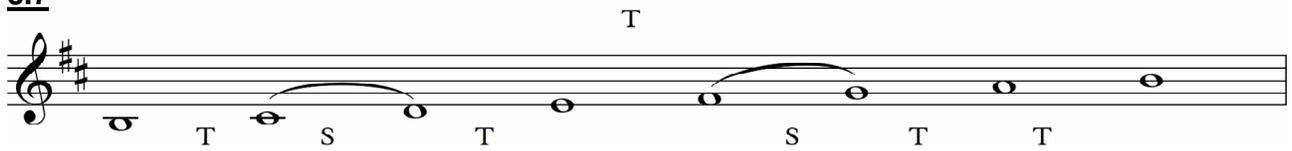


Diagram 3.7 shows the B minor scale with its two sharps correctly positioned immediately following the clef sign.

The above diagrams illustrate an important law that from the **DOMINANT of any minor scale**, a new scale can be built which needs only one note from the previous scale altered.

This note is always the SUPERTONIC of the new scale.

N.B. This applies to the upward movement in minor scales.

By continuing this process, we may successfully form the scales of F□, C□, G□, and A□ minor.

LESSON 4 (PARTS 2-5) WORKSHEET

ORAL WORK

1. What are the interval numbers of the following notes :-
(e.g. Octave = 8th)
 - a) Dominant
 - b) Leading Note
 - c) Tonic
 - d) Subdominant
 - e) Supertonic
 - f) Submediant

2. What is the pattern of Tones and Semitones in a major scale?

3. At what intervals in the Minor Scale do the semitones occur?

4. Which note of one scale becomes the tonic of the next when constructing scales :-
 - a) Upward from the tonic?
 - b) Downward from the octave?

5. State whether a key signature will consist of sharps or flats when constructing scales from :-
 - a) The subdominant
 - b) The Dominant

3.4.12

LESSON 4 (PARTS 2-5) WORKSHEET (CONT'D)

WRITTEN WORK

1. Draw two blank staves.
 - a) On the first blank staff, enter the treble clef and use semibreves to show the natural major scale.
 - b) Using the dominant of that scale, construct a new scale on the second blank staff.
 - c) Name the new scale.

2. Draw two blank staves.
 - a) On the first blank staff, enter the treble clef and use semibreves to show the scale of C major.
 - b) Using the subdominant of that scale, construct a new scale on the second blank staff.
 - c) Name the new scale.

3. Name the relative minor keys to those identified in questions 1a, 1b, 2a and 2b.

Tonality Part 5**Downward Movement (Minor scales)**

When movement is downward from the octave, a key sign consisting of flats is used.

The following text and diagrams illustrate an example of the downward movement from the octave using flats.

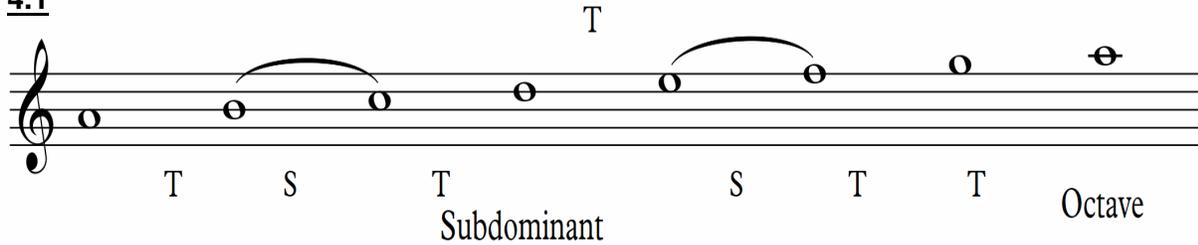
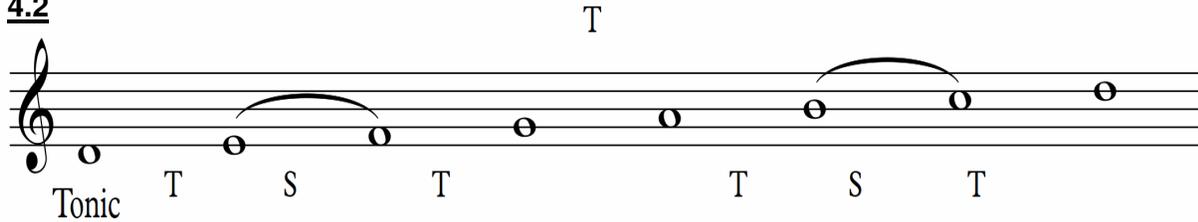
4.1

Diagram 4.1 shows the A minor scale. Observe that this scale has no sharps or flats. The subdominant, or fifth downward from the tonic in this scale, is D.

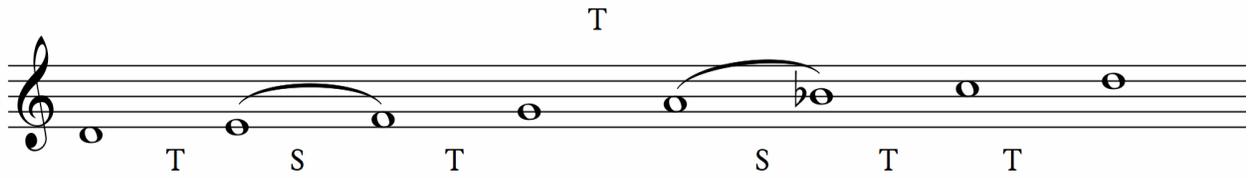
4.2

To construct the scale in D, take the subdominant or fifth downward from the octave of the A scale (**i.e.** D) and make this the tonic of the new scale.

The scale pattern as shown in diagram 4.2 is incorrect. The upper semitone should appear between the fifth and sixth notes.

3.4.14

4.3



To maintain the correct pattern of tones and semitones, the sixth note, or submediant must be diminished, or lowered by a semitone by using a flat as show in diagram 4.3.

4.4

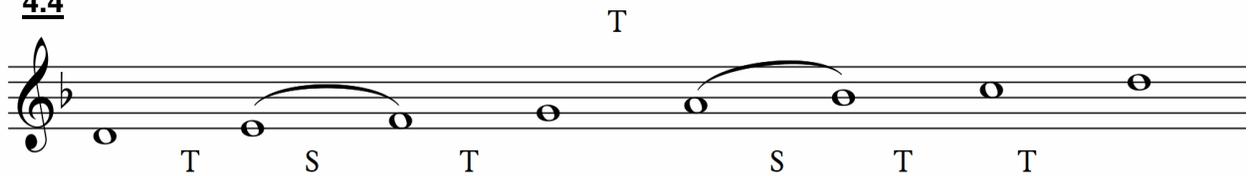


Diagram 4.4 shows the D minor scale with its one flat correctly positioned immediately following the clef sign.

The next scale in the **downward** sequence is G. The note G being the fifth or subdominant downward from the octave of the D minor scale.

4.5

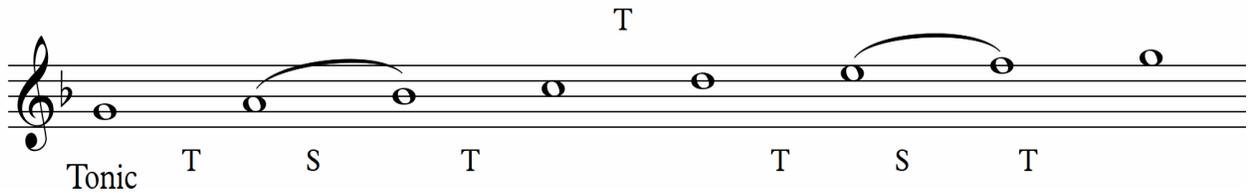
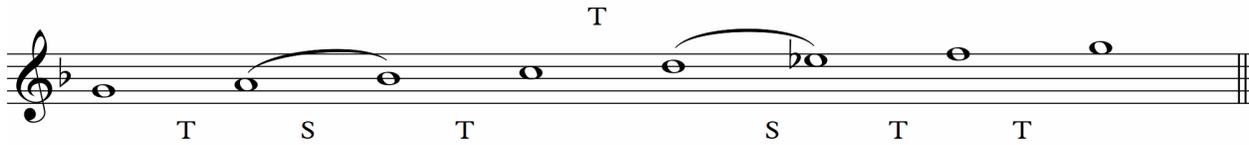


Diagram 4.5 shows a scale with G as the tonic with the upper semitone incorrectly positioned. The upper semitone should appear between the fifth and sixth notes.

3.4.15

4.6



To maintain the correct pattern of tones and semitones, the sixth note, or submediant, must be diminished or lowered by a semitone by using a flat as show in diagram 4.6.

4.7

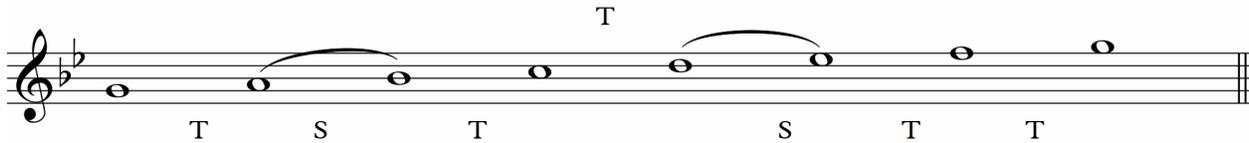


Diagram 4.7 illustrates the G minor scale with its two flats correctly positioned immediately following the clef sign.

The above diagrams illustrate an important law that from the **SUBDOMINANT of any minor scale**, a new scale can be built which needs only one note from the previous scale altered.

This note is always the SUBMEDIANT of the new scale.

N.B. This applies to the downward movement in minor scales.

By continuing this process, we may successfully form the scales of C, F, B \flat , E \flat and A \flat .

TONALITY (PART 6)**Major scale construction using tetrachords**

The eight notes of major scales are divided into two groups of four known as **tetrachords**.

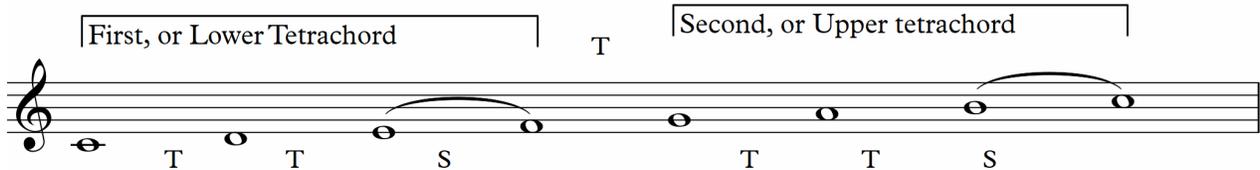
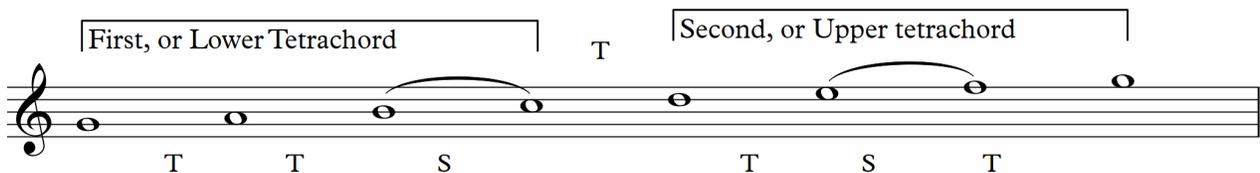
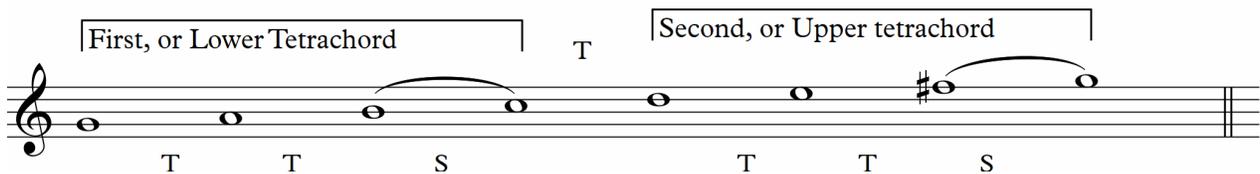
Upward Movement (Major scales)**5.1**

Diagram 5.1 shows the C major scale. Observe that the semitones lie in the same position within each tetrachord and that these semitones are marked with a slur.

The interval between the third and fourth notes, and between the seventh and eighth notes, in all major scales are semitones. The second or upper tetrachord of the scale of C major is shown as the first or lower tetrachord of a major scale starting on G. The second or upper tetrachord of the G scale is added.

5.2

In diagram 5.2 observe that the second or upper tetrachord does not have a semitone between its third and fourth notes.

5.3

In diagram 5.3 a sharp is placed before the note F, augmenting, or raising the note by a semitone to maintain the correct pattern of tones and semitones.

3.4.17

5.4

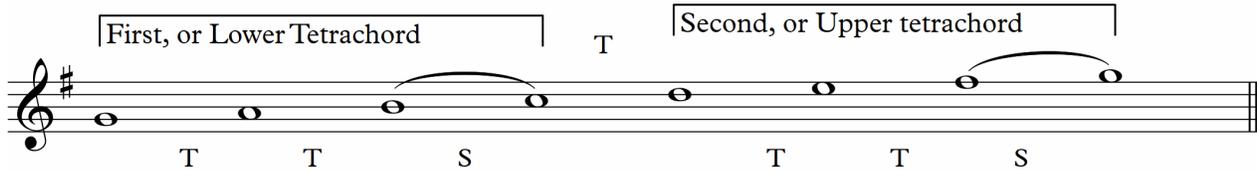
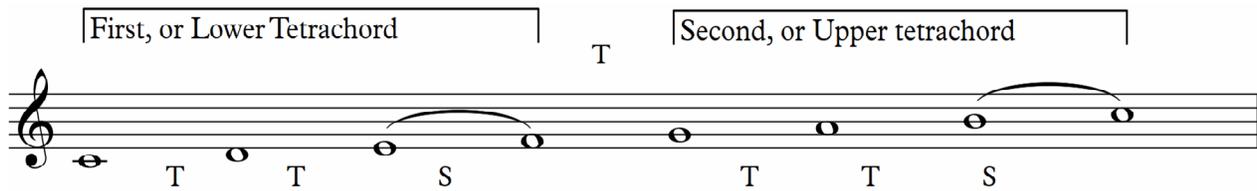


Diagram 5.4 shows the G major scale with its single sharp correctly positioned immediately following the clef sign.

Downward movement

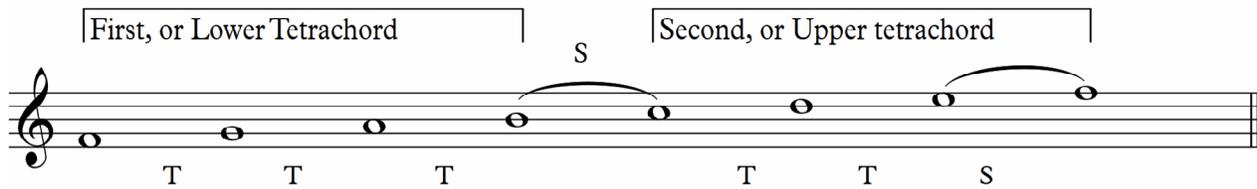
5.5



In diagram 5.5, observe that the semitones lie in the same position within each tetrachord and that these semitones are marked with a slur.

The interval between the third and fourth notes, and between the seventh and eighth notes, in all major scales, are semitones.

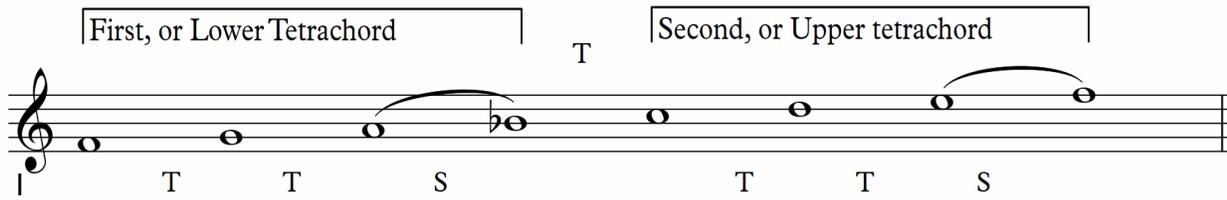
5.6



In diagram 5.6, the first or lower tetrachord of the scale of C major is shown as the second or upper tetrachord of a major scale starting on F, and the second or upper tetrachord of the F scale is added. Observe that the first tetrachord does not have a semitone between its third and fourth notes.

3.4.18

5.7



In diagram 5.7, a flat is placed before the note B, diminishing or lowering it by a semitone to maintain the correct pattern of tones and semitones.

5.8

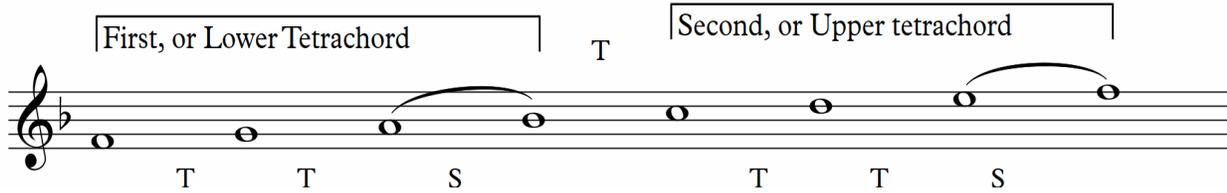


Diagram 5.8 shows the F major scale with its single flat correctly positioned immediately following the clef sign.

TONALITY (PART 7)**Minor Scale construction using tetrachords**

The eight notes of the minor scales are divided into two groups of four known as **tetrachords**.

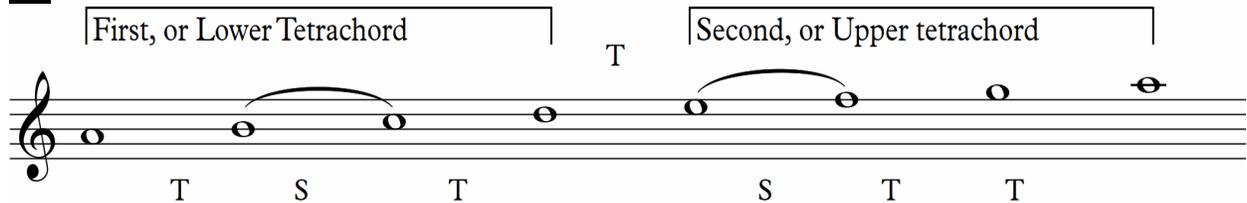
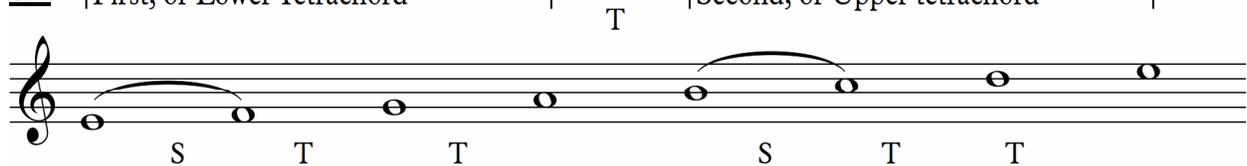
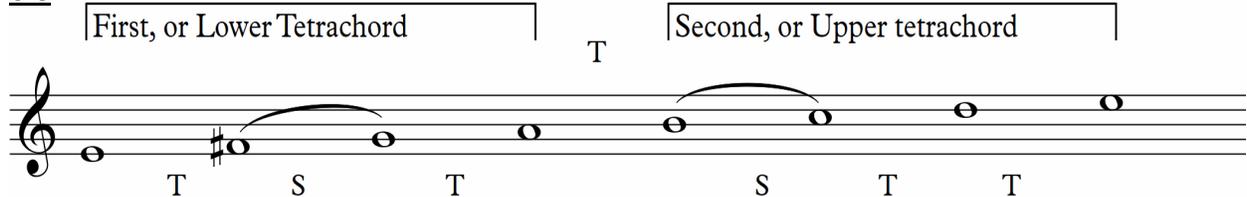
Upward Movement (Minor scales)**6.1**

Diagram 6.1 shows the A minor Scale. Observe that the semitones are in different positions within each tetrachord. These semitones are marked with a slur.

The interval between the second and third notes and between the fifth and sixth notes in minor scales are semitones.

6.2

In diagram 6.2 the second or upper tetrachord of the scale of A minor is shown as the first or lower tetrachord of A minor scale starting on E. The second or upper tetrachord of the E scale is added. Observe that the first or lower tetrachord does not have a semitone between its second and third notes.

6.3

In order to re-establish the correct pattern of tones and semitones a sharp is placed before the note F augmenting or raising it a semitone as shown in diagram 6.3.

6.4

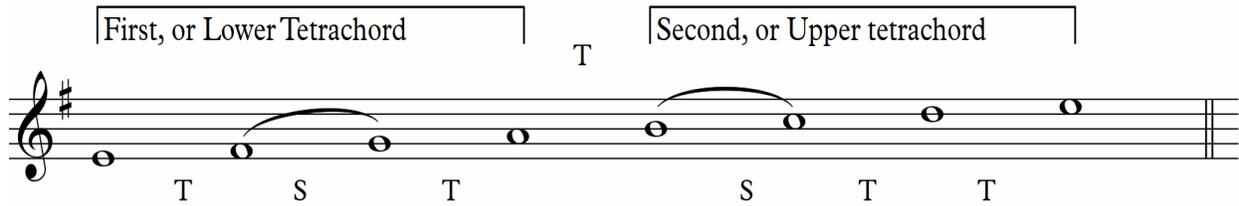
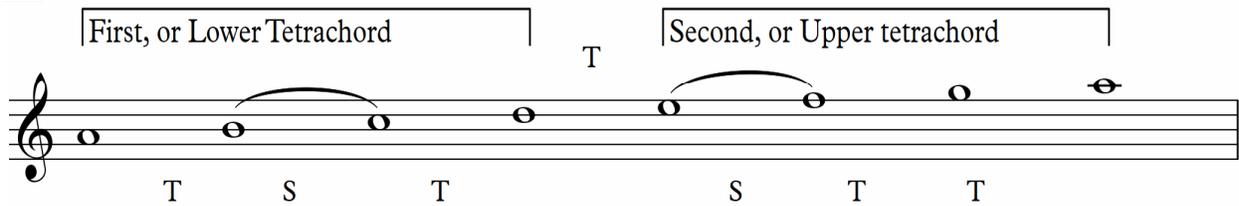


Diagram 6.4 shows the E minor scale with its single sharp correctly positioned immediately following the clef sign.

Downward Movement (Minor Scales)

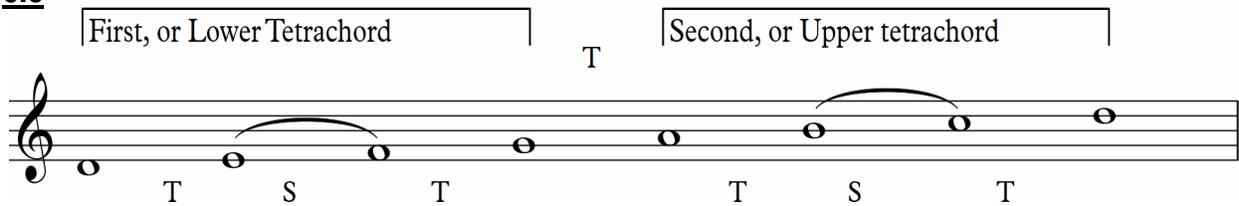
6.5



In diagram 6.5 observe that the semitones are in different positions within each tetrachord. These semitones are marked with a slur.

The interval between the second and third notes and between the fifth and sixth notes in minor scales are semitones.

6.6



In diagram 6.6 the first or lower tetrachord of the scale of A minor (as shown in diagram 6.5) becomes the second or upper tetrachord. The first, or lower tetrachord is added as shown with the D note becoming the new tonic. Observe that the upper tetrachord does not have a semitone between the fifth and sixth notes.

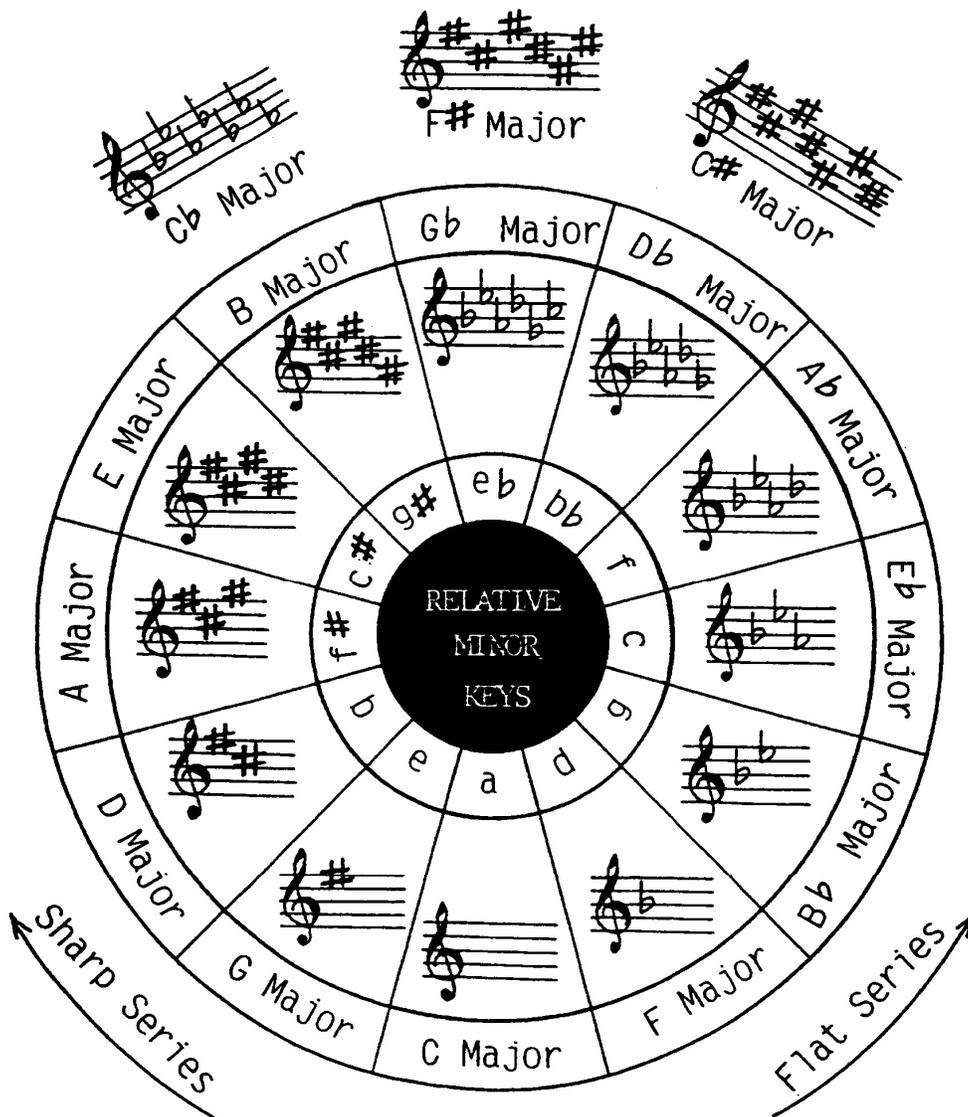
Tonality Part 8

The Circle of Fifths

The relationship of the major and relative minor keys may be demonstrated by the **Circle of Fifths** in the diagram below. The keys are arranged in order of ascending and descending fifths, starting with C major (A minor).

The order of sharp keys moves in fifths, clockwise from C major (A minor), the dominant of one key becoming the tonic of the next.

The diagram also illustrates the enharmonic keys previously mentioned in Lesson 3.



The Circle of Fifths

LESSON 4 (PART 6-8) WORKSHEET

ORAL WORK

1. What is a tetrachord?
2. How are the Tetrachords of an eight note scale named?
3. What is significant about the major scale Tetrachords?
4. In the natural major scale, what are the pitch names of the notes on which the tetrachords begin?
5. What is the pattern of tones and semitones of the major scale?
6. State whether the resulting key signature will consist of sharps or flats when constructing scales using :-
 - a) The upper tetrachord.
 - b) The lower tetrachord.
7. What is meant by the 'Circle of Fifths'?

LESSON 4 (PART 6-8) WORKSHEET

WRITTEN WORK

1. Draw two blank staves.
 - a) On the first staff, enter the treble clef, then show the scale of D major as semibreves
 - b) Mark the positions of both tetrachords.
 - c) On the second blank staff, construct a new scale using the lower tetrachord.
 - d) Name the new scale.

2. Draw two blank staves.
 - a) On the first staff, enter the treble clef, then show the scale of E \square major as semibreves
 - b) Mark the positions of both tetrachords.
 - c) On the second blank staff, construct a new scale using the upper tetrachord.
 - d) Name the new scale.

3. Name the relative minor keys to the four diagrams in your answers to question 1 and 2.

3.5.1

LESSON 5

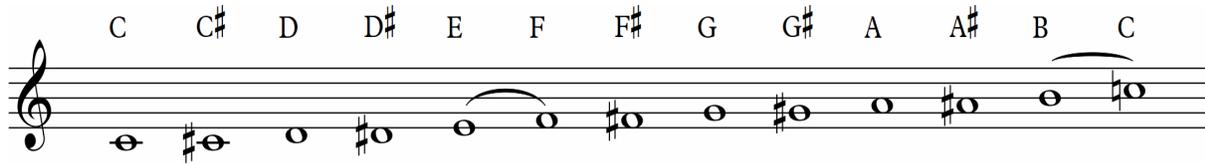
Scales Part 2

When the black and white keys on a keyboard are played in pitch order, from C to C', a scale consisting of twelve semitones is produced.

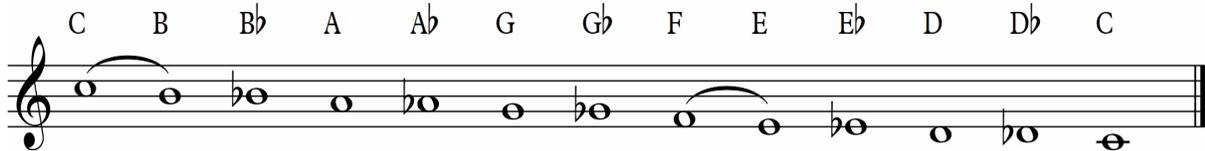
This is the **Chromatic Scale**.

A chromatic scale ascends or descends entirely by semitones and produces twelve sounds or steps between any note and its octave or tonic.

Ascending



Descending



To achieve the above, sharps or flats are used, as shown in the diagrams.

Observe that the natural semitones shown by the slurs are neither sharpened or flattened by the use of accidentals.

Observe further, that there are seven letters of the alphabet used for naming these twelve notes, five of the letters are used twice and remaining two letters once.

3.5.2

Diatonic and Chromatic Semitones

A diatonic semitone is one in which the two notes are a semitone apart and have different letter names (**e.g.** E to F and B to C in the C major scale).

A chromatic semitone is one in which the two notes are a semitone apart and have the same letter name, with the exception of the natural semitones, E - F and B - C (**e.g.** A to A \flat and G to G \sharp in the C major scale)

Tonality and Atonality

Tonality may be defined as the ordered arrangement of tones and semitones from the tonic to which all other notes relate.

Tonality is linked with the concept of a diatonic scale in which the notes, intervals and chords are contained in set patterns (**e.g.** tonic, dominant, subdominant).

The development of chromaticism as a scale in its own right, freed composers of the restrictions of tonality and resulted in the creation of a new musical form or field, termed **Atonality**.

The chromatic scale is also referred to as the **dodecaphonic** scale. (**i.e.** It consists of twelve equal notes or sounds each separated by a semitone).

Atonality is the abandoning of the use of key signatures within the major and minor tonal systems. The composition is organised without reference to a musical key and by the impartial use of notes from the chromatic scale.

LESSON 5 WORKSHEET

ORAL WORK

1. What is meant by 'Chromatic Scale'?

2. How many semitones are there in an octave?

3. What is unique about the use of accidentals in a chromatic scale when :-
 - a) Ascending?
 - b) Descending?

4. What type of music developed from the use of the chromatic scale?

5. Explain the term 'Atonality'.

6. What other name is the chromatic scale known by?

7. What is the difference between a diatonic semitone and a chromatic semitone?

8. Using the C major scale, illustrate one example of :-
 - a) Diatonic semitone
 - b) Chromatic semitone

3.5.4

LESSON 5 WORKSHEET (CONT'D)

WRITTEN WORK

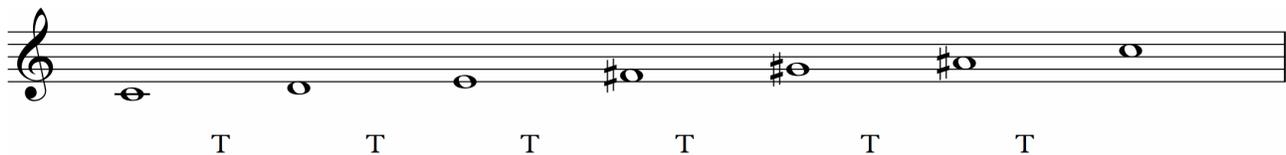
On a blank staff, enter the F clef, and using the octave starting on C, show each note of the chromatic scale ascending and descending as semibreves.

Carefully place the accidentals as required and show the position of the diatonic semitones by using legato marks.

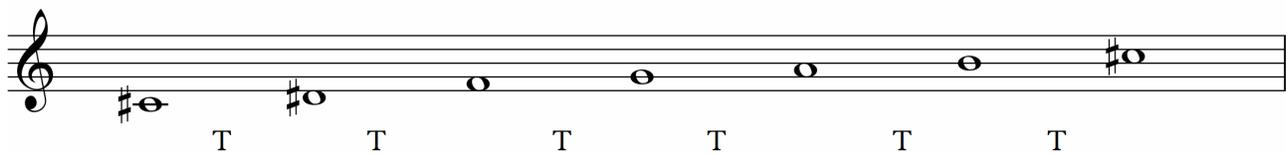
LESSON 6**Scales Part 3****The Whole-Tone Scale**

The intervals in this scale, as suggested by its name, consists of whole-tones only.

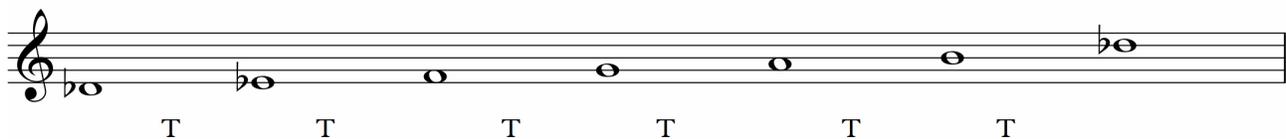
There is no implicit relationship between the notes of the scale (as in the diatonic scale – **e.g.** tonic, dominant, subdominant etc.). Basically there are two whole-tone scales, one starting on C and the other on C# (or its enharmonic equivalent – **i.e.** Db). There is a similarity between the music produced using this scale and '**atonal music**'.

The Whole-Tone Scale - C

N.B – Note B missing

The Whole-Tone Scale – C#

N.B Note E missing

The Whole-Tone Scale – D

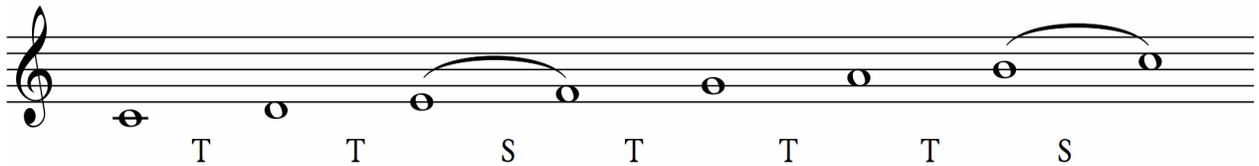
N.B Note C missing

3.6.2

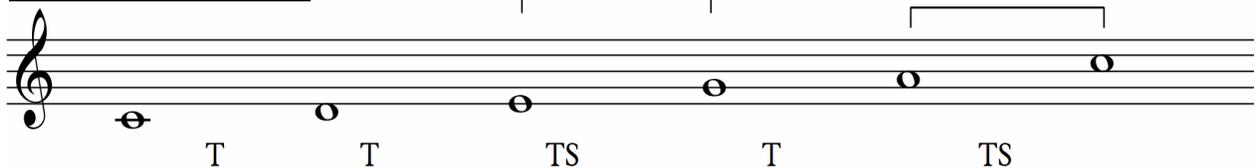
The Pentatonic Scale

The Pentatonic Scale is the name given to what is probably the most ancient musical scale. It may be easily produced using in sequence the five black keys of a keyboard instrument commencing with F♯. The scale consists of the first, second, third, fifth and sixth degrees of a modern Diatonic Scale. The result of this construction is that the smallest interval is a tone and the largest consists of a tone plus a semitone.

The Diatonic Scale



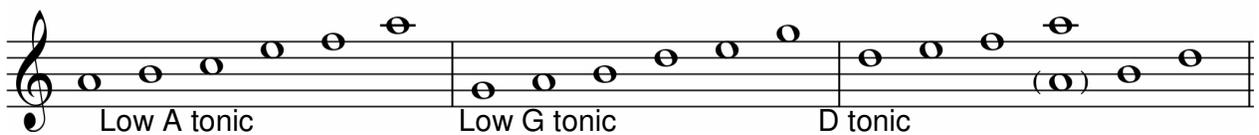
The Pentatonic Scale



The above diagrams illustrate the relationship between the Diatonic and Pentatonic Scales. For simple comparison, the scales are shown with C as the tonic.

The existence of the large intervals are the reason why this scale is sometimes known as the **'gapped scale'**.

The following pentatonic scales are capable of being sounded within the compass of the bagpipe scale :-



N.B Available octave notes are shown in brackets, as above.

3.6.3

The following are well known examples of pentatonic music,

Auld Lang Syne



Ye Banks and Braes



Bugle Horn



The Campbells are Coming



LESSON 6 WORKSHEET

ORAL WORK

1. How many Tone Intervals are contained in an octave
2. a) What is the name of the scale using Tone Intervals?
b) How many notes are produced by this scale?
3. What type of music is developed using the Whole-Tone scale?
4. In the C major scale, what note is enharmonic with C \flat ?
5. What is a Pentatonic Scale?
6. What is the smallest interval in a Pentatonic Scale?
7. By what other name is the Pentatonic Scale known?
8. How many pentatonic scales can be sounded on the bagpipe chanter?
9. Name four tunes which are pentatonic.

LESSON 6 WORKSHEET (CONT'D)

WRITTEN WORK

1. a) On a blank staff, enter the F clef, and commencing on C \square , use crotchets to show a whole-tone scale.
b) Insert the appropriate accidentals.
2. a) On a blank staff, enter the bass clef, and commencing on C, use minims to show the pentatonic scale.
b) Show the pattern of intervals.
3. On a blank staff, enter the treble clef.

Use semibreves to show all of the possible pentatonic scales which can be sounded on the bagpipe chanter.

3.7.1

LESSON 7

Scales Part 4

The Bagpipe Scale

Notation for the Great Highland Bagpipe is **written** indicating a pitch different to that of the **actual sound** produced. This identifies it as a **TRANSPOSING INSTRUMENT**.

In all transposing instruments (such as the Great Highland Bagpipes and most woodwind and brass instruments), the **written** notes represent the fingering as opposed to the pitch of the **sounds** produced.

Examination of compositions based on the bagpipe scale reveals that the most commonly used tonics in the written form are A and D.

In most cases, a bagpipe melody has the tonic as its final, or last note (**i.e.** the note on which the key signature is based).

In the **written** form, where low A is the tonic, as in diagram 1, the notation includes a diminished seventh and represents the A major scale as appropriate for the bagpipe.

1.

A musical staff in treble clef with a key signature of three sharps (F#, C#, G#). The notes are: A2 (quarter), B2 (quarter), C#3 (quarter), D3 (quarter), E3 (quarter), F#3 (quarter), G#3 (quarter), and A3 (quarter). A slur covers the C#3 and D3 notes, and another slur covers the F#3 and G#3 notes. Below the staff, the notes are labeled with letters: T, T, S, T, T, S, T.

Observe the use of a 'natural' sign at high G (low G is also affected by the natural sign).

Written bagpipe music therefore requires a modified major key signature. (**i.e.** the third sharp – G- of the A major scale is replaced by a natural sign). This eliminates the need to show the A major key signature and a natural sign at every G note. This is illustrated in diagram 2.

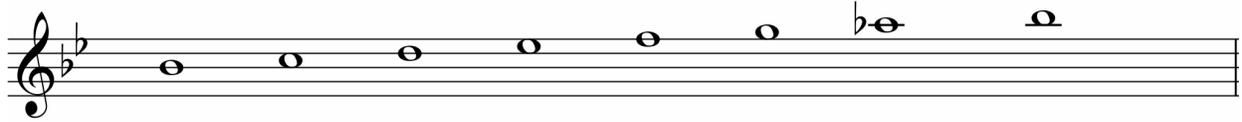
2.

A musical staff in treble clef with a key signature of two sharps (F#, C#). The notes are: A2 (quarter), B2 (quarter), C#3 (quarter), D3 (quarter), E3 (quarter), F#3 (quarter), G3 (quarter), and A3 (quarter). A slur covers the C#3 and D3 notes, and another slur covers the F#3 and G3 notes. Below the staff, the notes are labeled with letters: T, T, S, T, T, S, T.

3.7.2

When sounded however, the scale produced by the bagpipe approximates to that of B \flat Major, with a **diminished seventh**, (i.e. as shown in diagram 3).

3.

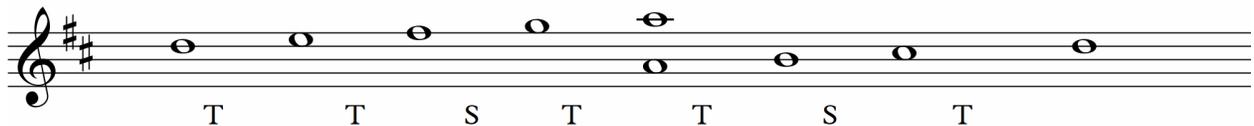


Observe that the tonic now occupies the position of B \flat and that the seventh is affected by the flat.

This scale may be described as a '**Mixolydian Mode** with a tonic of B \flat .' (The 'Mixolydian Mode'; is derived from the 'Lydian Mode').

In the **written** form, where D is the tonic of a bagpipe composition, it conforms to the general tone-semitone pattern of a Major Diatonic Scale. This is illustrated in diagram 4.

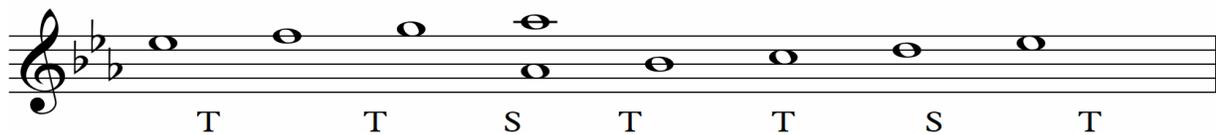
4.



When a bagpipe melody is **written** with D as its tonic, the melody is in the key of D major.

When sounded, however, the scale produced approximates to that of E \flat major (i.e. as shown in diagram 5).

5.



Observe that the tonic now occupies the position of E \flat .

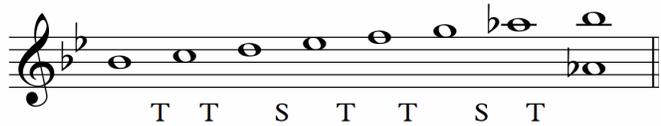
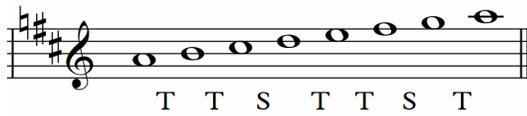
Again, the scale may be described as a 'Mixolydian Mode with a tonic of E \flat .'

Diagrams 6.1 and 6.2 show the notional transposition of the scales of the commonly used tonics A and D. the diagrams also show the **actual sounds** produced. These approximate to the B \flat Major and E \flat Major respectively as previously described.

3.7.3

6.1 Written Notation

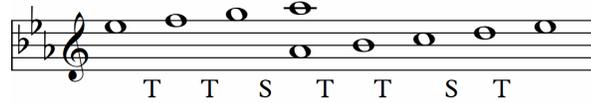
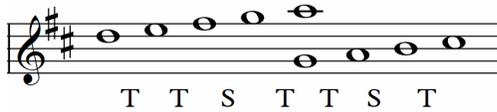
Actual Sound



N.B Observe that the tone-semitone pattern does not wholly conform to a major diatonic scale, but that of the Mixolydian Mode.

6.2 Written Notation

Actual Sound



N.B Observe that the general tone-semitone pattern conforms to that of a major diatonic scale.

3.7.4

Examples of music to illustrate the **transposing effect** of the Great Highland Bagpipe are given below :-

7.1 Written Notation

The last two bars of 'Scotland the Brave' showing low A as the 'final' or tonic. (Observe the key signature).



7.2 Actual Sound



The actual sound showing B \flat as the 'final'. (Observe the key signature).

8.1 Written Notation



The last four bars of 'The Earl of Mansfield' showing D as the 'final' or tonic. (Observe the key signature).

8.2 Actual Sound

The actual sound showing E \flat as the 'final'. (Observe the key signature).



3.7.5

The variety of modes and pentatonic scales available for the composition of bagpipe music requires the careful examination of each melody to identify its particular key. It should be stressed that composition, written using key signatures other than A major and D major do exist, although these are uncommon.

It should be noted that due to the limitations of the bagpipe scale, it has become common practice to omit key signatures.

LESSON 7 WORKSHEET

ORAL WORK

1. What is a 'transposing' instrument?
2. Which are the two most common tonics when bagpipe music is **sounded**?
3. Which are the two most commonly used key signatures in the **written form** of bagpipe music?
4. Why does the bagpipe scale (where A is the tonic in written form, or B \flat when sounded) require a modified key signature?
5. What is the arrangement of tones and semitones when :-
 - a) A (or B \flat) is the tonic?
 - b) D (or E \flat) is the tonic?
6. Which of the ancient musical modes is similar to a major scale with a diminished 7th?
7. What information regarding the pitch of a melody is generally given by its 'final'?
8. Examine the practical piping exercises numbers 1 to 8 on pages 3.15.1 to 3.15.3 inclusive and identify their tonics **when sounded** on the bagpipe.
9. Why are key signatures not usually shown in notated bagpipe music?

LESSON 7 WORKSHEET (CONT'D)

WRITTEN WORK

Following familiarisation of the written notation/actual sound examples 7.1 to 8.2 on page 3.7.4, use a separate blank staff to re-write the following practical piping exercises in their actual pitch, inserting the treble clef, key signature and time signature as required :-

1. From page 3.15.1 Exercise 2 – Top Hand and D doubling (March Rhythm).

(This melody is in the key of B \square major).

N.B Observe that the 7th must be diminished.

2. From page 3.15.2 exercise 3 – C, B and Low A Doublings (strathspey Rhythm).

(This melody is in the key of E \square Major).

3. From page 3.15.2 Exercise 4 – Grips and Taorluath (March Rhythm).

(This exercise is in the key of C minor).

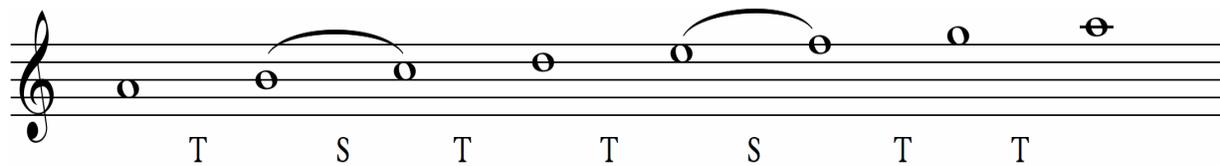
LESSON 8

Scales Part 5

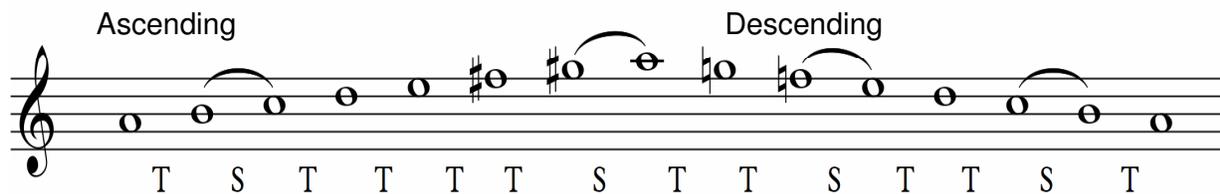
Harmonic and Melody Minor Scales

The natural pattern of minor scales was developed to suit the needs of 'minor music' (page 3.1.2 refers), and in consequence, the Harmonic and Melodic Minor Scales evolved.

Natural minor scale pattern

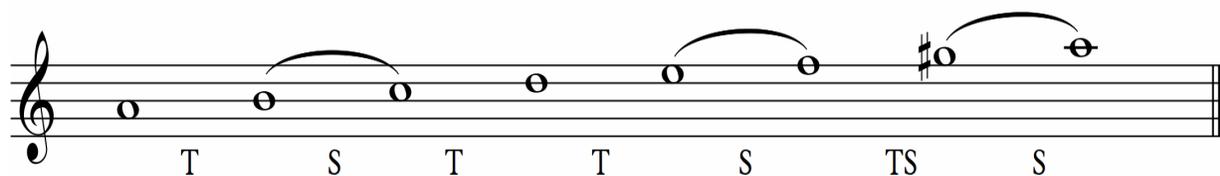


The melodic minor scale



When played, the Melodic Minor Scale has the sixth and seventh augmented on ascending and reverts to natural pitch on descending.

The harmonic minor scale



The Harmonic Minor Scale was developed to provide harmony within minor music. When played the Harmonic Minor Scale has an augmented seventh.

LESSON 8 WORKSHEET

ORAL WORK

1. What is the pattern of tones and semitones of the natural minor scale?
2. How does the melodic minor scale differ from the natural minor scale?
3. Between which degrees of the melodic minor scale do the semitone intervals occur?
4. How does the harmonic minor scale differ from the melodic minor scale?
5. How are the sixth and seventh degrees affected when the melodic minor scale is PLAYED?

LESSON 8 – WORKSHEET (CONT'D)

WRITTEN WORK

1. On a blank staff, place the treble clef.

Show the A minor scale and indicate the position of the semitone intervals.

Place an accidental which alters the A minor scale to the harmonic minor scale.

2. On a blank staff, place the treble clef.

Show the melodic minor scale in the key of A minor as it is played when ascending and descending.

LESSON 9

Intervals

When each note of the Diatonic Scale is played either successively, or simultaneously with the tonic, intervals of different quality occur, depending on the number of semitones within the interval.

The Intervals within Major Scales are as follows :-

Perfect 1 st or Tonic (or Unison)	-	0 Semitones
Major 2 nd	-	2 Semitones
Major 3 rd	-	4 Semitones
Perfect 4 th	-	5 Semitones
Perfect 5 th	-	7 Semitones
Major 6 th	-	9 Semitones
Major 7 th	-	11 Semitones
Perfect 8 th (or Octave)	-	12 Semitones

The Intervals within Minor Scales are as follows :-

Perfect 1 st or Tonic (or Unison)	-	0 Semitones
Major 2 nd	-	2 Semitones
Minor 3 rd	-	3 Semitones
Perfect 4 th	-	5 Semitones
Perfect 5 th	-	7 Semitones
Minor 6 th	-	8 Semitones
Minor 7 th	-	10 Semitones
Perfect 8 th (or Octave)	-	12 Semitones

The Perfect and Major 2nd Intervals are present in both major and minor scales.

3.9.2

LESSON 9

INTERVALS (CONT'D)

When the upper note of an interval is affected by an accidental, its name and quality changes.

Intervals affected by sharps

Perfect and **major intervals** when sharpened, become **augmented intervals**

1.



Perfect 4th Augmented 4th

The perfect fourth has five semitones. When affected by a sharp, the interval is increased to six semitones to produce an augmented fourth.

2.



Minor 6th Augmented 6th

The major sixth has nine semitones. When affected by a sharp, the interval is increased to ten semitones to produce an augmented sixth.

Minor intervals when sharpened, become **major intervals**.

3.



Minor 6th Major 6th

The minor sixth has eight semitones. When affected by a sharp, the interval is increased to nine semitones to produce a major sixth.

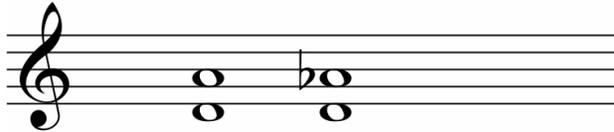
LESSON 9

INTERVALS (CONT'D)

Intervals affected by flats

Perfect and minor intervals when flattened, become **diminished intervals**.

4.



Perfect 5th Diminished 5th

The perfect fifth has seven semitones. When affected by a flat, the interval is decreased to six semitones to produce a diminished fifth.

5.

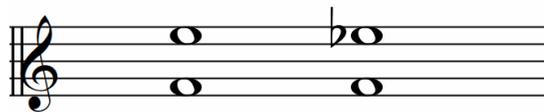


Minor 3rd Diminished 3rd

The minor third has three semitones. When affected by a flat, the interval is decreased to two semitones to produce a diminished third.

Major intervals when flattened, become **minor intervals**.

6.



Major 7th Minor 7th

The major seventh has eleven semitones. When affected by a flat, the interval is increased to ten semitones to produce a minor seventh.

LESSON 9 WORKSHEET

ORAL WORK

1. In major scales, how many semitones are contained in the following intervals :-

a) Major 3rd? **b)** Major 7th **c)** Perfect 4th

2. Which major interval appears in major and minor scales?

3. In minor scales, how many semitones are contained in the following intervals :-

a) Minor 3rd? **b)** Minor 6th **c)** Perfect 4th

4. Which two kinds of intervals are known as 'augmented' intervals when sharpened?

5. What do minor intervals become known as when sharpened?

6. Which two kinds of intervals are known as 'diminished' intervals when flattened?

7. What do major intervals become known as when flattened?

8. In major scales how many semitones are contained in the following intervals :-

a) Minor 3rd? **b)** Minor 6th **c)** Diminished 4th

LESSON 9 WORKSHEET (CONT'D)

WRITTEN WORK

1. Draw a blank staff, and using the natural major scale, show the following intervals with the note 'middle C' as root :-

- a) Major 3rd
- b) Augmented 7th
- c) Perfect 4th
- d) Minor 2nd
- e) Augmented 5th

2. Draw a blank staff, and using the natural minor scale, show the following intervals with the note A as root :-

- a) Major 2nd
- b) Major 7th
- c) Diminished 4th
- d) Diminished 8th
- e) Perfect 5th

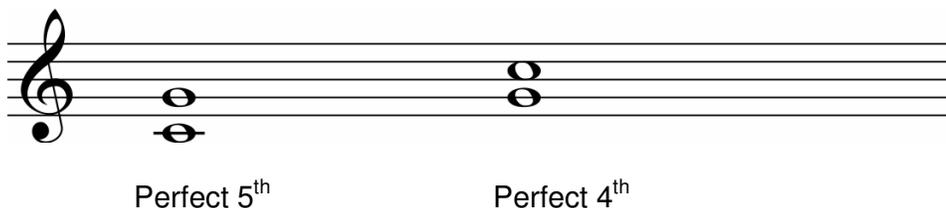
LESSON 10

Inversions

When the relative position of two notes is inverted by placing one of them an octave lower or higher, the lower note becomes the upper, or the upper note becomes the lower, the new interval formed is said to be an inversion.

Upward Inversion

1.



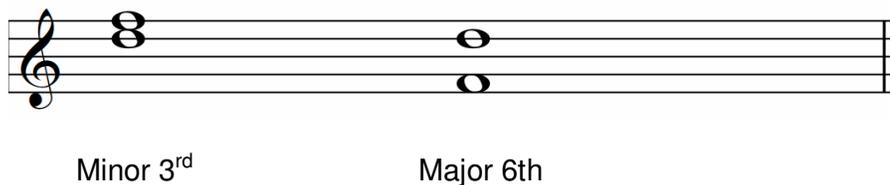
The above diagram (1) shows a perfect fifth (C to G)

Placing C above G, the inverted interval forms a perfect fourth (G to C).

It may be observed in the above, an interval of a fifth when inverted becomes a fourth. Also, the sum of the numerical values of the two intervals is nine.

Downward Inversion

2.



The above diagram (2) shows a minor third (D to F).

Placing F below D, the inverted interval forms a major sixth (F to D).

Again it may be observed in the above, an interval of a third when inverted becomes a sixth. Also, the sum of the numerical values of the two intervals is nine.

LESSON 10

INVERSIONS (CONT'D)

General rules for Inversion

1. Perfect intervals remain perfect intervals when inverted.
2. Major intervals become minor intervals when inverted.
3. Minor intervals become major intervals when inverted.
4. Augmented intervals become diminished intervals when inverted.
5. Diminished intervals become augmented intervals when inverted.

Intervals and their respective inversion

INTERVALS AND THEIR RESPECTIVE INVERSION

	UNISONS	SECONDS			THIRDS			FOURTHS		
	. AUGMENTED PERFECT	. .	. AUGMENTED MINOR	. AUGMENTED MAJOR	. DIMINISHED MINOR	. DIMINISHED MAJOR	. DIMINISHED MINOR	. DIMINISHED PERFECT	. AUGMENTED PERFECT	. AUGMENTED PERFECT
INTERVALS										
INVERSIONS										
	PERFECT	MAJOR	MINOR	DIMINISHED	AUGMENTED	MAJOR	MINOR	AUGMENTED	PERFECT	DIMINISHED
	D	AUGMENTED	D	D	AUGMENTED	MAJOR	MINOR	AUGMENTED	PERFECT	DIMINISHED
	OCTAVES	SEVENTHS			SIXTHS			FIFTHS		
	. DIMINISHED PERFECT	. .	. AUGMENTED MINOR	. AUGMENTED MAJOR	. DIMINISHED MINOR	. DIMINISHED MAJOR	. DIMINISHED MINOR	. DIMINISHED PERFECT	. DIMINISHED PERFECT	. DIMINISHED PERFECT
INTERVALS										
INVERSIONS										
	AUGMENTED	MAJOR	MINOR	DIMINISHED	AUGMENTED	MAJOR	MINOR	AUGMENTED	PERFECT	PERFECT
	P	AUGMENTED	D	D	AUGMENTED	MAJOR	MINOR	AUGMENTED	PERFECT	PERFECT
	FOURTHS	THIRDS			SECONDS			UNISON		

3.10.4

LESSON 10 WORKSHEET

ORAL WORK

1. Define the term 'chord'.
2. Which term describes the lowest note of a chord?
3. Define the term 'inversion'.
4. In which two directions may inversions be carried out?
5. Give the name of the inversions of the following types of intervals :-
 - a) 2nd
 - b) 6th
 - c) Octave
 - d) Major
 - e) Perfect
 - f) Diminished
 - g) Augmented
 - h) Minor 3rd
 - i) Perfect 5th

LESSON 10 WORKSHEET (CONT'D)

WRITTEN WORK

1. On a blank staff, use the C major scale to show the following intervals :-

- a) Major 6th
- b) Unison
- c) Diminished 4th
- d) Minor 7th
- e) Major 2nd
- f) Augmented 5th

2. On a blank staff, show the inversion of the above intervals.

LESSON 11***Transposition***

Transposition means the changing of a musical composition by raising or lowering its pitch.

The following illustrations are examples of transposition when the melody is moved :-

1. Upward or downward by a full octave.



3.11.2

LESSON 11

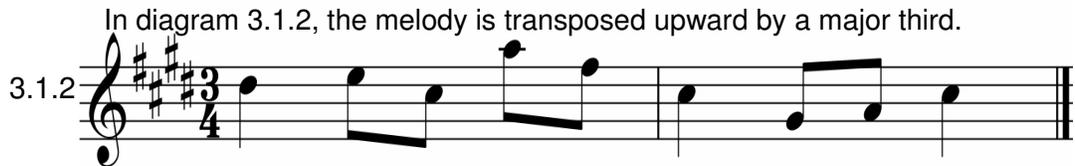
TRANSPOSITION (CONT'D)

3. Upward or downward by a simple interval (**i.e.** less than an octave).

3.1 Diatonic interval (**e.g.** Major third, Diminished fourth etc).



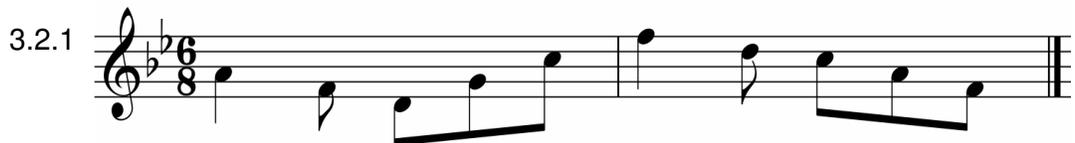
In diagram 3.1.1, the melody is in the key of C major.



In diagram 3.1.2, the melody is transposed upward by a major third.

Observe that the transposed melody is in the key of E major (E being a major third above C).

3.2 By a number of semitones (**i.e.**) chromatically).



In diagram 3.2.1, the melody is in the key of G minor. In diagram 3.2.2, the melody is transposed upward by four semitones.



Observe that the transposed melody is in the key of B minor, (B is four semitones above G).

3.11.4

LESSON 11

TRANSPOSITION (CONT'D)

Examples.... Showing the transposition from G major to A major.

4.1 

4.2 

The following are theoretical examples showing the changes affecting accidentals as a result of transposition.

<u>C Major</u>	<u>Transposed to E♭ Major</u>
5.1 	5.2 

Observe: 1. C retains its flat

2. The note A becomes A♭ (enharmonic G). It is affected by the key sign in addition to the original flat.

3.11.5

LESSON 11

TRANSPOSITION (CONT'D)

C Major

Transposed to B \flat Major

6.1



6.2



To maintain the required degree differential, a natural sign must be used to contradict the flat imposed by the key signature. In this instance, F \flat in the C major scale to E \natural in the B \flat major scale. The result of this is that the pitch of the note is effectively raised as required by the original melody.

C Major

Transposed to D Major

7.1



7.2



Observe: 1. D retains its sharp.
2. The note C becomes $\sharp C$ (enharmonic D) because it is also affected by the key signature.

C Major

Transposed to E Major

8.1



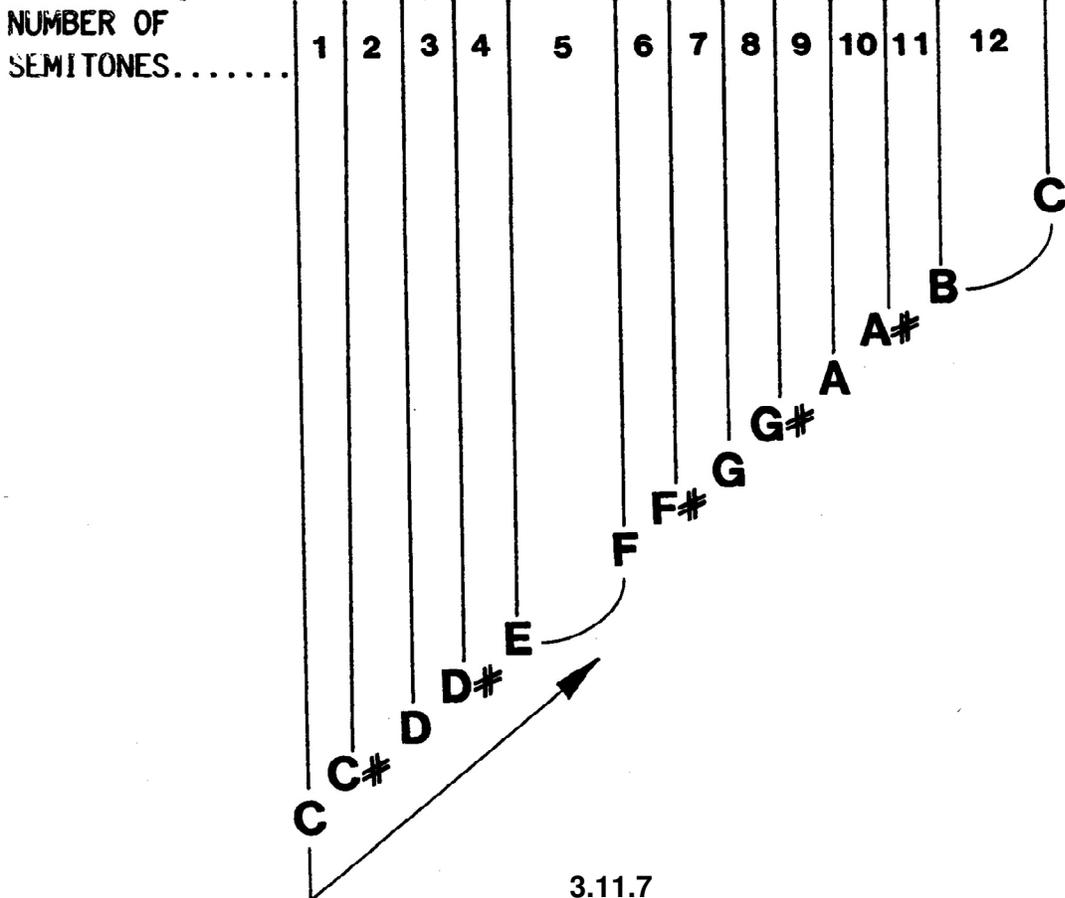
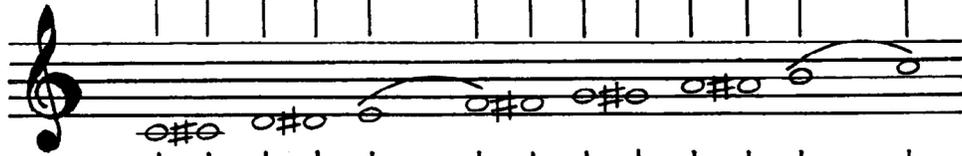
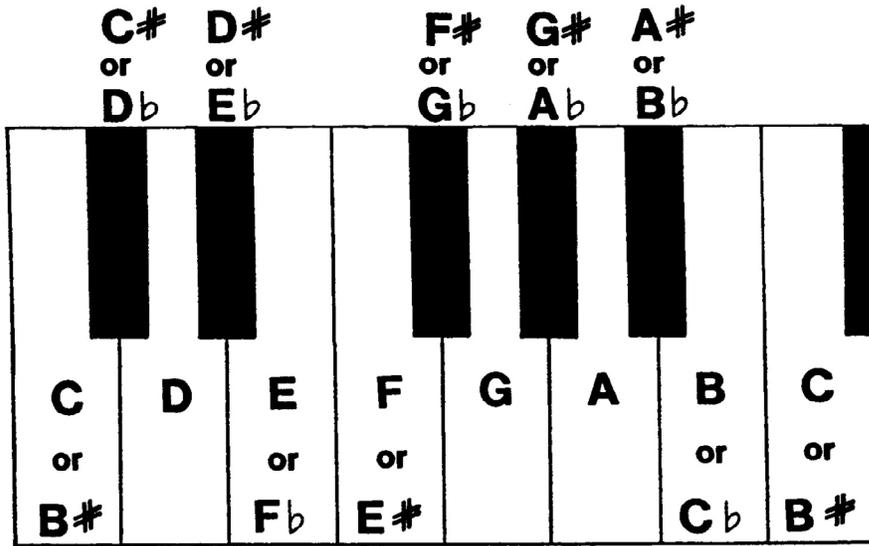
8.2



To maintain the required degree differential, a natural sign must be used to contradict the sharp imposed by the key signature. In this instance, E \sharp in the C major scale to G \natural in the E major scale. The result of this is that the pitch of the note is effectively lowered as required by original melody.

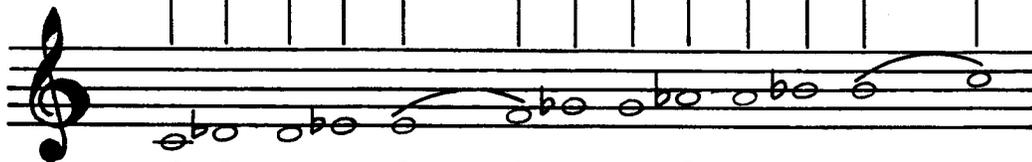
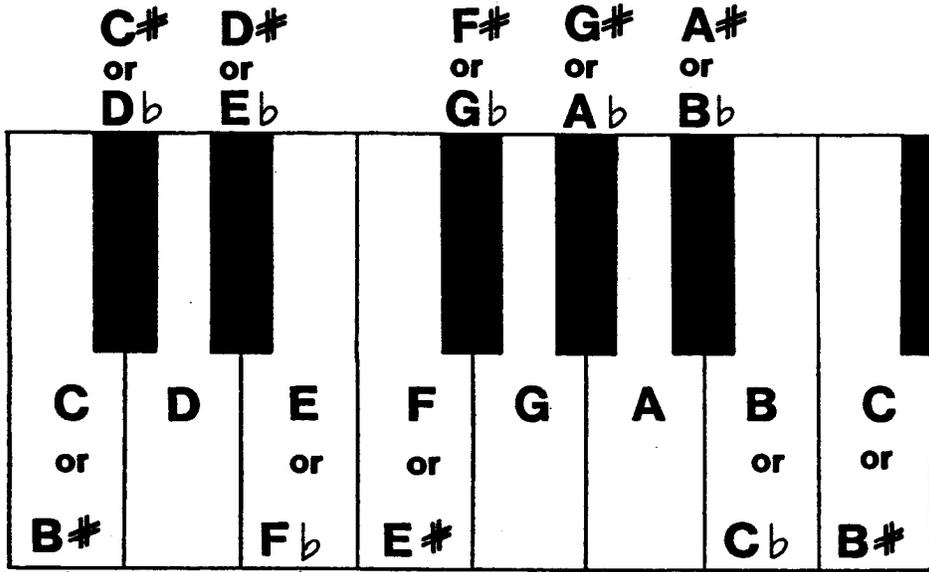
3.11.6

C Major Scale (Upward)

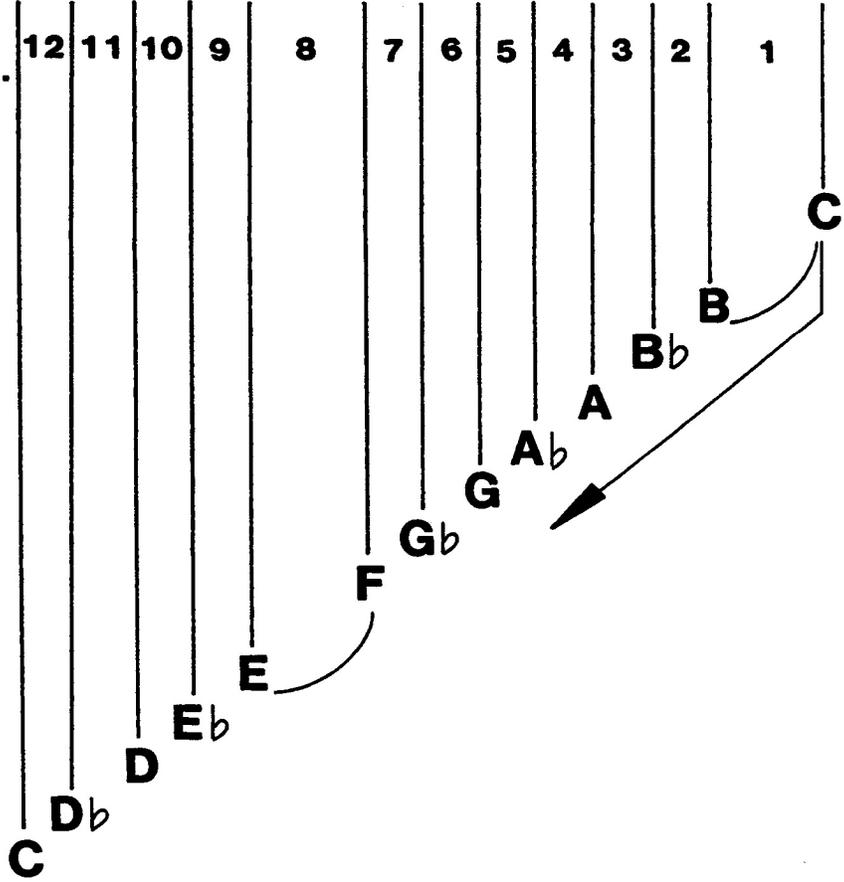


3.11.7

C Major Scale (Downward)



NUMBER OF SEMITONES.....



3.11.8

A Minor Scale (Upward)

Diagram of a piano keyboard showing the A minor scale notes and their enharmonic equivalents. The notes are labeled as follows:

- Key 1: **a**
- Key 2: **b** or **cb**
- Key 3: **c** or **b#**
- Key 4: **d**
- Key 5: **e** or **fb**
- Key 6: **f** or **e#**
- Key 7: **g**
- Key 8: **a**

Enharmonic equivalents are shown above the keys:

- Key 1: **a#** or **bb**
- Key 3: **c#** or **db**
- Key 4: **d#** or **eb**
- Key 6: **f#** or **gb**
- Key 7: **g#** or **ab**

A musical staff below the keyboard shows the A minor scale notes with their enharmonic equivalents: **a**, **b#**, **c**, **d**, **e**, **f#**, **g**, **a**.

NUMBER OF SEMITONES.....

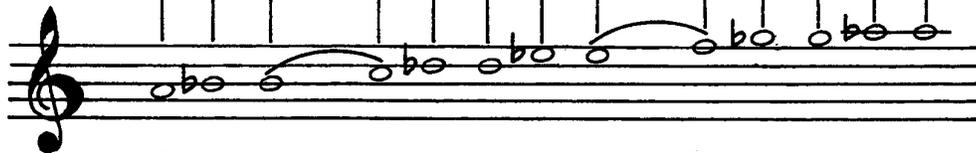
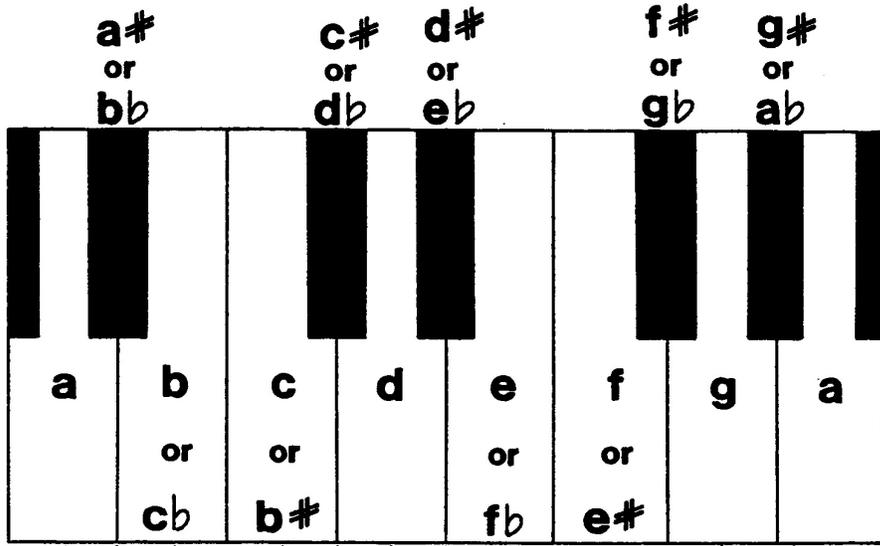
Diagram showing the number of semitones between consecutive notes of the A minor scale. The notes are labeled as follows:

- 1: **a**
- 2: **a#**
- 3: **b**
- 4: **c**
- 5: **c#**
- 6: **d**
- 7: **d#**
- 8: **e**
- 9: **f**
- 10: **f#**
- 11: **g**
- 12: **g#**
- 13: **a**

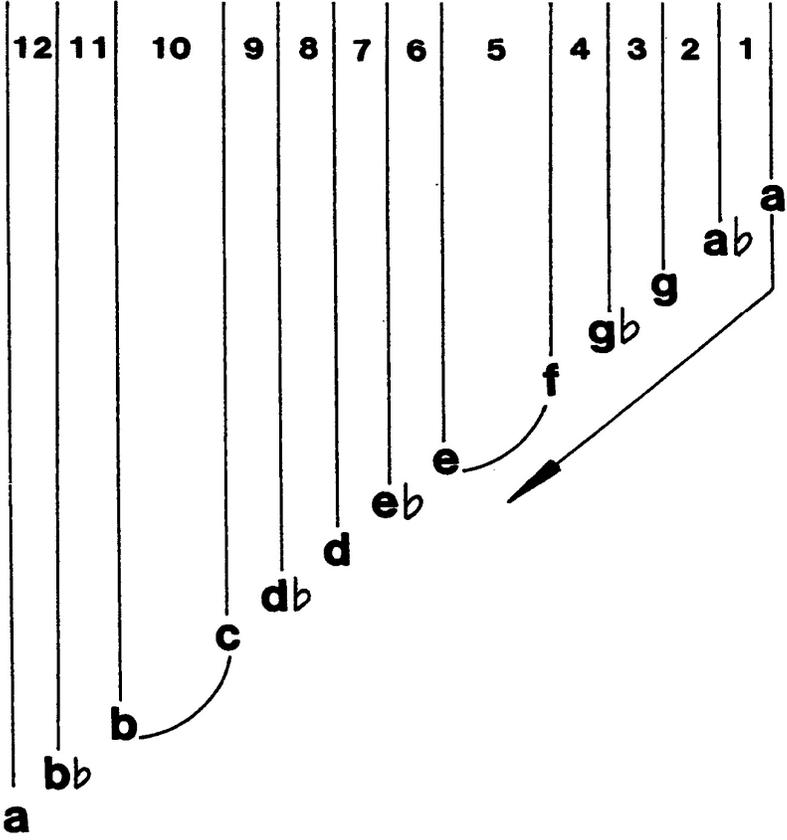
Curved arrows indicate the intervals between notes: 1 semitone between 1 and 2, 1 semitone between 2 and 3, 2 semitones between 3 and 4, 1 semitone between 4 and 5, 1 semitone between 5 and 6, 1 semitone between 6 and 7, 2 semitones between 7 and 8, 1 semitone between 8 and 9, 1 semitone between 9 and 10, 1 semitone between 10 and 11, 1 semitone between 11 and 12, and 2 semitones between 12 and 13.

3.11.9

A Minor Scale (Downward)



NUMBER OF SEMITONES.....



3.11.10

LESSON 11 WORKSHEET

ORAL WORK

1. Define 'transposition'.
2. State the five methods by which transposition may be carried out.
3. Which key signature is :-
 - a) A major 2nd above C major?
 - b) A minor 3rd below C major?
 - c) A minor 2nd below B \square major?
 - d) A perfect 4th below B \square major?
 - e) 4 semitones above C major?
 - f) 4 semitones below A major?
 - g) 2 semitones below B \square major?
 - h) 3 semitones above G major?
4. Describe the manner by which accidentals may be affected by transposition.

LESSON 11 WORKSHEET**WRITTEN WORK**

1. On a blank staff show the following scales and their key signatures :-

- a) C major transposed upward to E \flat Major.
- b) B \flat major transposed downward to the bass clef from the treble clef.
- c) G major transposed upward by a minor 3rd
- d) A major transposed downward to F major.
- e) D major transposed upward by 3 semitones.
- f) B major transposed downward by a major 3rd.

2. On a blank staff, rewrite the following melodies by transposing as required :-

- a) Down, to the key of B \flat major.



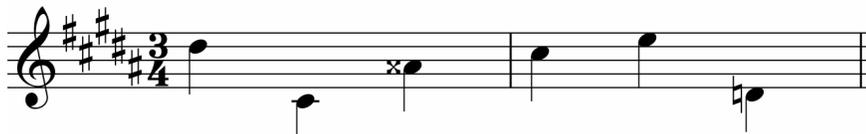
- b) Up, to the key of D major.



- c) Down, to the key of C major



- d) Up, to the key of C major.



LESSON 12

The constituents of Music

Introduction

The composition of music, poetry, sculpture, painting etc., is a product of the imagination. Like other **art** forms, **music** is difficult to quantify and its ultimate worth lies with its appeal to the listener. The success, achievement or perceived ability of the artist can vary considerably.

In the field of music, composers whose general work is considered of lesser standing than others, may well be held in high esteem for a single outstanding composition.

Regardless of the complexity or simplicity of composition, music has three common elements or constituents.

These are;

Rhythm

Melody

Harmony

3.12.2

THE CONSTITUENTS OF MUSIC

Rhythm

Rhythm is the regular recurrence of strong and weak accents arising from the division of music into regular metrical portions.

In addition to the rhythms discussed in Structured Learning Books 1 and 2, other rhythms exist and include the following :-

Polyrhythm - When three or more different rhythms are incorporated simultaneously

Cross Rhythm - When two different rhythms are incorporated simultaneously.

Hemiola - When simple triple time and compound duple time are incorporated simultaneously.

Alternating Time - Constant changing of rhythm.

Variable Time - Periodic changes of rhythm.

3.12.3

THE CONSTITUENTS OF MUSIC (PART 2)

Melody – Part 1

Melody is an orderly succession of single different sounds progressing horizontally, achieving a distinct musical shape.

When melody is examined, a variety of forms may be identified.

Among the types of musical forms produced by the combination of various scales are the following ;-

- | | | |
|---------------------------------|---|--|
| Diatonic Music | - | Major and minor scales. |
| Chromatic (Atonal) Music | - | Chromatic and whole-tone scales |
| Pentatonic Music | - | Five note scales. |
| Modal Music | - | Variations of the diatonic scales. |
| Microtonal Music | - | Intervals of less than a semitone.
(Generally features in music typical of Eastern Culture) |

3.12.4

MELODY (PART 1) (CONT'D)

Regardless of the complexity or simplicity of a melodic composition, it will be written using the following intervals :-

Conjunct movement – Step by step progression.

The Mull Ceilidh March



The image shows a musical staff in treble clef with a 2/4 time signature. The melody consists of a series of eighth and sixteenth notes, moving in a step-by-step fashion across the staff, illustrating conjunct movement.

Disjunct movement – Interval progression of 3rds, 4ths etc.

The Steamboat March



The image shows a musical staff in treble clef with a 6/8 time signature. The melody features larger intervals, such as thirds and fourths, between notes, illustrating disjunct movement.

Combinations of the above

Bonnie Dundee



The image shows a musical staff in treble clef with a 6/8 time signature. The melody combines step-by-step progression with larger intervals, demonstrating a combination of conjunct and disjunct movements.

3.12.5

LESSON 12 (MELODY PART 1) WORKSHEET

ORAL WORK

1. State the three constituents of music

2. Explain the following terms :-
 - a) Polyrhythm
 - b) Cross rhythm
 - c) Hemiola
 - d) Alternating time
 - e) Variable time

3. Define the term 'melody'.

4. Explain the following terms
 - a) Diatonic music
 - b) Chromatic music
 - c) Pentatonic music
 - d) Modal music
 - e) Microtonal music
 - f) Atonal music

5. State the three types of interval progression.

3.12.6

LESSON 12 (MELODY PART 1) WORKSHEET

WRITTEN WORK

On a blank staff, use the following categories to show examples of melodic construction :-

1. Conjunct movement.
2. Disjunct movement
3. Combination of conjunct and disjunct movement.

3.12.7

THE CONSTITUENTS OF MUSIC – PART 2

Melody – Part 2

Melodies suitable for the bagpipe consist of a number of phrases. These phrases normally comprise of a single bar or combination of bars depending upon the construction and mood of the melody.

Melodic phrases consist of several linked components termed **motifs**.

A motif may be defined as the smallest identifiable component of a musical composition.

Motifs as applied to bagpipe music are often difficult to identify compared to other forms of music. For example, in orchestral music, a motif may consist of only two or four notes as in Beethoven's 5th Symphony.

A two note motif would be difficult to use as a basis for a bagpipe composition, and as a result, 'phrases', rather than motifs, are more appropriate when discussing the construction of bagpipe music. However, a phrase may consist of several motifs.

THE CONSTITUENTS OF MUSIC – PART 2

Melody – Part 3

The motif, or motifs within a composition are usually established in the initial phrase and thereafter varied in any of the following ways :-

Repetition

Modulation/sequence

Modification

Repartee

Repetition

In music generally, the motif may be continuously repeated by its reintroduction using a variety of instruments. Consequently, the texture of the motif changes constantly.

This is the reason why many melodies which at first seem suitable for transcribing for the bagpipe sometimes prove to be aesthetically unsatisfactory due to the limitation of the bagpipe scale. A two-parted bagpipe composition may have at least six motifs and is often more complex melodically than other musical forms.

For example, the four note motif of Beethoven's 5th Symphony is repeated and varied using all the textural potential of the orchestra. Bagpipe music however, has little scope, for this form of repetition, therefore alternative motifs are introduced to provide melodic variety.

There are exceptions to the foregoing. These include 'Bugle horn', 'The Black Bear' and 'Atholl Highlanders'. In practice the motifs most likely to be repeated are those contained within the second and fourth phrases which appear in each part or section of bagpipe music.

Modulation/sequence

Modulation is the changing from one key to another during the course of a musical passage.

3.12.9

MELODY (PART 3) (CONT'D)

Modulation/sequence (CONT'D)

Sequence is the repetition of motifs at different pitches and may be considered a form of transposition within the key being used. Sequence can be more effective when combined with modulation.

Examples which incorporate the foregoing may be identified within the following bagpipe compositions :-

Balmoral Highlanders

Crossing the Minch

Cameronian Rant

Modification

Modification is utilised where the motif is simple in form and can re-appear becoming more complex melodically, rhythmically and technically as the piece progresses.

Particularly good examples of this in bagpipe compositions are 'Train Journey North', 'The Waterhole' and 'The Piobrach of Donald Dhu'.

Repartee

Repartee is the term used when contrasting motifs occur within a composition.

Examples which incorporate repartee in bagpipe music are :-

Lord Alexander Kennedy

Corriehoillie

THE CONSTITUENTS OF MUSIC (PART 2)

Melody – Part 4

Cadences

Like punctuation in language, phrases are punctuation in music. The end of a phrase is known as a **cadence**. Some cadences give the effect of a less conclusive effect like the comma or semi-colon.

The common cadences are :-

Perfect

Imperfect

Interrupted

Plagal

Perfect

The **perfect cadence** is the progression from dominant to tonic. It is also known as the **full close** due to its similarity in music to that of the full stop in text.

Imperfect

The **imperfect cadence**, or **half close** has the same effect as the semi-colon in text and progresses from any note to the dominant.

Interrupted

The **interrupted cadence** serves the same purpose as a comma in text and progresses from dominant to sub-mediant.

Plagal

The **plagal cadence (amen cadence)** has an effect similar to that of the perfect cadence and progresses from subdominant to tonic.

It is seldom used in modern music.

MELODY (PART 4) (CONT'D) CADENCES (CONT'D)

When a cadence ends on a strong beat it is called masculine; when it ends on a weak beat it is called feminine.

Generally the succession of cadences is usually Interrupted, Imperfect, Interrupted and Perfect.

Cadences often lead to changes in tonality. (The resulting change from key to key is termed modulation). The new key may not be indicated by a change in key signature, but becomes apparent by the inclusion of accidentals added as the composition develops.

Analysis of bagpipe music reveals that the cadences described above are usually inappropriate.

In bagpipe music, phrases in this context combine to form musical sentences with each sentence forming a part (or section). Each part consists of four phrases, either one or two bars long. Several sentences or parts when combined to produce a paragraph, form a complete work or tune. The phrases contained within the parts usually take the form of Interrupted, Imperfect, Interrupted and Perfect cadences. This is the normal pattern for most pipe band compositions.

e.g. The Glendaruel Highlanders

The first system of the musical score for 'The Glendaruel Highlanders' consists of a melody line and a piano accompaniment. The melody line is in 6/8 time and features two cadences: an 'Interrupted Cadence' and an 'Imperfect Cadence'. The piano accompaniment is in 6/8 time and consists of three staves (treble, bass, and a lower bass staff). The melody line is written in a single staff with a treble clef and a key signature of one sharp (F#). The piano accompaniment is written in three staves with a treble clef, a bass clef, and a lower bass clef. The key signature for the piano accompaniment is one sharp (F#). The melody line is written in a single staff with a treble clef and a key signature of one sharp (F#). The piano accompaniment is written in three staves with a treble clef, a bass clef, and a lower bass clef. The key signature for the piano accompaniment is one sharp (F#).

The second system of the musical score for 'The Glendaruel Highlanders' consists of a melody line and a piano accompaniment. The melody line is in 6/8 time and features two cadences: an 'Interrupted Cadence' and a 'Perfect Cadence'. The piano accompaniment is in 6/8 time and consists of three staves (treble, bass, and a lower bass staff). The melody line is written in a single staff with a treble clef and a key signature of one sharp (F#). The piano accompaniment is written in three staves with a treble clef, a bass clef, and a lower bass clef. The key signature for the piano accompaniment is one sharp (F#). The melody line is written in a single staff with a treble clef and a key signature of one sharp (F#). The piano accompaniment is written in three staves with a treble clef, a bass clef, and a lower bass clef. The key signature for the piano accompaniment is one sharp (F#).

3.12.12

LESSON 12 (Melody parts 2, 3 &4) WORKSHEET

ORAL WORK

1. What is the term given to the linked components of a musical phrase?
2. Explain the term 'motif'.
3. Name the four methods by which a motif may be varied.
4. How are 'modulation' and 'sequence' related?
5. Name the four types of cadences and explain their function.
6. How is a cadence described when it ends on the following :-
 - a) A weak beat
 - b) A strong beat
7. In bagpipe music, what is the usual succession of cadences?

3.12.13

LESSON 12 (Melody parts 2, 3 &4) WORKSHEET

WRITTEN WORK

In the following exercises, pipers and drummers should provide musical scores of an advanced standard.

On a blank staff, write 8 bars of music showing the phrases, the positions and the names of the cadences for each of the following time signatures.

a) $\frac{6}{8}$

b) Simple triple time

c) Compound quadruple

d) $\frac{2}{2}$

THE CONSTITUENTS OF MUSIC – PART 3

Harmony

Harmony is the simultaneous combination of two or more sounds progressing vertically. Its importance and complexity are such that it may be treated as a separate subject in its own right.

Monophonic music is the sounding of a melody by a single **voice** or a number of voices in unison.

Homophonic music is the sounding of a melody accompanied by one or more harmonising voices.

Examples of this are Organum, known as **two part harmony**, or the **seconds** played in piping. In Organum, the first part (the melody or principal voice) is termed the vox-principalis and the second part (the harmony or organ voice) is termed the vox-organalis.

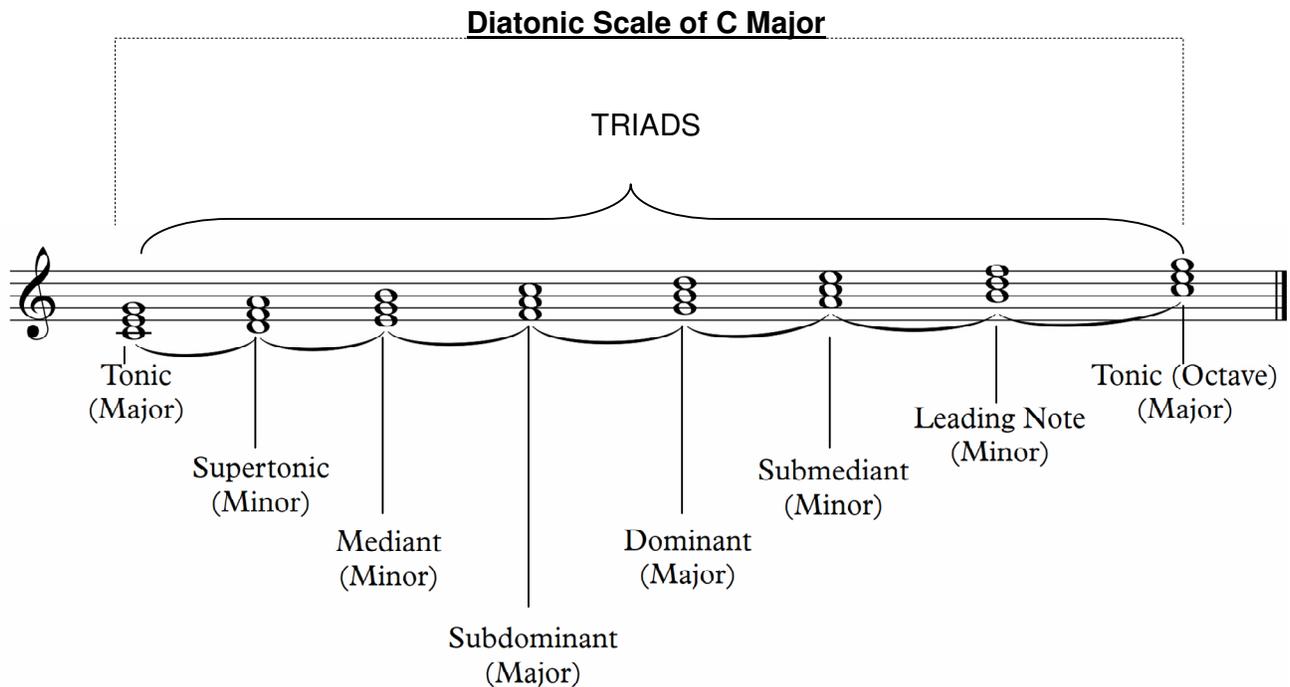
Music evolved from two part to three part harmony by combining the root, third and fifth intervals. This is known as the **triad** or **common chord**.

The triad consists of seven semitones in two groups. The semitones from root to third determine the major or minor interval and the semitones third to fifth which, if reduced or increased by the use of accidentals, will make the triad diminished or augmented.

3.12.15

The diagram below illustrates the diatonic scale of C major in which each note of the scale is used as the root of the triads shown.

Each triad is annotated as major or minor.



The need for additional types of harmonies resulted in a gradual change from simply chordal accompaniment to the highly complex use of an additional melody as harmony. This is called counterpoint, from the Latin 'punctus contra punctus', meaning 'point against point'.

Counterpoint is where different melodies of definite shape and character are combined to form a melody and harmonic musical weave.

Counterpoint appears in its most basic form in the Round or canon where each voice copies the last, entering at a prearranged position.

3.12.16

Examples are 'Frere Jacques', 'Three Blind Mice' and 'London's Burning'.

A popular form of counterpoint known as **Palindromic counterpoint** evolved during the 16th century. Palindromic counterpoint is characterised by one voice sounding the melody from its beginning and a different voice sounding the same melody in reverse.

J.S Bach was one of the composers who brought counterpoint to its peak. Bach and some of his contemporaries were said to think contrapuntally. Their expertise was such that when a melody was written, its contrapuntal counterpart evolved simultaneously.

The most complex form of all contrapuntal music is the Fugue. In the fugue, contrapuntal melodies follow each other using a variety of pitches and tempi.

Towards the end of the 17th century, harmony became freer in style with the use of diatonic harmony. Harmonic development continued into the late 18th Century and at this time chromaticism was introduced. As a result, chromatic harmony in diatonic music created new and exciting effects.

Chromaticism became very important in the Romantic and Impressionist schools of musical thought during the 19th Century. Eventually atonal music emerged at the beginning of the 20th Century and increased harmonic potential. Chief among these impressionists was the French Composer Claude Debussy who used the whole tone scale as a basis to create new textures in harmony.

3.12.17

Harmonic progression consists of the following chord movements :-

Similar motion - In the same direction.

Contrary motion - In opposite directions.

Oblique motion - one part of a chord moves while the other part remains stationary.

LESSON 12 (Harmony) WORKSHEET

ORAL WORK

1. Define the term 'Harmony'.
2. State why 'monophonic music' is applicable to pipe bands.
3. State when 'homophonic music' applies to pipe bands.
4. In two part harmony, what is the Latin term used to describe :-
 - a) The melody
 - b) The harmony
5. Define the term 'triad' and give its other name.
6. Explain how the quality of a triad is altered when :-
 - a) The 3rd is affected by a sharp.
 - b) The 3rd is affected by a flat.
 - c) The 5th is affected by a sharp.
 - d) The 5th is affected by a flat.
7. Define the term 'counterpoint'.
8. In harmony, what is meant by the following terms when describing chord movement :-
 - a) Similar motion?
 - b) Contrary motion?
 - c) Oblique motion?

LESSON 12 (HARMONY) WORKSHEET (CONT'D)

WRITTEN WORK

1. On a blank staff, using semibreves, show the scale of B \flat major.
 - a) Taking each note of the scale in turn as the root, show a triad on every degree of the scale.
 - b) State whether each triad is major or minor.
 - c) Using an accidental on the appropriate note, change the minor triads to major triads.
 - d) Show one diminished triad and one augmented triad using an accidental on the appropriate note.

LESSON 13

Musical Form (Part 1)

Binary and Ternary

Introduction

The analysis of a melody in terms of its construction can be simplified if the phrases or sections are given the letters A and B.

Binary Form

Binary Form is the term used to describe a melody which is based on two phrases, identified as **A and B**.

In a composition, the phrases can appear in a variety of compositions , for example, **ABAB**, **ABBA**, **AABA** etc.

Ternary Form

Ternary Form is the term used to describe a melody which is based on three phrases identified as **A-B-A modified**.

Where phrases are modified, or a number is allocated to each letter to indicate that modification has taken place, the original phrase **A** would be shown as **A1** and the modified version as **A2**, and so on. For example, ternary form may be shown as **A1 B A2**.

Bagpipe Music

When applied to bagpipe music generally, this system of musical analysis requires to be extended in order that the phrase construction distinctive of bagpipe music, may be adequately identified, A, B and C.

3.13.2

Example 1

The March, 'The Highland Wedding' A B A C

Musical notation for Example 1, 'The Highland Wedding' march. The piece is in 2/4 time and consists of two staves. The first staff contains measures 1-8, with bracketed sections labeled A (measures 1-4) and B (measures 5-8). The second staff contains measures 9-16, with bracketed sections labeled A (measures 9-12) and C (measures 13-16).

Example 2

The March, 'Leaving Port Askaig' A1 A2 B A3

Musical notation for Example 2, 'Leaving Port Askaig' march. The piece is in 6/8 time and consists of two staves. The first staff contains measures 1-8, with bracketed sections labeled A1 (measures 1-4) and A2 (measures 5-8). The second staff contains measures 9-16, with bracketed sections labeled B (measures 9-12) and A3 (measures 13-16).

LESSON 13 (MUSIC FORM – PART 1) WORKSHEET

ORAL WORK

1. How are musical phrases described for the purposes of analysis?
2. Explain the following :-
 - a) Binary Form
 - b) Ternary Form.
3. How is the system of phrase analysis extended in its application to bagpipe music?
4. Explain how a modified phrase is described in musical analysis?

LESSON 13 (MUSIC FORM – PART 1) WORKSHEET**WRITTEN WORK**

Analyse the following popular bagpipe compositions, and describe their phrased construction in musical form.

1. The Haughs of Cromdale ($\frac{2}{4}$ March)
2. Auld Adam ($\frac{6}{8}$ March)
3. Donald Cameron ($\frac{2}{4}$ March)
4. Arniston Castle (Strathspey)
5. John MacKechnie (Reel)
6. Crossing the Minch (Hornpipe)
7. The Rakes of Kildare (Jig)

3.13.5

Musical Form (Part 2)

Further Classification

Introduction

Musical form is also concerned with the structure or plan of a musical composition and is used to determine its classification.

Suite

This takes the form of a collection of short pieces of music, either dances or songs, or can be an abbreviated version of a much larger work.

Variations

This consists of a theme which is altered as the piece progresses melodically or rhythmically, or both. Most music is of this form.

Sonata

This is usually presented by a soloist, and has a traditional form consisting of three or four sections called 'movements', containing **introduction, exposition, development and recapitulation.**

Symphony

This is a composition of several movements scored as a 'sonata'. Early symphonies had four or sometimes five movements of varying tempi.

The first movement is usually a slow dramatic introduction, which proceeds to a moderate tempo.

The second movement is generally slow, and the third movement is often a dance in triple time. The last movement is normally fast and exciting.

Overture

This is a musical composition designed to introduce a theatrical production which sets the scene for the audience. Some overtures were written purely for concert performance.

3.13.6

FURTHER CLASSIFICATION (CONT'D)

Concerto

This is a musical composition for one or more solo instruments with orchestra, modelled on the design of a sonata.

Each movement usually includes a Cadenza in which the soloist could be expected to improvise a virtuoso passage based on the themes provided.

Modern concertos usually have the cadenza written by the composer.

Canon

These are polyphonic compositions, in which one section of the music is imitated by one or more, other sections. When the imitation is exact in every detail the canon is said to be 'strict'. If it is modified by the introduction or omission of accidentals it is said to be 'free'.

It is common for such compositions to end with a short Coda (i.e. a short concluding passage in which strict imitation is abandoned in order to construct a convincing cadence).

Fugue

This is a composition in contrapuntal style in which a certain subject or theme is imitated. When the imitation is exact in every detail it is said to be 'real fugue'. If it is modified by changing intervals it is said to be 'total fugue'.

Rondo

This a composition in which the theme appears at least three times, interspersed by material of a contrasting nature.

LESSON 13 (Musical Form - Part 2) WORKSHEET

WRITTEN WORK

Explain the following musical terms :-

1. Suite
2. Variations
3. Sonata
4. Symphony
5. Overture
6. Concerto
7. Cadenza
8. Canon
9. Fugue
10. Rondo

N.B; There is no 'oral' worksheet.

LESSON 14

Ensemble

Ensemble is the coming together of component parts to establish a complete entity.

A 'good ensemble' is the combination of well matched and balanced components that successfully produce a pleasing (harmonious) effect.

Pipe band ensemble should be considered as following :-

Introduction (popularly referred to as the 'attack').

Intonation

Integration

Interpretation

Introduction

The introduction of a pipe band performance consists of four elements :-

Tempo (Speed to be played)

Attack ('Attacca' – Sound quality at the instant of its production)

Intonation (Being in tune)

Unison (Integration within and between each section).

The pipe major, when giving the 'words of command' should do so in a manner which indicates the desired tempo. (Book 2, Page 2.22.2 refers).

The introduction begins with two three pace rolls provided by the corps of drums, to establish the tempo previously indicated for the opening melody. The attack should be precise. The snare drum rolls should commence and finish in unison. The texture of the roll movements should be smooth, well sustained, and of uniform pulsation throughout, while the bass section drummers 'keep time' with single beats, punctuated with appropriate flourishing.

The pipes must also have a precise attack. On the fifth beat of the introduction, all drones should be sounded in unison, and on the seventh beat, the E should be fully intoned.

3.14.2

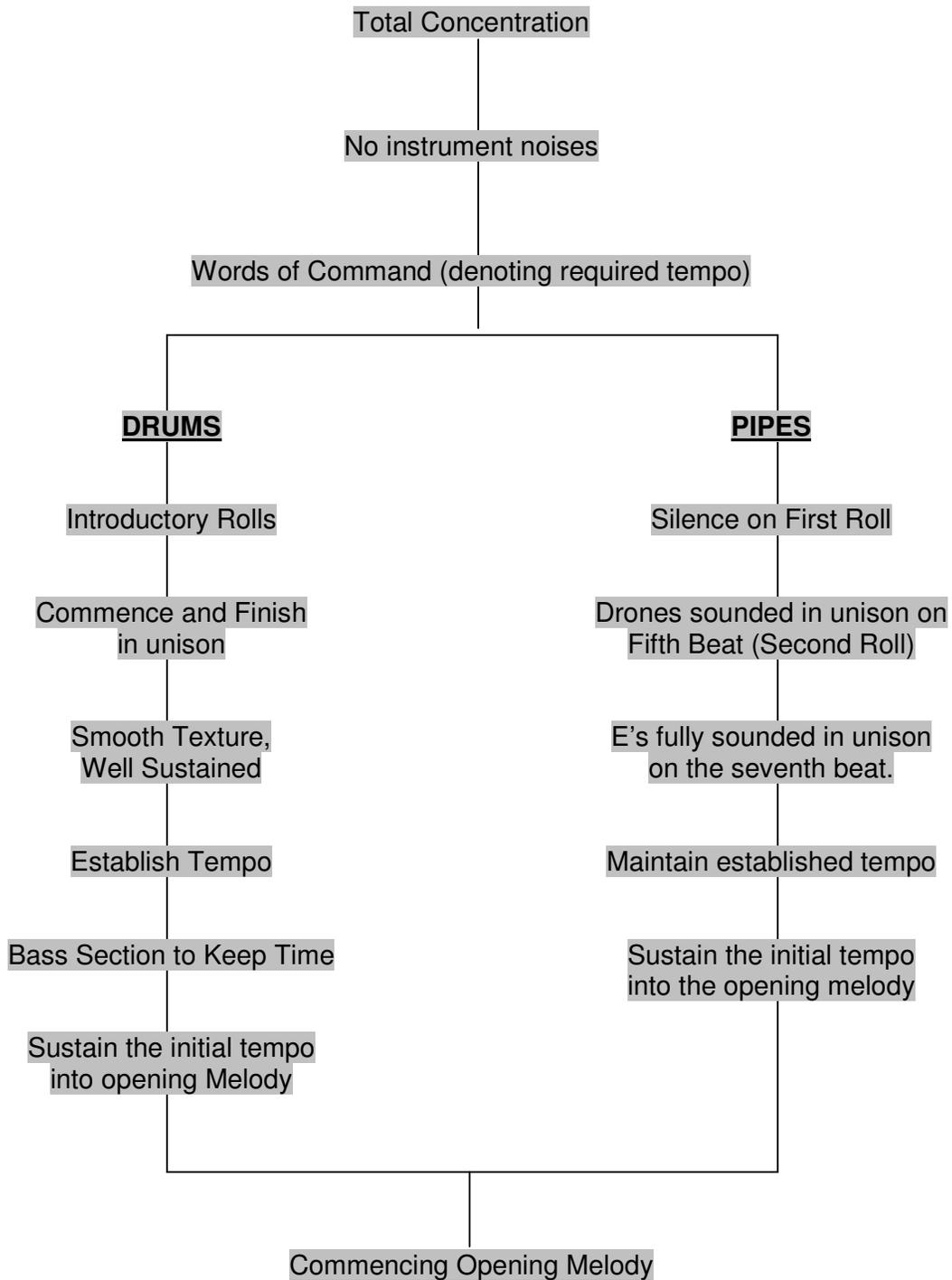
ENSEMBLE (CONT'D)

It is essential for the precision of the introduction that all instruments are sounded in unison as one grand instrument.

3.14.3

Pipe Band Introduction – Competition Performance

Essential sequence of events



3.14.4

HINTS ON INTONATION AND SOUND QUALITY

Drums

Initial tuning in unison, bright with good snare response.

Endeavour to produce a sound which complements the pipes

All drummers use the same type and shape of stick.

All drummers play on the centre of the drum.

Endeavour to play 'off' and not 'into' the drum.

All drummers maintain control of volume/dynamics, especially with regard to the overall band balance.

Bass section tuned as detailed in Structured Learning Book 2.

Pipes

Initial tuning in unison, rich sounding, with drones in full harmony, balanced to a rich, sonorous sounding well intoned chanter.

Give attention to the intonation and the balance of all notes in the register of the chanter

Musical quality, pitch and volume must be achieved and sustained.

It is essential to ensure that the drones produce their maximum resonance and harmonics.

Good intonation and sound quality can only be achieved on a well maintained and correctly controlled instrument, **e.g.** consistent air pressure.

N.B It should be noted that intonation and sound quality may be assisted by using instruments of similar specification.

3.14.5

HINTS ON PIPE BAND INTEGRATION AND INTERPRETATION

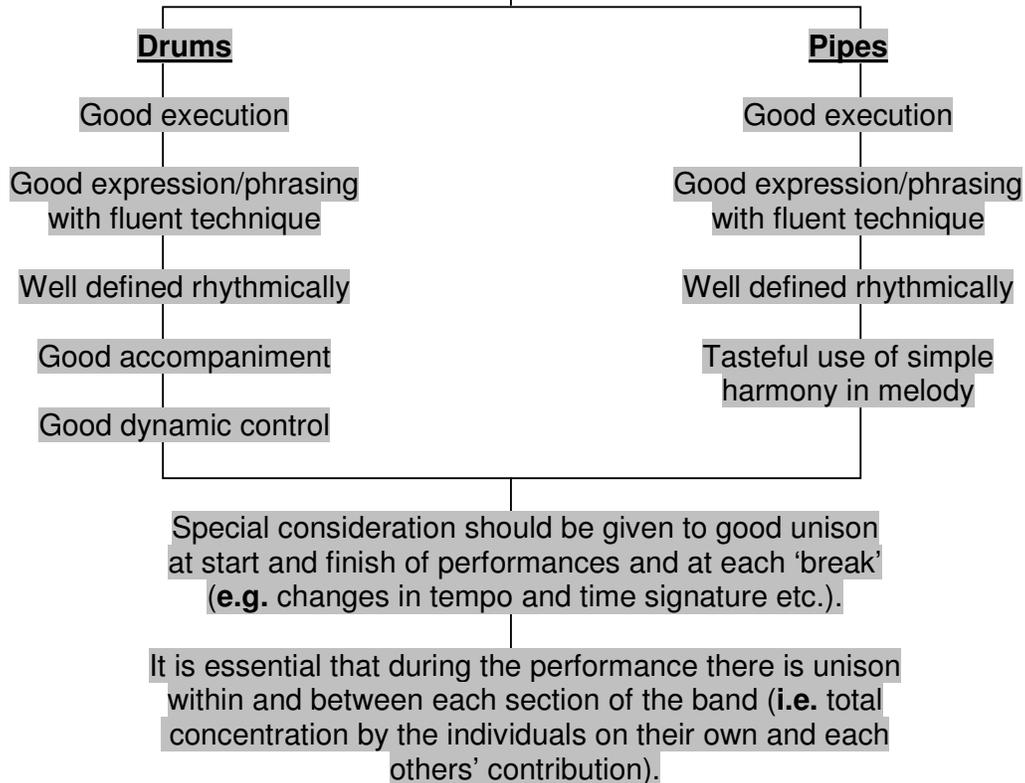
PIPES AND DRUMS

Play compositions within the ability of the individual players

Arrangements well considered in general by Pipe Major and leading drumming with regards to.... Tempo, Mood, Changes in Time Signatures etc.

N.B. 1 Simple compositions played well can often be more musically satisfying than technically complex compositions played not so well.

N.B 2 The composition of snare, tenor and bass scores should be considered as a single entity from outset to produce entity from outset to produce a good rhythmical accompaniment to the melodies



LESSON 14 WORKSHEET

ORAL WORK

1. Define the term 'Ensemble'.
2. Name the four aspects of pipe band ensemble.
3. Briefly describe the following terms :-
 - a) Introduction
 - b) Attack
 - c) Intonation/Sound quality
 - d) Integration
4. Name the three elements of the introduction to a pipe band contest performance.

LESSON 14 WORKSHEET

WRITTEN WORK

Write an essay on pipe band ensemble giving full consideration to the following aspects :-

1. Introduction
2. Intonation/Sound quality
3. Integration
4. Musical Interpretation

STRUCTURED LEARNING – THE ADVANCED CERTIFICATE**THE GREAT HIGHLAND BAGPIPE****LESSON 15*****Embellishments and exercises***

The exercises which follow constitute an overall progression, leading naturally from the contents of Book 2.

As with the previous two books, a clear understanding of the movements required to execute each embellishment is essential in order that the complete performance is clean and precise.

Careful and diligent practice of the exercises should help improve individual technique.

Exercise No.1 - G, D and E Gracenotes (Reel Rhythm)



Exercise No. 2 - Top Hand and D doublings (March Rhythm)



3.15.2

Exercise No. 3 - C, B, and Low A Doublings (Strathspey Rhythm)

Exercise No. 3 is written in treble clef with a common time signature (C). The piece consists of two staves of music. The first staff begins with a repeat sign and contains a sequence of eighth notes and sixteenth notes, including some beamed sixteenth notes. The second staff continues the melody and concludes with a double bar line and repeat dots.

Exercise No. 4 - Grips and Taorluath (March Rhythm)

Exercise No. 4 is written in treble clef with a 6/8 time signature. The piece consists of two staves of music. The first staff begins with a repeat sign and features a mix of eighth and sixteenth notes. The second staff continues the melody and ends with a double bar line and repeat dots.

Exercise No. 5 - Hand Changing (March Rhythm)

Exercise No. 5 is written in treble clef with a common time signature (C). The piece consists of two staves of music. The first staff begins with a repeat sign and includes several triplet markings (indicated by the number '3' below the notes). The second staff continues the melody and concludes with a double bar line and repeat dots.

Exercise No. 6 - Tachums (Strathspey Rhythm)

Exercise No. 6 is written in treble clef with a 4/4 time signature. The piece consists of two staves of music. The first staff begins with a repeat sign and contains eighth and sixteenth notes, with a triplet marking (indicated by the number '3' below the notes). The second staff continues the melody and ends with a double bar line and repeat dots.

3.15.3

Exercise No. 7 - Triple Movement (Quickstep Rhythm)

Musical notation for Exercise No. 7, Triple Movement (Quickstep Rhythm). The exercise is written on two staves in 3/8 time. The first staff contains two measures of music, and the second staff contains two measures. The music features a series of eighth notes and quarter notes with slurs, characteristic of a quickstep rhythm.

Exercise No. 8 - Tied Notes (Waltz Rhythm)

Musical notation for Exercise No. 8, Tied Notes (Waltz Rhythm). The exercise is written on eight staves in 3/4 time. Each staff contains two measures of music. The music features tied notes and slurs, characteristic of a waltz rhythm.

3.15.4

Piobaireachd

The 'Introduction to Piobaireachd', Structural Learning Book 2, stated that Ceol Mor, (Great Music), more commonly known as Piobaireachd (piping), dates from the 16th Century and is the classical music of the bagpipe.

The introduction also suggested that mastering the styles and techniques, and, the acquisition of the art of Piobaireachd playing, requires many years of study and application.

It is the object of **this** introduction to familiarise the student with some of the terms and expressions used in connection with the theory and practice of this musical form. Fingering and other exercises are presented together with a Piobaireachd score, which incorporates typical features and characteristics.

Every Piobaireachd commences with a presentation of its own clearly identified theme. This presentation, or statement, is called the Urlar or Ground and is probably the only characteristic common to all Piobaireachd. Any other attempt to generalise, or categorise in terms of content, style or construction requires considerable qualification.

As stated above, all Piobaireachd begin with an Urlar. This statement of the theme is followed by what are termed 'variations'. These consist of notes selected from the theme, embellished and/or coupled with other appropriately embellished notes to produce a distinct effect. However, in some tunes, the first variation is often a restatement of the theme with modifications, which generally follow the established melody line of the Urlar theme.

It can be shown that the number and type of variations is not constant thus the variations actually incorporated depend solely on the tune being considered. In addition to this the complete range of variations available is not included in all tunes.

A simple example of a Piobaireachd could contain the following variations based on the Urlar :- Siubhal, (phonetically – *shoo al*). this variation comprises of notes, selected from the theme, coupled with single notes of either higher or lower pitch. Dithis (*Jee esh*). In this, the theme notes are sounded before and alternate with Low A, or sometimes with Low G.

3.15.5

PIOBAIREACHD (CONT'D)

In many tunes, the Siubhal, and other subsequent variations, can exist in two forms, **i.e.** the singling and doubling. When a Dithis doubling is included, the theme note is repeated with the Low A or Low G being discarded.

It may be observed, from a Piobaireachd score, that the Siubhal and Dithis are arranged so that the first of each pair of notes requires to be sounded longer than the other.

Leumluath (Grip) – when included the theme note is followed by an embellishment consisting of Low G, D and Low G Gracenotes, finishing on E.

Taorluath – the Taorluath follows the theme note and consists of four Gracenotes Low G, D, Low G and E, played in quick succession and finishing on Low A.

Crunluath – As in the Taorluath, the Crunluath follows the theme note, this time finishing on E. It consists of a group of seven Gracenotes played in quick succession. The Gracenotes are Low G, D, Low G, E, Low A, F and Low A. Observe that the Crunluath incorporates a Taorluath with Low A, f and Low A added.

Piobaireachd construction :-

Examination of the construction of Piobaireachd music reveals that broad classification does exist. The classes, or types, are :- Primary, Secondary, Tertiary A and B and Irregular.

It should be observed that the classes indicate only the particular form or method of construction of a tune and in no way attempt to establish a hierarchy in terms of degree of difficulty or worth.

Consider the construction of a Primary Piobaireachd. When this is examined it may be observed that it consists of three 'lines' of music. Lines one and two are of equal length, consisting of six bars of music, while the third line contains four bars only. Each line is played once. These features apply to the Urlar and all of its subsequent variations.

3.15.6

PIOBAIREACHD (CONT'D)

Further examination reveals that the lines consist of different combinations of two musical phrases, each containing two bars. Representing the phrases by the letters A and B, permits the three lines to be represented by :-

A	A	B
A	B	B
A	B	.

The above pattern is appropriate provided that slight modification of the A and B phrases are acceptable. The above construction typifies 'Primary Form' Piobaireachd.

Introduction to Piobaireachd Exercises

The exercises contained in this book follow the general principles of Piobaireachd notation and playing.

It is essential that students of Piobaireachd be aware of the wide diversity of style and technique in such music and therefore they must never make assumptions about what the music expects from them.

Each Piobaireachd, and each variation of each tune has to be closely examined to determine how this or that movement should be played.

e.g. The Taorluath from low G is normally played as follows :-



However in some Piobaireachd the movement becomes :-



(See also the $\frac{2}{4}$ march 'The Duke of Roxburghs farewell to Blackmount Forest')

3.15.7

INTRODUCTION TO PIOBAIREACHD EXERCISES (CONT'D)

The 'Cadenced Birl' is occasionally re-defined as an 'echo beat' on Low A.

Some tunes require the embellishments, especially those contained in the 'groundwork' or 'urlar' (the theme the Piobaireachd is created around) to be played almost as theme notes rather than simply melodic adornment.

The exercises, as they appear in this book, are in convenient order for practice and not in the traditional sequence of Piobaireachd.

3.15.8

Exercise No. 9 - Scale with Taorluath

Observe that the value of the finishing note following the Taorluath movement is short in the style of Piobaireachd variations called the Taorluath singling and Taorluath doubling.

As in many other Piobaireachd manuscripts, word and note abbreviations are used.

Traditionally when the note High G is sounded, as a theme note, the F finger remains on the chanter.

Played;

Written;

Exercise No. 10 - Taorluath Doubling  = 50 Approx

First line, phrase A (i.e. Bars 1 & 2) is repeated before playing phrase B (i.e. bars 3 & 4).

This maintains the musical form **AAB** which identifies this as a **'Primary Piobaireachd'** previously established in the first line of the Urlar.

3.15.9

Exercise No. 11 - Scale with Crunluath

As with the Taorluath exercises, observe the value of the finishing note following the Crunluath movement.

Played;

Written;

Exercise No. 12 - Crunluath Doubling

 = 60 Approx

Observe that the primary form is maintained.

3.15.10

Exercise No. 13 - Embellishments used in Siubhal and Dithis

These comprise of High G and E Gracenotes.

Siubhal and Dithis = 50 Approx

The first two staves of the 'Siubhal and Dithis' exercise. The first staff contains two measures of music, each with a treble clef and a key signature of one sharp (F#). The notes are G4, A4, B4, C5, with various gracenote ornaments. The second staff continues the melody for two more measures, ending with a double bar line.

Dithis Doubling = 60 Approx

The first two staves of the 'Dithis Doubling' exercise. The notation is similar to the first exercise, featuring a treble clef, one sharp key signature, and notes G4, A4, B4, C5 with gracenotes. The second staff concludes the exercise with a double bar line.

Siubhal Doubling

The first two staves of the 'Siubhal Doubling' exercise. It follows the same notation as the previous exercises, with a treble clef, one sharp key signature, and notes G4, A4, B4, C5 with gracenotes. The second staff ends with a double bar line.

Dithis

The 'Dithis' exercise, consisting of four staves. The first staff has a bracket above it labeled 'Twice', indicating that the first two measures should be repeated. The notation includes a treble clef, one sharp key signature, and notes G4, A4, B4, C5 with gracenotes. The second and third staves continue the melody, and the fourth staff concludes the exercise with a double bar line.

3.15.13

Exercise No. 17 - The F Throw

This is a quick flowing movement, the basis of which is the note E. F and G are sounded on E finishing on the theme note F.

The F, G and E's are all Gracenotes.



F throw development

From Low A, B, C, D or E. e.g. From D



On F



From High G or A. e.g. High A



F throw on the Scale



3.15.14

PIOBAIREACHD

CEOL NA H-ALBA

J. Wark 1991

(Music of Scotland)

Ground or Urlar

Musical notation for the Ground or Urlar section, consisting of four staves of music. The notation includes various ornaments such as grace notes and trills, and a bracket labeled "Twice" indicating a repeat. The music is written in a single melodic line across four staves.

1st Variation Siubhal

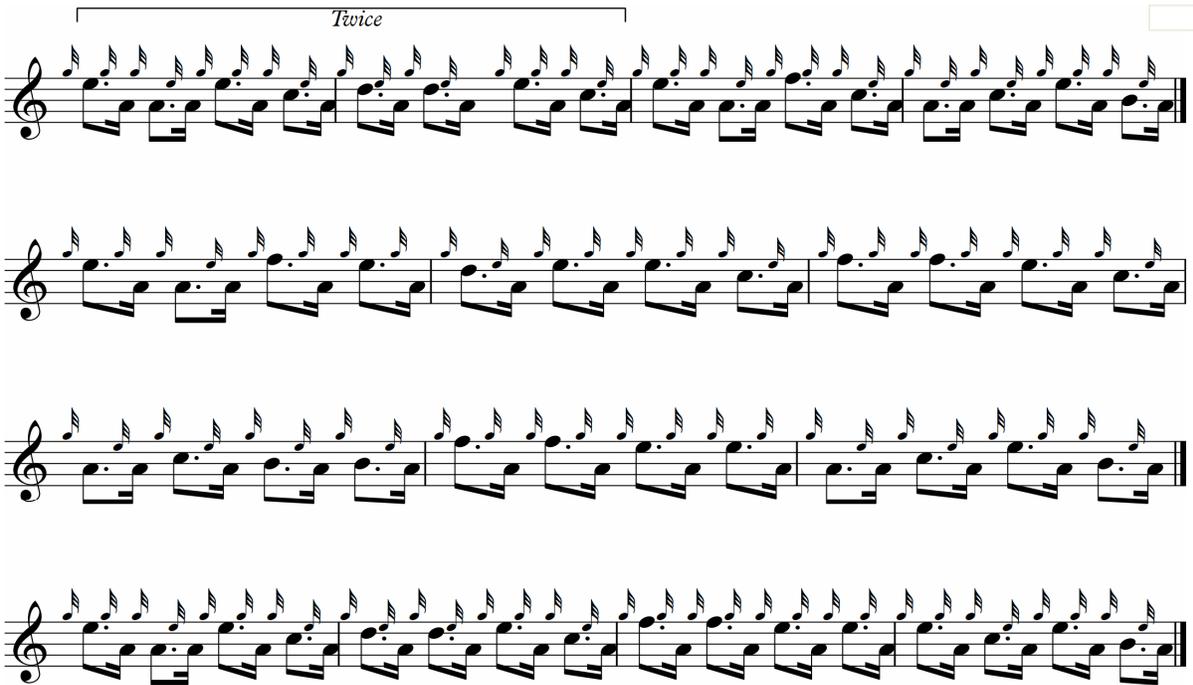
Musical notation for the 1st Variation Siubhal section, consisting of four staves of music. The notation includes various ornaments such as grace notes and trills, and a bracket labeled "Twice" indicating a repeat. The music is written in a single melodic line across four staves.

3.15.15

2nd Variation

Dithis

Twice



3rd Variation,

Taorluath Singling

5th Variation,

Crunluath Singling



tr

T C T C T C T C T C

T C T C T C T C

T C T C T C T C T C

tr

T C T C T C T C T C T C

3.15.16

4th Variation, Taorluath Doubling

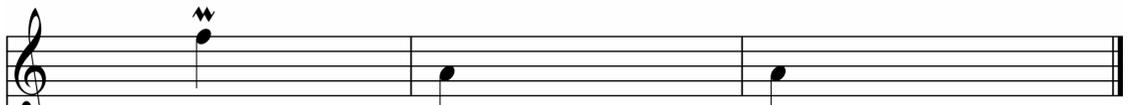
6th Variation, Crunluath Doubling

Twice

Abbreviations used

Written 

Played 

Written 

Played 

3.16.1

STRUCTURED LEARNING – THE ADVANCED CERTIFICATE

THE PIPE BAND SNARE DRUM

LESSON 16

The following rudiments and exercises should only be attempted when complete proficiency has been attained in playing all of the contents of Books 1 and 2.

In order that good stick technique may be developed to assist the pupil in playing smoothly and fluently at all times, it is essential that rudiments and exercises are practiced in a manner that will help ensure this objective.

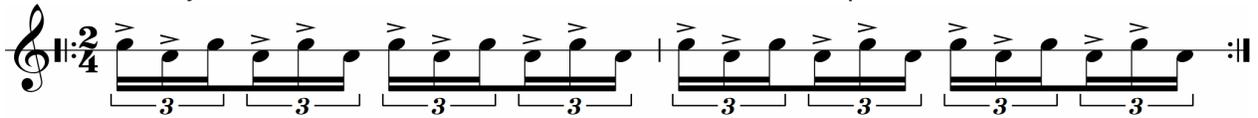
It will therefore assist matters greatly after successfully playing a particular rudiment or exercise, it is then practiced again, commencing with the opposite hand.

FOUR STROKE ROLL DEVELOPMENT**Exercise No.1***(Continued from Book 2 Page 2.20.12)*

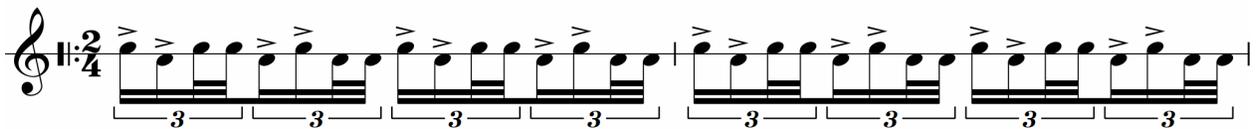
Below are further variations of hand changes and accents of the four stroke roll.

CUT AND DOT

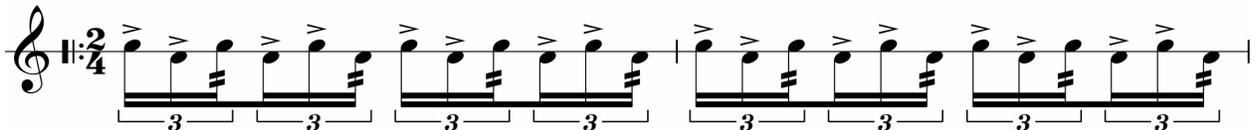
1. Primary Strokes..... accent on first and second note of triplet.



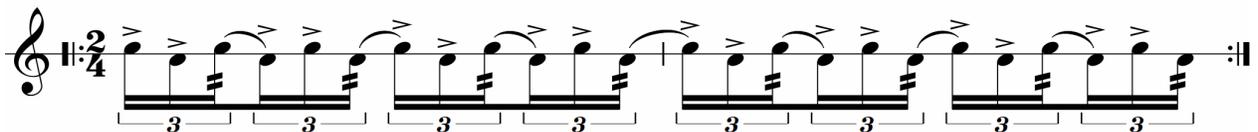
2. Open Movements Sub-division of last note of triplet.



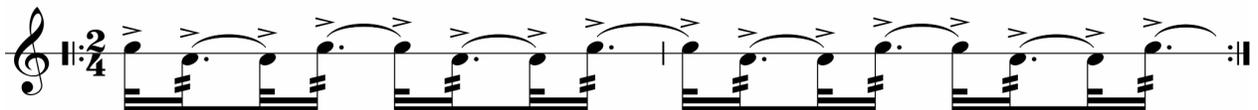
3. Closed, Pulsed or 'Buzzed' movements. This produces a tap, tap and buzz.



4. Adding the slur.



5. Abbreviated as written.



3.16.3

FOUR STROKE ROLL

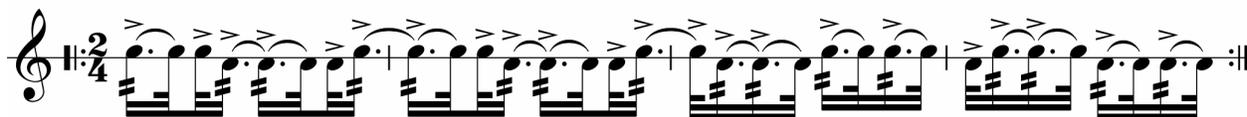
Exercise No. 2

Exercises incorporating dot and cut, and cut and dot movements in varying combinations.

1.



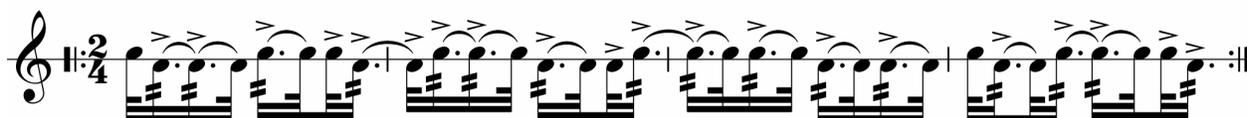
2.



3.



4.



3.16.4

THE SIX STROKE ROLL

Exercise No. 3

The movements required for the development of the six stroke roll are shown below.

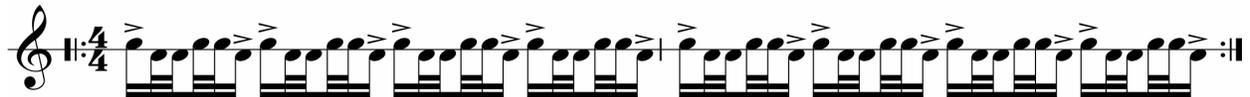
Four distinct sounds are heard when the movements are practiced slowly, but, as the tempo increases, there is the impression of two sounds only.

Once the exercise has been mastered commencing on one hand, repeat the exercise commencing on the opposite hand.

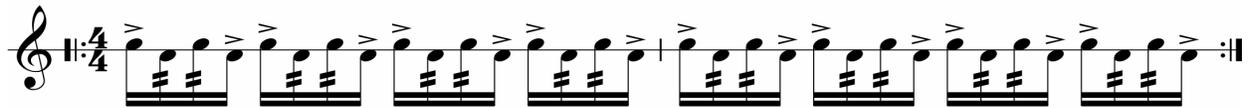
1. Primary Strokes..... accent on first and fourth notes.



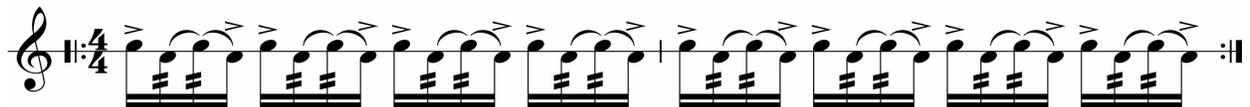
2. Open Movements Sub-division of second and third notes within each group.



3. Closed, Pulsed or 'Buzzed' movements. This produces a tap, buzz, buzz and tap.



4. Adding the slur



5. Abbreviated as written.



3.16.5

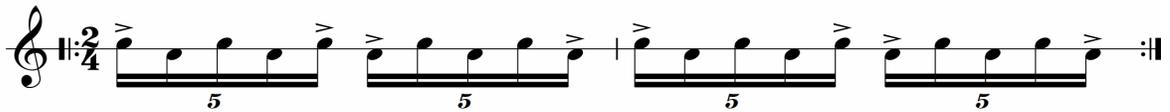
THE EIGHT STROKE ROLL

Exercise No. 4

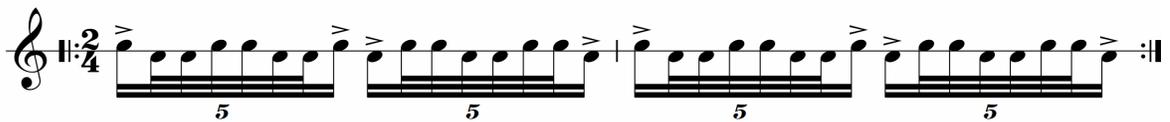
The primary movement of the eight stroke roll is based on a quintuplet (5 equal notes played in the time of 4 notes of the same value).

These rolls are played from hand to hand and must be practiced slowly at first, gradually increasing the tempo.

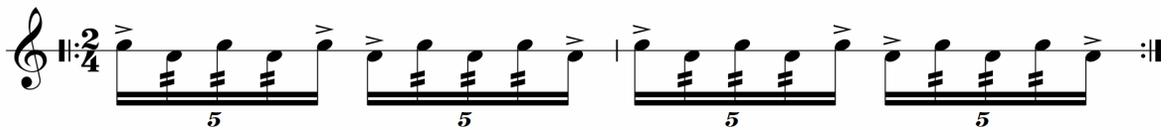
1. Primary Strokes..... accent on first and fifth notes.



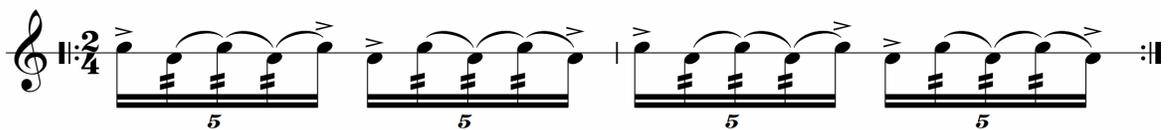
2. Open Movements Sub-division of second, third and fourth notes within each group



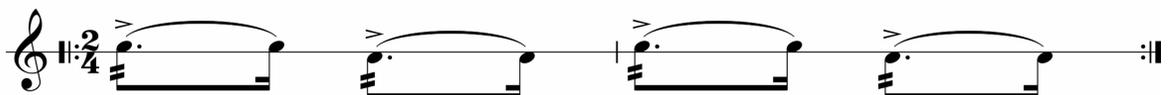
3. Closed, Pulsed or 'Buzzed' movements. This produces a tap, buzz, buzz, buzz and tap.



4. Adding the slur



5. Abbreviated as written.



3.16.6

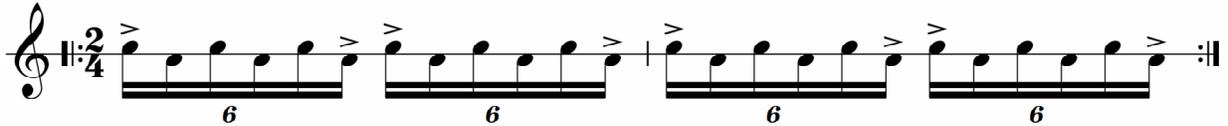
THE TEN STROKE ROLL

Exercise No. 5

The ten stroke roll is based on a sextuplet (6 equal notes played in the time of 4 notes of the same value).

As with the six stroke roll, once the exercise has been mastered commencing on one hand, repeat the exercise by commencing on the opposite hand.

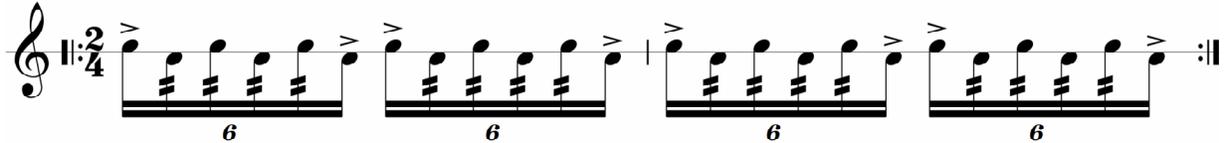
1. Primary Strokes..... accent on first and sixth notes.



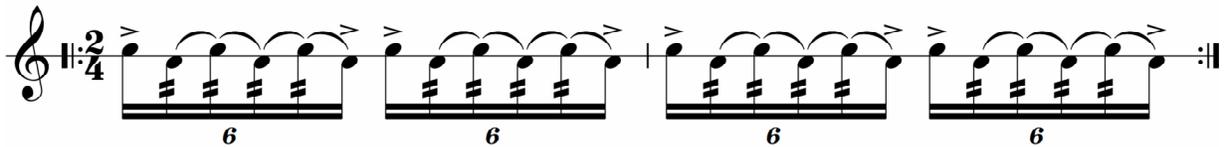
2. Open Movements Sub-division of second, third, fourth and fifth notes within each group



3. Closed, Pulsed or 'Buzzed' movements. This produces a tap, buzz, buzz, buzz, buzz and tap.



4. Adding the slur



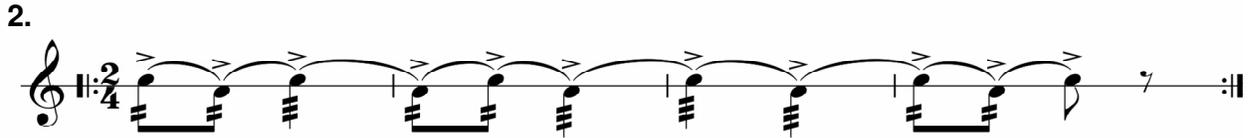
5. Abbreviated as written.

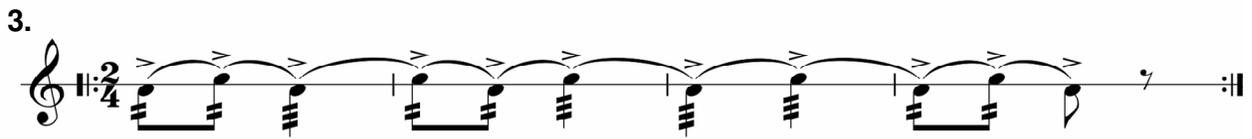


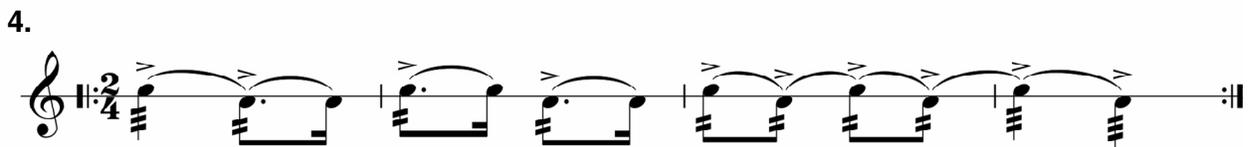
3.16.7

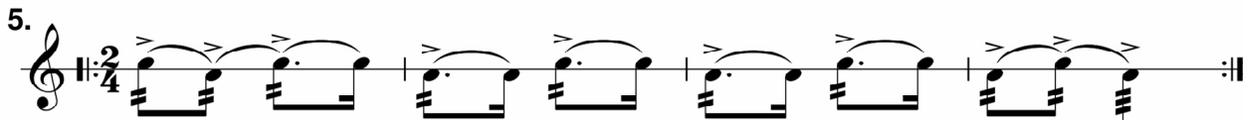
ROLLS OF VARYING LENGTHS INCORPORATING CONTINUOUS ACCENTUATION
Exercise No. 6

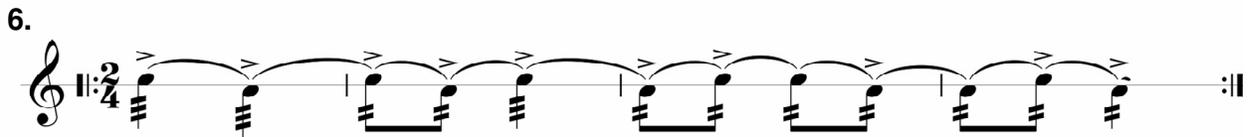
1. 

2. 

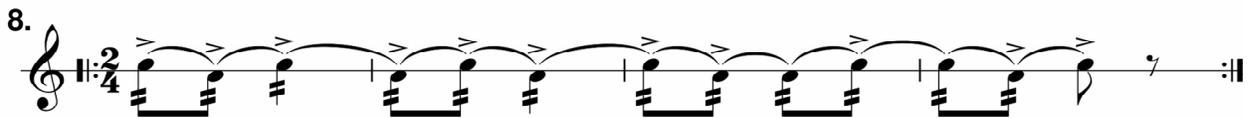
3. 

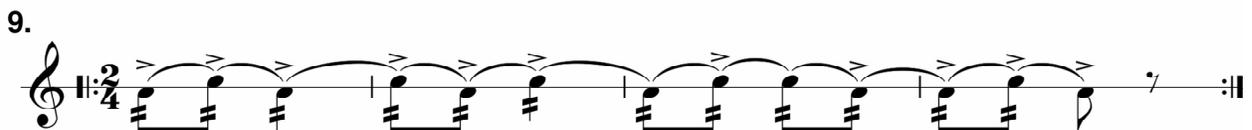
4. 

5. 

6. 

7. 

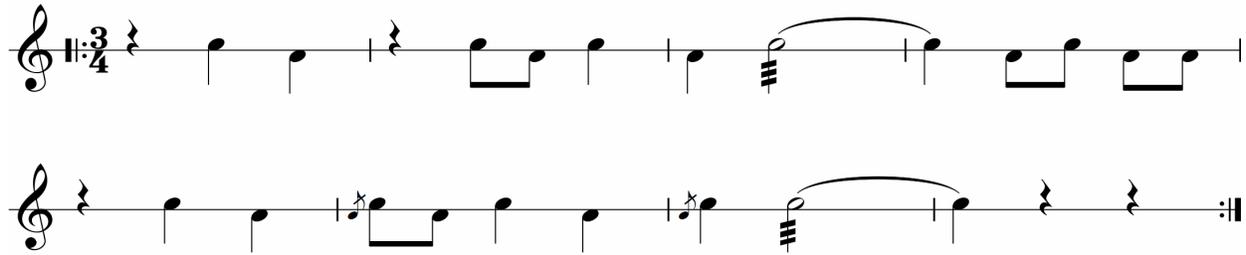
8. 

9. 

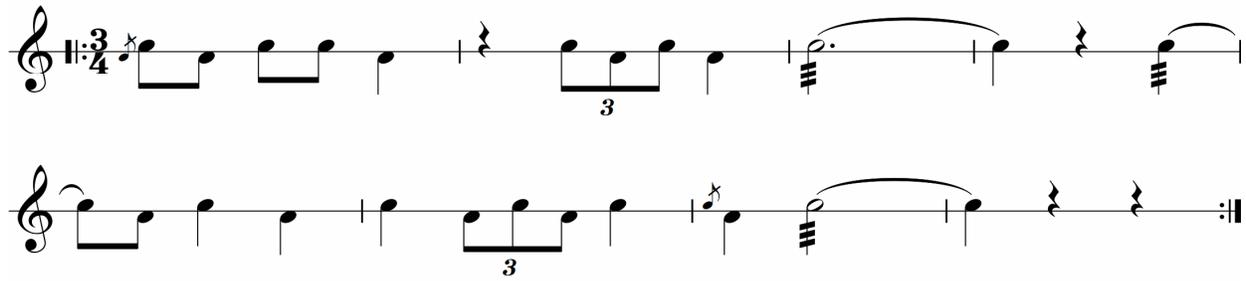
WALTZ RHYTHM**Exercise No. 7**

Simple Triple Time.

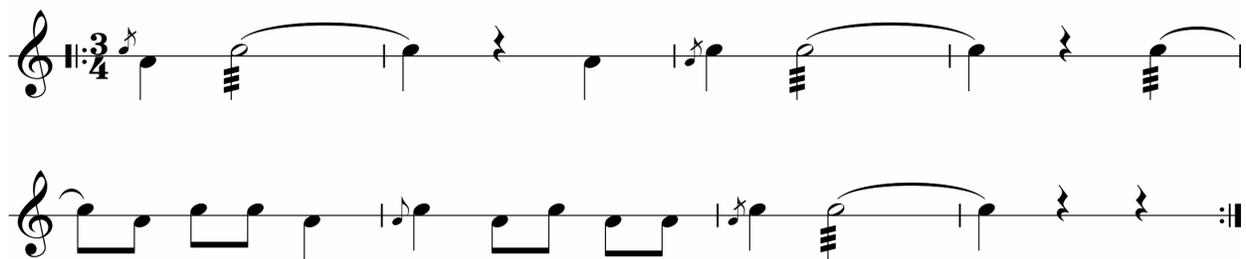
1.



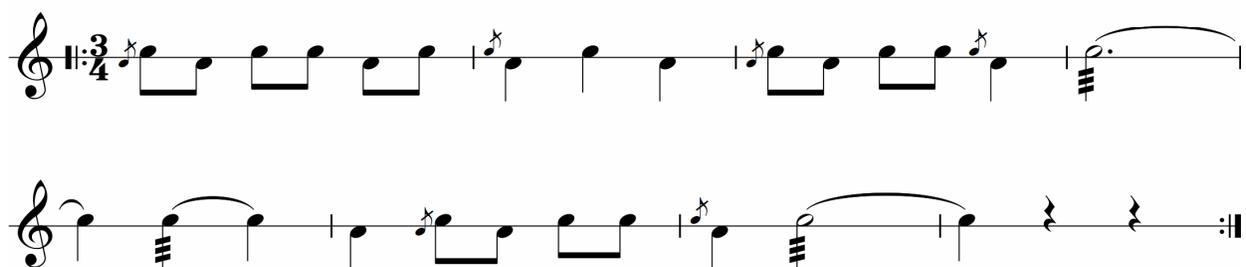
2.



3.



4.



MARCH RHYTHM**Exercise No. 8**

Simple Quadruple Time.

1.

First system of Exercise 1: Two staves in C major, 4/4 time. The top staff contains two measures of music. The first measure has a half note G4 with a slur over it, followed by a quarter note A4 with a slur over it, and a quarter rest. The second measure has a half note B4 with a slur over it, followed by a quarter note C5 with a slur over it, and a quarter rest. The bottom staff contains two measures. The first measure has a half note G3 with a slur over it, followed by a quarter note A3 with a slur over it, and a quarter note B3 with a slur over it. The second measure has a quarter note C4 with a slur over it, followed by a quarter note D4 with a slur over it, a quarter note E4 with a slur over it, and a quarter rest. A *cresc* marking is placed below the first measure of the bottom staff.

2.

Second system of Exercise 1: Two staves in C major, 4/4 time. The top staff contains two measures. The first measure has a quarter note G4 with a slur over it, followed by a quarter note A4 with a slur over it, a quarter note B4 with a slur over it, and a quarter rest. The second measure has a quarter note C5 with a slur over it, followed by a quarter note D5 with a slur over it, a quarter note E5 with a slur over it, and a quarter rest. The bottom staff contains two measures. The first measure has a quarter note G3 with a slur over it, followed by a quarter note A3 with a slur over it, a quarter note B3 with a slur over it, and a quarter rest. The second measure has a quarter note C4 with a slur over it, followed by a quarter note D4 with a slur over it, a quarter note E4 with a slur over it, and a quarter rest.

3.

Third system of Exercise 1: Two staves in C major, 4/4 time. The top staff contains two measures. The first measure has a quarter note G4 with a slur over it, followed by a quarter note A4 with a slur over it, a quarter note B4 with a slur over it, and a quarter rest. The second measure has a quarter note C5 with a slur over it, followed by a quarter note D5 with a slur over it, a quarter note E5 with a slur over it, and a quarter rest. The bottom staff contains two measures. The first measure has a quarter note G3 with a slur over it, followed by a quarter note A3 with a slur over it, a quarter note B3 with a slur over it, and a quarter rest. The second measure has a quarter note C4 with a slur over it, followed by a quarter note D4 with a slur over it, a quarter note E4 with a slur over it, and a quarter rest.

4.

Fourth system of Exercise 1: Two staves in C major, 4/4 time. The top staff contains two measures. The first measure has a quarter note G4 with a slur over it, followed by a quarter note A4 with a slur over it, a quarter note B4 with a slur over it, and a quarter rest. The second measure has a quarter note C5 with a slur over it, followed by a quarter note D5 with a slur over it, a quarter note E5 with a slur over it, and a quarter rest. The bottom staff contains two measures. The first measure has a quarter note G3 with a slur over it, followed by a quarter note A3 with a slur over it, a quarter note B3 with a slur over it, and a quarter rest. The second measure has a quarter note C4 with a slur over it, followed by a quarter note D4 with a slur over it, a quarter note E4 with a slur over it, and a quarter rest.

MARCH RHYTHM

Exercise No. 9 -

Compound Quadruple Time

1.

The first system of music for exercise 1 consists of two staves. The top staff begins with a treble clef, a key signature of one sharp (F#), and a time signature of 12/8. The melody starts with a quarter note G4, followed by a quarter note A4, a quarter note B4, and a quarter note C5. The next measure contains a dotted quarter note G4, a dotted quarter note A4, and a dotted quarter note B4. The third measure has a quarter note G4, a quarter note A4, and a quarter note B4. The fourth measure contains a quarter rest, a quarter note G4, and a quarter note A4. The fifth measure has a quarter note G4, a quarter note A4, and a quarter note B4. The sixth measure contains a dotted quarter note G4, a dotted quarter note A4, and a dotted quarter note B4. The system ends with a double bar line.

2.

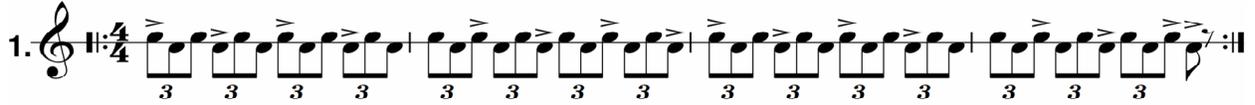
The second system of music for exercise 2 consists of three staves. The top staff begins with a treble clef, a key signature of one sharp (F#), and a time signature of 12/8. The melody starts with a quarter note G4, followed by a quarter note A4, a quarter note B4, and a quarter note C5. The next measure contains a dotted quarter note G4, a dotted quarter note A4, and a dotted quarter note B4. The third measure has a quarter note G4, a quarter note A4, and a quarter note B4. The fourth measure contains a quarter rest, a quarter note G4, and a quarter note A4. The fifth measure has a quarter note G4, a quarter note A4, and a quarter note B4. The sixth measure contains a dotted quarter note G4, a dotted quarter note A4, and a dotted quarter note B4. The seventh measure has a quarter note G4, a quarter note A4, and a quarter note B4. The eighth measure contains a quarter note G4, a quarter note A4, and a quarter note B4. The system ends with a double bar line.

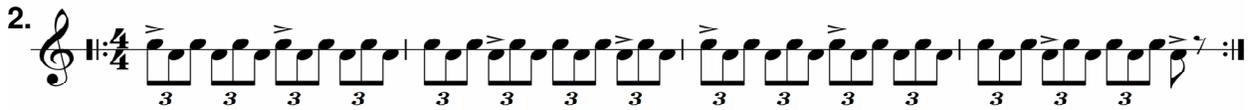
The second staff of the second system contains a melody that starts with a quarter note G4, followed by a quarter note A4, a quarter note B4, and a quarter note C5. The next measure contains a dotted quarter note G4, a dotted quarter note A4, and a dotted quarter note B4. The third measure has a quarter note G4, a quarter note A4, and a quarter note B4. The fourth measure contains a quarter rest, a quarter note G4, and a quarter note A4. The fifth measure has a quarter note G4, a quarter note A4, and a quarter note B4. The sixth measure contains a dotted quarter note G4, a dotted quarter note A4, and a dotted quarter note B4. The seventh measure has a quarter note G4, a quarter note A4, and a quarter note B4. The eighth measure contains a quarter note G4, a quarter note A4, and a quarter note B4. The system ends with a double bar line.

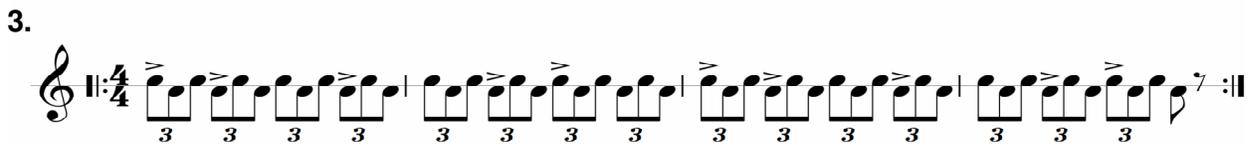
The third staff of the second system is an empty treble clef staff with a single bar line at the end, indicating a continuation of the exercise.

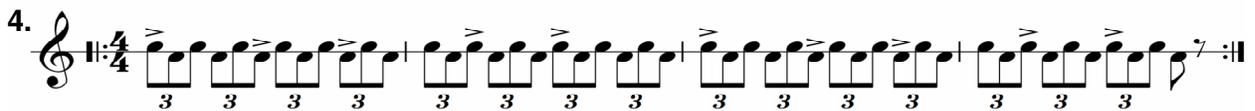
TRIPLET EXERCISES**Exercise No. 10***(continued from Book 1 1.21.6)*

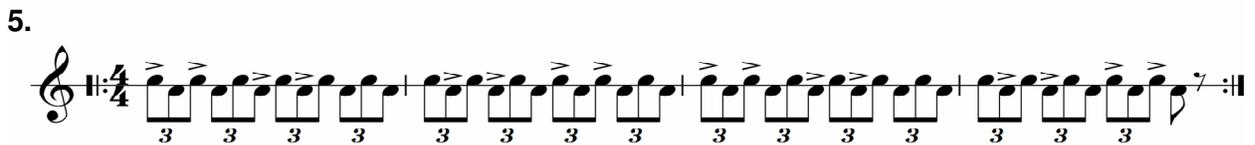
The importance of these exercises lies in the varying positions of the accents. Particular attention should be paid to the different hand movements in Exercises 6, 7 and 8. Although written in compound time, the rhythm is still in triple form.

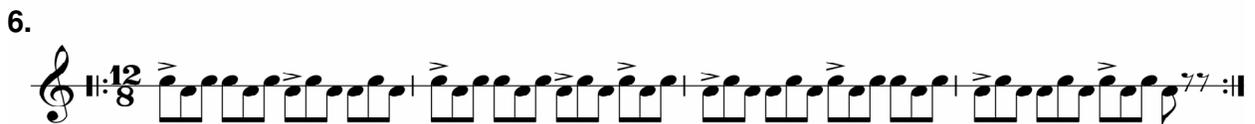
1. 

2. 

3. 

4. 

5. 

6. 

7. 

8. 

TRIPLET DEVELOPMENT 1**Exercise No. 11**

1. Accent on first note.

2. Flam on first note.

3. Drag on first note

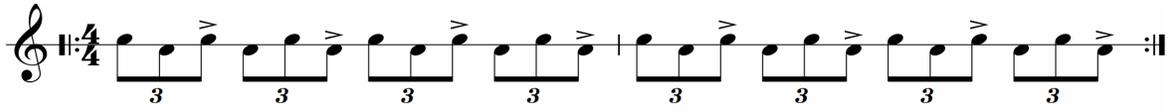
4. Sub-division of first note.

5. Sub-division with flam.

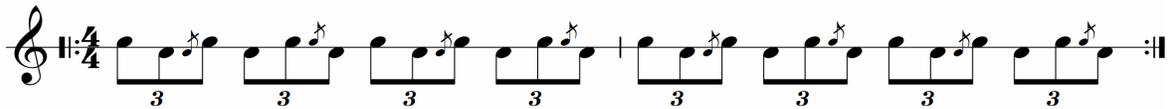
6. Sub-division with drag.

TRIPLET DEVELOPMENT 2**Exercise No. 1**

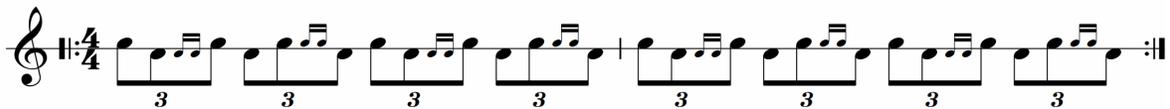
1. Accent on third note.



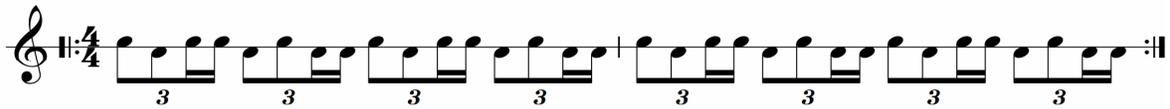
2. Flam on third note.



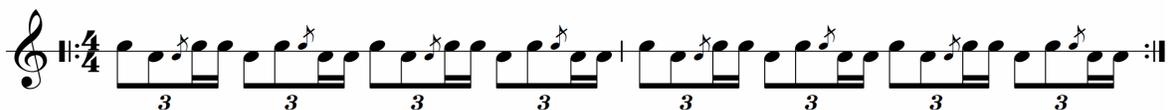
3. Drag on third note



4. Sub-division of third note.



5. Sub-division with flam.

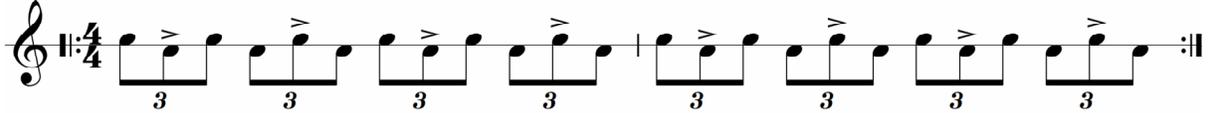


6. Sub-division with drag.

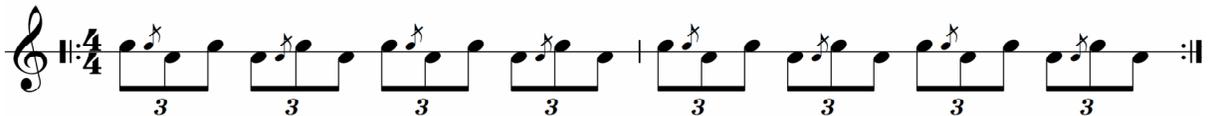


TRIPLET DEVELOPMENT 3**Exercise No. 13**

1. Accent on second note.



2. Flam on second note.



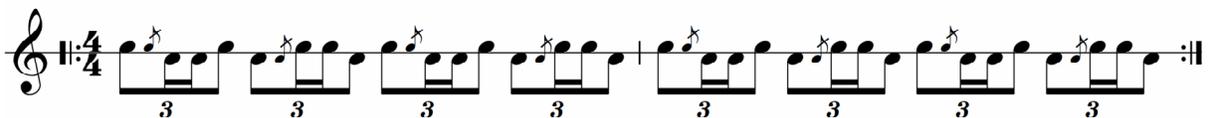
3. Drag on second note



4. Sub-division of second note.



5. Sub-division with flam.

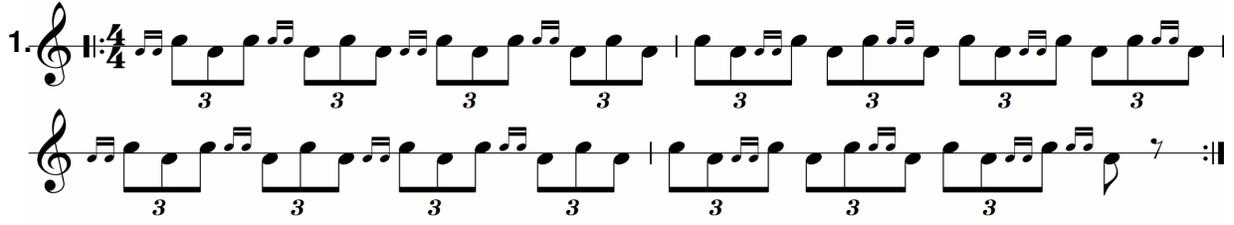


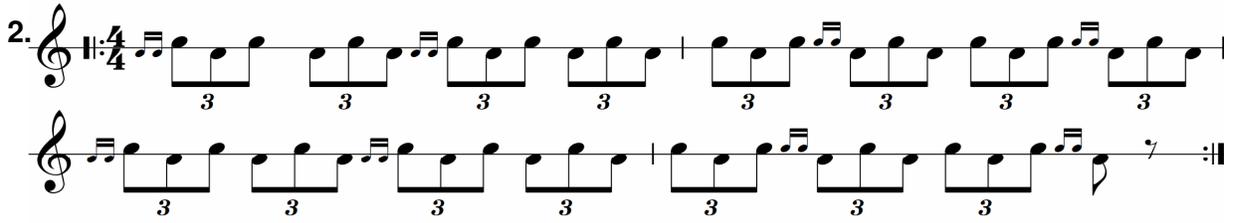
6. Sub-division with drag.

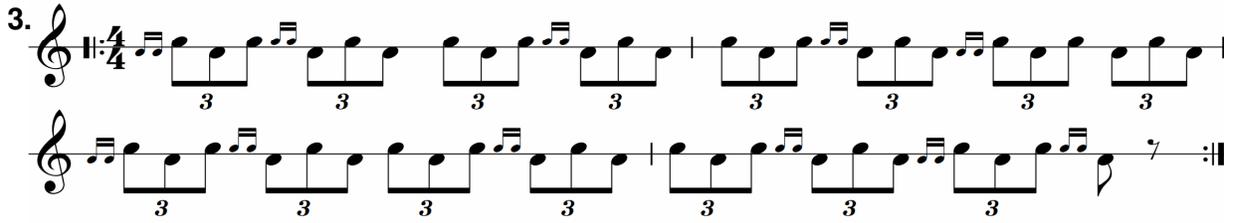


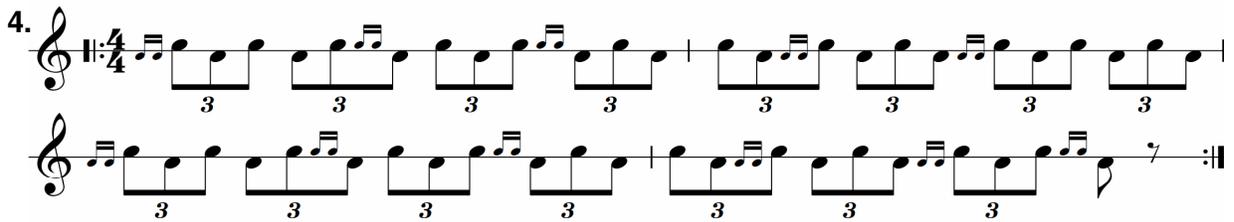
TRIPLET DEVELOPMENT 5

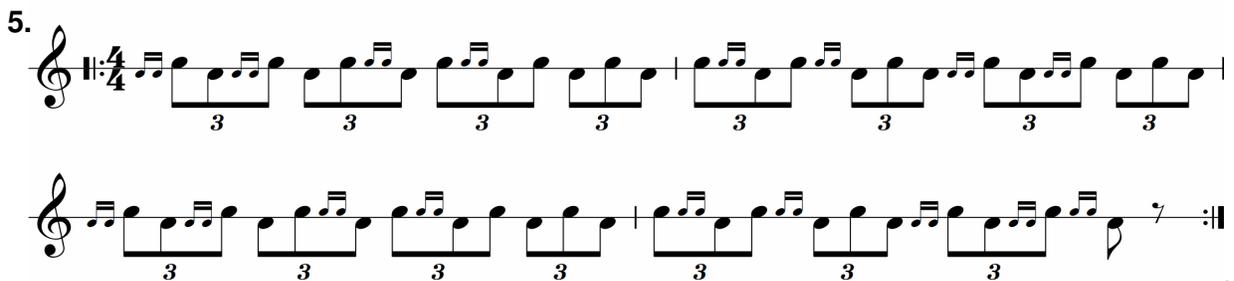
Exercise No. 15 -

1. 

2. 

3. 

4. 

5. 

TRIPLET DEVELOPMENT 7

Exercise No. 17

1.

Two staves of music in 12/8 time. The first staff contains two measures of music, each with a triplet of eighth notes. The second staff contains two measures of music, each with a triplet of eighth notes, followed by two eighth notes and a double bar line with repeat dots.

2.

Two staves of music in 12/8 time. The first staff contains two measures of music, each with a triplet of eighth notes. The second staff contains two measures of music, each with a triplet of eighth notes, followed by two eighth notes and a double bar line with repeat dots.

3.

Two staves of music in 12/8 time. The first staff contains two measures of music, each with a triplet of eighth notes. The second staff contains two measures of music, each with a triplet of eighth notes, followed by two eighth notes and a double bar line with repeat dots.

SUB-DIVISION OF THE TRIPLET**Exercise No. 18**

These exercises are purposely written in Simple time as the Triplet Sign seems to give a quicker conception of the rhythmic recurrence. They could equally have been written in Compound Time without the Triplet Sign to produce exactly the same effect.

It should be noted that the last two bars in Number 7 illustrate the natural development of the Four Stroke Roll as in $\frac{2}{4}$ time.

1.

2.

SUB-DIVISION OF THE TRIPLET (CONT'D)**Exercise No. 18 -**

4.

Exercise 4 consists of two staves of music in 4/4 time. The first staff contains measures 1 and 2, and the second staff contains measures 3 and 4. Each measure contains a triplet of eighth notes. The notes in the first staff are G4, A4, B4 in measures 1 and 2, and C5, B4, A4 in measures 3 and 4. The notes in the second staff are G4, F4, E4 in measures 1 and 2, and D4, C4, B3 in measures 3 and 4. Each note has an accent (>) above it. The piece ends with a repeat sign and a double bar line.

5.

Exercise 5 consists of two staves of music in 4/4 time. The first staff contains measures 1 and 2, and the second staff contains measures 3 and 4. Each measure contains a triplet of eighth notes. The notes in the first staff are G4, A4, B4 in measures 1 and 2, and C5, B4, A4 in measures 3 and 4. The notes in the second staff are G4, F4, E4 in measures 1 and 2, and D4, C4, B3 in measures 3 and 4. Each note has an accent (>) above it. The piece ends with a repeat sign and a double bar line.

6.

Exercise 6 consists of two staves of music in 4/4 time. The first staff contains measures 1 and 2, and the second staff contains measures 3 and 4. Each measure contains a triplet of eighth notes. The notes in the first staff are G4, A4, B4 in measures 1 and 2, and C5, B4, A4 in measures 3 and 4. The notes in the second staff are G4, F4, E4 in measures 1 and 2, and D4, C4, B3 in measures 3 and 4. Each note has an accent (>) above it. The piece ends with a repeat sign and a double bar line.

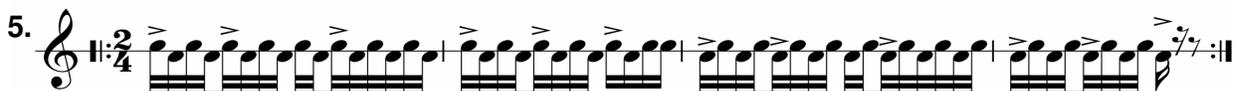
7.

Exercise 7 consists of two staves of music in 4/4 time. The first staff contains measures 1 and 2, and the second staff contains measures 3 and 4. Each measure contains a triplet of eighth notes. The notes in the first staff are G4, A4, B4 in measures 1 and 2, and C5, B4, A4 in measures 3 and 4. The notes in the second staff are G4, F4, E4 in measures 1 and 2, and D4, C4, B3 in measures 3 and 4. Each note has an accent (>) above it. The piece ends with a repeat sign and a double bar line.

SINGLE STROKE DEVELOPMENT**Exercise No. 19**

(Continued from Book 2, Page 2.20.9)

The exercises below are a further development of the single stroke exercises in Books 1 and 2. These exercises should be practiced slowly at first to ensure correct sticking and execution.



SINGLE STROKE DEVELOPMENT 2

Exercise No. 20

Compound Time

1.

Musical notation for exercise 1, first part. It consists of two staves in 6/8 time. The first staff contains four measures of music: a quarter note, a dotted quarter note, a quarter note, and a dotted quarter note, each followed by a triplet of eighth notes. The second staff contains four measures: a quarter note, a dotted quarter note, a quarter note, and a dotted quarter note, each followed by a triplet of eighth notes. The piece ends with a double bar line and repeat dots.

2.

Musical notation for exercise 1, second part. It consists of two staves in 6/8 time. The first staff contains four measures of music: a quarter note, a dotted quarter note, a quarter note, and a dotted quarter note, each followed by a triplet of eighth notes. The second staff contains four measures: a quarter note, a dotted quarter note, a quarter note, and a dotted quarter note, each followed by a triplet of eighth notes. The piece ends with a double bar line and repeat dots.

3.

Musical notation for exercise 1, third part. It consists of two staves in 6/8 time. The first staff contains four measures of music: a quarter note, a dotted quarter note, a quarter note, and a dotted quarter note, each followed by a triplet of eighth notes. The second staff contains four measures: a quarter note, a dotted quarter note, a quarter note, and a dotted quarter note, each followed by a triplet of eighth notes. The piece ends with a double bar line and repeat dots.

SINGLE STROKE DEVELOPMENT 3

Exercise No. 21

Compound Time

1.

First system of musical notation for exercise 1, consisting of two staves. The top staff begins with a treble clef, a key signature of one flat (B-flat), and a time signature of 6/8. It contains four measures of eighth-note patterns with accents. The bottom staff continues the pattern for four measures, ending with a repeat sign.

2.

First system of musical notation for exercise 2, consisting of two staves. The top staff begins with a treble clef, a key signature of one flat (B-flat), and a time signature of 6/8. It contains four measures of eighth-note patterns with accents. The bottom staff continues the pattern for four measures, ending with a repeat sign.

3.

First system of musical notation for exercise 3, consisting of two staves. The top staff begins with a treble clef, a key signature of one flat (B-flat), and a time signature of 6/8. It contains four measures of eighth-note patterns with accents. The bottom staff continues the pattern for four measures, ending with a repeat sign.

PARADIDDLE DEVELOPMENT**Exercise No. 22**

The following exercises incorporate the Paradiddle Fingering in semiquaver and demisemiquaver notes and therefore much diligent practise is required to gain the stick control necessary to produce a smooth rhythm.

1.  

Exercise 1 consists of two staves of music in 2/4 time. The first staff contains four measures of paradiddle patterns: the first two measures are semiquaver patterns (1-2-3-4, 2-3-4-5), and the last two are demisemiquaver patterns (1-2-3-4, 2-3-4-5). The second staff continues with two measures of semiquaver patterns, followed by a demisemiquaver pattern, and ends with a double bar line and repeat sign.

2.  

Exercise 2 consists of two staves of music in 2/4 time. The first staff contains four measures of paradiddle patterns: the first two are semiquaver patterns (1-2-3-4, 2-3-4-5), and the last two are demisemiquaver patterns (1-2-3-4, 2-3-4-5). The second staff continues with two measures of semiquaver patterns, followed by a demisemiquaver pattern, and ends with a double bar line and repeat sign.

3.  

Exercise 3 consists of two staves of music in 2/4 time. The first staff contains four measures of paradiddle patterns: the first two are semiquaver patterns (1-2-3-4, 2-3-4-5), and the last two are demisemiquaver patterns (1-2-3-4, 2-3-4-5). The second staff continues with two measures of semiquaver patterns, followed by a demisemiquaver pattern, and ends with a double bar line and repeat sign.

4.  

Exercise 4 consists of two staves of music in 2/4 time. The first staff contains four measures of paradiddle patterns: the first two are semiquaver patterns (1-2-3-4, 2-3-4-5), and the last two are demisemiquaver patterns (1-2-3-4, 2-3-4-5). The second staff continues with two measures of semiquaver patterns, followed by a demisemiquaver pattern, and ends with a double bar line and repeat sign.

STICK CONTROL DEVELOPMENT**Exercise No. 23**

The following exercises incorporate single strokes and Paradiddle fingering in demi-semiquaver and semiquaver notes.

Much diligent practice is required to gain the stick control necessary to produce a smooth rhythm.

1.

2.

3.

4.

EXERCISE NO.24 (CONT'D)

7.

Exercise 7 is written in 9/8 time. The first staff begins with a treble clef, a key signature of one flat (B-flat), and a repeat sign. The melody consists of eighth and quarter notes. The second staff continues the melody with eighth notes and quarter notes, ending with a repeat sign.

8.

Exercise 8 is written in 9/8 time. The first staff begins with a treble clef, a key signature of one flat (B-flat), and a repeat sign. The melody consists of eighth and quarter notes. The second staff continues the melody with eighth notes and quarter notes, ending with a repeat sign.

9.

Exercise 9 is written in 4/4 time. The first staff begins with a treble clef, a key signature of one flat (B-flat), and a repeat sign. The melody consists of quarter and eighth notes, with two triplet markings (indicated by a '3' below the notes). The second staff continues the melody with quarter and eighth notes, ending with a repeat sign.

10.

Exercise 10 is written in 4/4 time. The first staff begins with a treble clef, a key signature of one flat (B-flat), and a repeat sign. The melody consists of quarter and eighth notes. The second staff continues the melody with quarter and eighth notes, ending with a repeat sign.

11.

Exercise 11 is written in 12/8 time. The first staff begins with a treble clef, a key signature of one flat (B-flat), and a repeat sign. The melody consists of eighth and quarter notes. The second staff continues the melody with eighth and quarter notes, ending with a repeat sign.

12.

Exercise 12 is written in 12/8 time. The first staff begins with a treble clef, a key signature of one flat (B-flat), and a repeat sign. The melody consists of eighth and quarter notes. The second staff continues the melody with eighth and quarter notes, ending with a repeat sign.

LESSON 16

INSTRUMENT TUNING

The Bagpipe

Good intonation and pitch stability are of particular importance in 'corps' playing. This is extremely difficult to achieve in a performance due to a variety of factors.

Viz a viz :-

Instrument Condition

Reed Quality

Atmospheric Conditions

Performance Conditions

Individual Ability etc.

Instrument Condition

A good instrument in the hands of a skilled musician will produce a good musical effect, and every performer should strive to achieve that objective.

The Great Highland Bagpipe is an awkward instrument to play and therefore every possible barrier to good performance must be removed. This is achieved by good maintenance and experience.

The bag must be tailored to suit the physical stature of the performer **e.g.** a child should be given an instrument which has a small bag and a short blow stick; the drone stocks should be appropriately situated.

The bag must be frequently checked for air loss, and signs of deterioration, along with the efficiency and condition of the Blowstick valve. The bag cover must fit loosely. The drones must be secure in the stocks, and the tuning slides properly tightened to prevent unwanted movement. Drone upper sections may suddenly drop when tuning. This is caused by changes in the internal dimensions and may be rectified by the manufacturer.

The drone bores must be kept dry and clean to avoid damage to reeds and ensure good sound quality.

The drones should have approximately 8" of cord between them. This will aid appearance, tuning and sound quality.

3.17.2

THE BAGPIPE (CONT'D)

INSTRUMENT CONDITION (CONT'D)

In older instruments, the drones may be found to tune with the upper joints rather low on the tuning pin than desired. This may be altered by having the reed seats depend or by replacing the existing bottom joints with those of a narrower bore. These, or other measures can only be taken depending on the difficulties presented by the instrument.

In new instruments, made from wood, changes may occur subject to the elements as the wood seasons.

A new wood chanter may take months to develop its musical potential, as the wood seasons through use.

The upper register notes may become 'thin' in sound quality and sharp in pitch. The likely cause of this is that the critical dimensions of the throat of the chanter have altered. The chanter should be returned to the manufacturer to be examined and, if necessary, altered to the correct dimensions.

Reed Quality

A robust chanter reed will produce stability and durability of pitch, volume and intonation.

A robust reed will not produce the 'desired' pitch initially, and this should be borne in mind when selecting a new **chanter** reed. Through experience, the performer will learn whether a new reed is too flat or sharp to eventually provide the desired pitch.

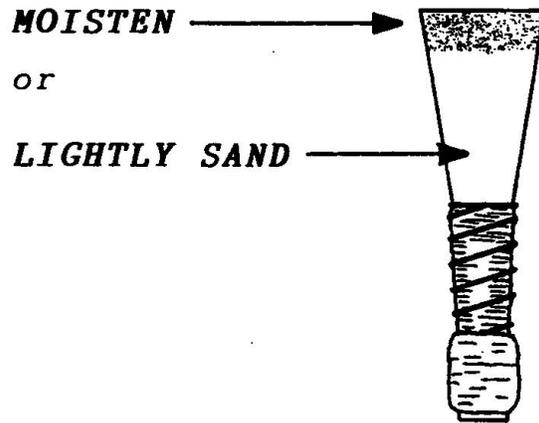
A reed which is at the desired pitch when tested is unlikely to maintain that pitch, eventually becoming too sharp.

Due to the variety of chanters and chanter reeds available, only a few general remarks can be made regarding manipulation. The performer must learn by experience how the preferred make of reed may be adjusted.

A new reed must vibrate well. A 'tight' reed will be difficult to blow evenly, and will produce sharpness and poor quality in the upper register.

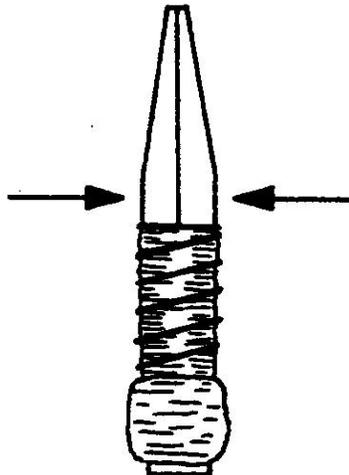
THE BAGPIPE (CONT'D)**REED QUALITY (CONT'D)**

Tightness may be overcome temporarily by moistening the tips of the reed blades, or more permanently, by lightly sanding the soundbox of the reed.



A reed which vibrates freely, may be brought to the desired pitch by providing direct heat. The blades of the reed may be held between the thumb and forefinger for a brief period. This procedure may be applied when the performer is kept waiting between final tuning and performing.

The strength (and pitch) of the reed may be altered by compressing the reed, above the bridge, using the thumb and forefinger. A robust reed will gradually regain its original strength and pitch.



3.17.4

THE BAGPIPE (CONT'D)

REED QUALITY (CONT'D)

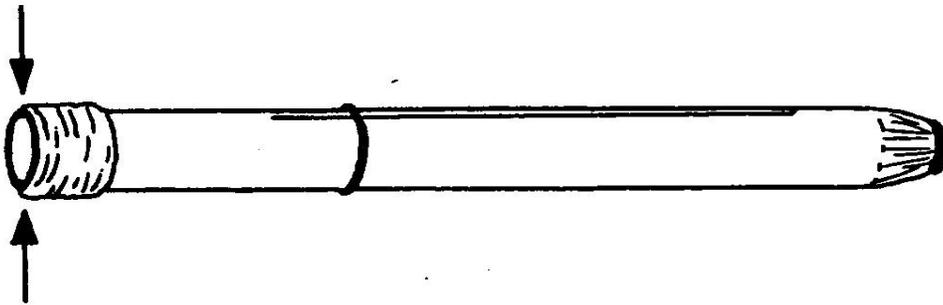
This process should be repeated until the reed has reached the desired strength and pitch, and retains it.

The performer must learn from experience how each reed has developed. No two reeds, even of the same make, will behave in exactly the same manner, therefore previous experiences with reeds must be considered when nurturing a new reed.

Having selected a robust chanter reed, the drone reeds should not require adjustment to accommodate the strength and pitch of the new reed as the chanter reed, through manipulation, will eventually settle with the drone reeds.

Drone reeds present similar challenges in that they must also be nurtured.

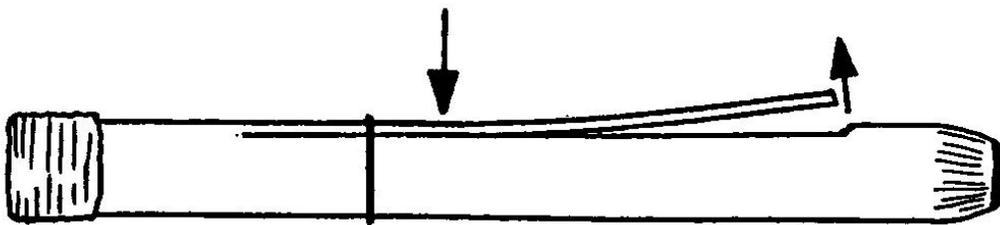
The cane must be mature so that it will resist moisture and avoid softening. The mouth of the reed should not change shape when compressed by hand.



The reed must vibrate freely. A common fault in new drone reeds is that the tongue or blade has not been cut cleanly. A sliver of wood the thickness of a hair is enough to prevent the blade from vibrating.

The strength of the drone reed may be adjusted by :-

1. Gently flexing the blade open.

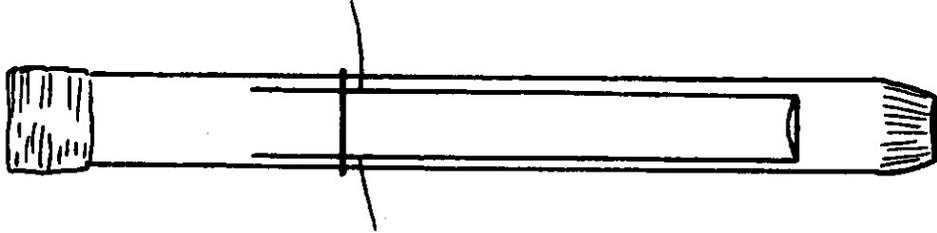


3.17.5

THE BAGPIPE (CONT'D)

REED QUALITY (CONT'D)

2. Placing a hair under the blade, close to the bridle.



New drone reeds should be at the desired pitch when selected. This is achieved by testing them in the instrument in conjunction with reeds already at the desired pitch.

Atmospheric conditions

The balance of temperature and moisture within the bag is also affected by changes in the atmosphere, which in consequence upsets the stability and durability of all reeds.

The nature of the bag itself must be suitable for the foreseen atmosphere in which it is to be used, for example a hide bag from Australia played in Scotland is likely to produce excess moisture.

Varying climatic conditions produce varying effects, and these are not always expected. For example, bright sunshine may result in flatness in the upper register, and the reverse may occur in dry, cold weather.

Cold, wet weather may cause dull sounding lower register notes. All reeds must be frequently checked for excessive moisture. The instrument and reeds must be thoroughly dried out after such conditions. A natural bag which has been soaked by rainfall should be allowed to dry at its own pace and then seasoned to restore the correct balance of moisture.

Bright sunshine may cause drone stoppage and unstable chanter reeds. During hot dry weather, the bag must be kept in good condition to ensure that the balance of moisture is maintained. Chanter reeds may develop sharp middle and upper register notes; and squealing or skirling in 'weaker' reeds.

It is worth remembering that the bag may feel moist enough after being played in hot dry weather, but the bag is likely to be dry the following day.

3.17.6

THE BAGPIPE (CONT'D)

ATMOSPHERIC CONDITIONS (CONT'D)

A natural bag which has become porous (**i.e.** moisture seeps through the open pores of the skin) must be replaced as its moisture content will have a long term adverse effect on all reeds.

In inclement weather, the optimum balance of moisture and temperature of the instrument must be maintained.

Performance conditions

Tuning an instrument for a good performance is a matter of judgement and experience. For example to spend considerable time warming and tuning an instrument for a short performance may be a waste of effort if the players are kept waiting between tuning and playing (this is a common occurrence at concerts, staged productions etc.).

A knowledge of the performance requirements, and the appropriate tuning to meet those requirements is essential to make the event enjoyable for all.

Individual ability

Each musician must know both personal ability and instrument characteristics. Through practise and experience the musician should be able to predict the time taken for the instrument to come to pitch.

Individuals must also listen to the pitch produced by the corps and endeavour to be in tune.