

## Glossary of Pipe and Drum Terms

### A

**Aftertones:** caused by snares being too loose and rattling.

**African Blackwood:** a popular wood used in making drones for the bagpipes. Ebony is also used and cocus wood from South America and Jamaica is a less expensive alternative. Older pipes in museums are made from local woods such as laburnum, boxwood, holly and close grained fruit woods.

**Arm Strap:** used to tie or secure the bellows to the pipers arm.

**Argyllshire Gathering:** an annual piping competition held at Oban, Scotland every August which attracts international Masters of the Highland Bagpipe. Competitions are held for (i) the Open Piobaireachd - the Clasp; (ii) The Highland Society of London's Gold Medal (Piobaireachd); (iii) Silver Medal - Piobaireachd; (iv) former Winners MSR: March, Strathspey and Reel Competition for the Silver Star; (iv) individual event competitions for Grade A & B MSR; Grade B Strathspey & Reel; and Hornpipe & Jig. Previous winners are barred in the Gold Medal competition. A similar event is held at Inverness, Scotland, (the Northern Meeting) which is aligned with the Argyllshire Gathering and is held in September each year.

**Arundo Donax:** a cane used for reed making found in many parts of Europe. Also used for oboe and clarinet reeds.

**Attack:** when a pipe band steps off to play, the drones are sounded on the fifth beat and the chanters sound the Attack note E on the seventh beat. The movement must be carried out with extreme precision and full tone and as a single instrument. See the Pipe Majors command: "By the Right Quick March."

### B

**Back D:** is an octave higher than the tonic Bottom D in uilleann piping. It is called Back D because it is the only note for which the hole on the back of the chanter is uncovered.

**Back Hole:** the thumb hole on the highland pipe chanter and the uilleann chanter.

**Backstitching:** a type of triplet in uilleann piping.

**Baldric:** decorative sash about 4 inches wide, worn by the Drum Major, hanging from the left shoulder, and draping down across the chest and back of the Drum Major, and being joined at the right hip with decorative tassels.

**Bag Seasoning:** treacle is a substance used to season a bagpipe bag to keep the bag airtight, and to allow moisture to dissipate. Common ingredients might include beeswax and honey.

**Bag:** pipe bags historically were made of sheepskin or sealskin, and tanned to a soft leather and stitched around the seams. A leather bag, properly seasoned with a treacle will be airtight but will allow moisture to dissipate. Elkskin, cowhide skin tanned to a tougher leather are also popular. Kangaroo skin is also used. Other synthetic materials are also used.

**Bag Cover:** the leather bag is covered with a colorful cover usually with frills around the drone stocks, chanter stock, the blow stick stock. It is not uncommon for Irish pipe bands to have a green velvet cover with gold tassels; and Scottish band to cover their pipes with a matching tartan.

**Bag Neck:** the neck can be made in the shape of a "gooseneck" which is helpful for pipers with long arms.

**Bannockburn Pipes:** a famous relic of bagpipes

**Bark:** achieved by playing a note, and simultaneously raising the uilleann chanter off the knee, and placing it back on the knee with a quick snap. The notation for a Bark is ↑B.

**Bead Holes:** are situated on the drones of Northumbrian pipes allowing the piper to change the pitch of the drones.

**Bellows:** are used by the uilleann pipes and border pipes as the source of air to drive the reed vibration. Not surprisingly, bellows look like the familiar fireplace bellows. One side of the bellows (called the cheek) is attached to the waist by a belt, the other to the upper arm by a strap. A short hose or pipe connects the air outlet of the bellows to the bag.

**Binary Form:** used to describe a melody which based on two phrases, each identified as either A or B. The composition may be described, as an example, as ABAB ABBA. Common in bagpipe music.

**Bind:** another name for Tie.

**Birl:** onomatopoeic name for an embellishment made on low A with a double tap or finger movement across the low G hole

**Blade:** the vibrating element of a bagpipe reed. Chanter reeds have two blades whereas drone reeds have a single blade or tongue.

**Blowpipe:** the pipe through which the bagpipe bag is inflated.

**Blowpipe Stock:** a short wooden cylinder which serves as the housing to hold the drone or the chanter. Stocks are usually tied into the bag with heavy wax stout thread or cord, in such a way that the seal around them is airtight. Stocks may be turned or carved and may accept one or more pipes which is usually the case with border pipe drones and uilleann drones and regulators.

**Bodhran:** a one sided Gaelic (Irish) drum about 18" in diameter, pronounced bow-ran. The drum stick is called a tipper. The Bodhran is now very popular in orchestral groups featuring the uilleann pipes, pennywhistles, accordions and other Irish instruments.

**Bole:** aka Knob. A semi-spherical shaped section at the top of the chanter supporting the lapped reed seat nipple. The part of the chanter to be gripped when removing the chanter from the stock.

**Bottom D:** the lowest note available on an uilleann D chanter. and is called Bottom D to avoid confusion with the two higher D's available on the chromatic scale. It is obtained by lifting the chanter off the popping strap.

**Brien Boru Pipes:** frequently misspelled as Brian Boru. Mouth blown Irish pipes. The original chanter had three extra notes, a High B, a Low E and a Low F#. This enabled Irish pipers to play many Irish tunes which required an expanded note range. The new scale was Low E, Low F#, G#, Low A, B, C#, D, E, F#, High G#, High A, High B. The original chanter required different fingering than the highland chanter. Additionally, the Brien Boru pipes had three parallel drones of differing sizes, tuned to Low A, E, and High A that were set in a single stock like the uilleann pipes. A second chanter was introduced with mechanical keys but preserving the highland chanter fingering to avoid the requirement to relearn new fingering. The Brien Boru chanter did not catch on with Scottish pipers and was short lived in Ireland.

**Burrs:** the squawking of a reed; usually occurs when playing Low G when testing the volume of a chanter. Indicates a problem with the chanter or the reed or the blower.

**By the Right Quick March:** The Pipe Major directs the band to dress right, and then sharply step off with words (the pace of which) expresses the tempo: "Right - Quick - March." The drum corps executes two three pace rolls to establish the tempo signaled by the Pipe Major. On the fifth beat of the introduction, the drones sound in unison. On the seventh beat, the E should be precisely intoned as a single instrument. Depending on the tune, the melody begins on the eight or ninth beat and all members of the band are in lock step. When addressing a Mass Band, the Pipe Major usually directs the band with "By the Center Quick March."

## C

**C:** as a time signature means common time. See Common and Perfect time.

**Cadence:** a phrase may contain several motifs. Phrases combine to form musical sentences.

Each sentence forms a part which consists of four phrases which can be one or two bars long. The sentences or parts form a paragraph which is a complete work or melody. The end of each phrase is a Cadence which usually takes the following form: Interrupted, Imperfect, Interrupted, and Perfect cadences.

**Cadence, common:** there are three common cadences that appear in highland bagpipe music: (i) perfect: the notes progress from dominant to tonic, also known as Full Close; (ii) Imperfect: progresses from any note to the dominant; also known as Half Stop; Interrupted: progresses from the dominant to the submediant. Other cadences include Plagal or Amen which progresses from subdominant to tonic and rarely seen in bagpipe music. Cadences can be seen as strong (masculine) or weak (feminine) depending on whether they end on a strong or weak beat.

**Cane:** certain grasses have stiff tubular bamboo-like stems, of which reeds, or in some cases entire pipes are made. The most common cane used in bagpipes is *Arundo Donax*.

**Canntaireachd:** is a notational language. It is a methodology of singing piobaireachd tunes to (i) memorize the tunes as well as (ii) capture subtleties, expressiveness, feelings of emotion intended by the masters. The vocabulary is extremely precise.

**Ceili:** aka Céili; pronounced kay-lee is a party or self-entertaining social. A céilidh is the traditional Gaelic social dance in Ireland and Scotland. Other spellings encountered are ceilidh, céilí (Irish reformed spelling) and cèilidh (Scottish Gaelic reformed spelling). Participants in a Ceili are expected to entertain each other. The uilleann pipe is now an essential part of the Ceili celebration.

**Ceòl Beag:** aka Ceol Beag; popular pipe band music.

**Ceòl Mór:** aka Ceol Mor. Literally "great music" or Piobaireachd, the classical music of the soloist.

**Ceòl Mhór:** aka Ceol Mhor. Irish spelling of Ceol Mor. Also refers to the Great Irish Warpipe.

**Chanter:** bagpipe chanters have a conical bore. The uilleann chanter covers a range of two octaves. It has keys and can be stopped by closing the bottom of the chanter. Consequently it can play a chromatic scale, including staccato. The highland chanter is a continuous playing chanter and cannot be stopped. It contains no keys. It has a range of one octave and a second (1 1/8 octaves).

**Chanter Stock:** usually made of brass for the uilleann pipe.

**Chord:** a group of notes separated by at least one interval each, and played at the same time. The chord maybe be concordant (in harmony) or discordant (not pleasing)

**Chordal Accompaniment:** Uilleann regulators can accompany the melody in two ways - through percussion sounds or block chords similar to the effect of a key board.

**Chromatic Scale:** contains the 12 pitches of the Western equal temperament scale The uilleann pipe can play the entire chromatic scale over two octaves from D to D because (i) of the keys; (ii) alternate fingering; and (iii) and the ability to force the chanter to a higher octave using increased pressure. The highland pipe cannot play the chromatic scale. The scale of the highland pipe is closer to a mixolydian mode. Purist will argue that the uilleann chanter is tuned to just intonation because of the need to maximally harmonize (across all notes on the chanter) with the drones and regulators and therefore is not using the chromatic scale. As a practical matter if two notes are a semitone apart they will usually have the same letter such as A and A#, except for the natural semitones, E -F and B - C. Technically speaking, both the highland and uilleann chanters can be tuned to equal temperament.

**Cimpoi: aka Çimpoi:** a Romanian chanter with cylindrical bore and single beating reed like a drone reed. Also has a lower joint usually carved from horn that extends at approximately 45 degrees from the bottom of the chanter.

**Circular Breathing:** a technique used by woodwind players to play a continuous sound without the aid of bellows or a bag or an air reservoir. The musician contracts the cheeks (full of air) while quickly breathing through the nose into the lungs.

**Clef:** only the G clef is used in pipe music which denotes that the second Leger line is the note G. The word is a French word for Key. There are three commonly used clef symbols: the G clef, the F clef, and the C clef.

**Closed Bore:** a chanter will a closed end at the bottom of the chanter. When all the finger holes are closed, the chanter cannot sound. A way to introduce silence (of the chanter) between notes.

**Closed Fingering:** there are several ways to design a chanter. When a note is played, the chanter can be designed so that many holes are open, or many holes are closed. A closed fingering chanter is one that is designed so that most holes are closed when playing a note.

**Collar:** a strip of copper about 1/8" to 3/16" wide and 2" long with slanted edges. Used to secure the two blades of a reed.

**College of Piping:** was started in 1957 by Seumas MacNeill and Thomas Pearston from simple beginnings. Located in Glasgow, Scotland. Publishes the Piping Times. Its students rank among the best pipers in the world. Contains a museum with modern electronically activated exhibits.

- Colour:** the quality of a sound. Same as Timbre and Quality. Colour helps distinguish two sounds of the same pitch. Timbre is a function of the distribution of harmonics or overtones of the instrument.
- Combing:** decorative marks or inscriptions or turnings consisting of more or less tightly spaced narrow circular grooves found particularly on drones and particularly on Great Highland pipes.
- Comma:** the interval  $81/80$  or 21.4 cents. It is part of the limma on the intervals between C and D as well as F and High G on the Great Highland Bagpipe chanter. A comma and a diatonic semitone equals a limma
- Common Time:** four crotchets per bar. Written as 4/4, or with the letter C positioned to the immediate right of the treble clef, and between the 2nd and 4th staff line. Triple time was believed to be perfect time because it was reminiscent of the Trinity and represented by a circle. Quadruple time was held to be imperfect and was shown as an incomplete circle and became known as common time and hence the letter C.
- Competition March, Strathspey, Reel:** is called a set and is played as a competition exercise; suggested tempos for 2/4 marches - quarter note at 68-74 beats per minute; Strathspey - quarter note at 132 beats per minute dancing temp; reel = half note at 84-92 beats per minute.
- Compound Duple:** two beats per bar, composed of compound notes. Examples: 6/4, 6/8, 6/16.
- Compound Note:** as an example, a dotted note is considered compound because it cannot be replaced by two notes of equal but lesser value. However one might argue that a dotted quarter note can be replaced by two dotted eighth notes.
- Compound Triple:** three beats per bar, composed of compound notes. Examples: 9/4, 9/8, 9/16.
- Compound Quadruple:** three beats per bar, composed of compound notes. Examples: 12/4, 12/8, 12/16.
- Conical Bore:** the chanters of the highland bagpipe and uilleann bagpipe are conically bored instruments. Each have finger holes that when covered change the length of the column of air in the chanter to produce differing pitches.
- Cords:** decorative cords with tassels are used to link or tie the three drones of the highland pipe together. Some piper majors recommend that the spacing between any two drones not exceed 7".
- Counterpoint:** occurs when different melodies are combined to form a pleasing melodic and harmonic piece.
- Cow horn Bell:** a decorative device at the end of a chanter or drone, made from a cow horn, often decorated, or made from wood and/or metal in the shape of a cow horn. Most often found on Eastern European and Mediterranean pipes. Cow horn bells provide a visual link to one of the bagpipe's very early ancestors, the hornpipe.
- Cran:** cranning or popping of the uilleann pipe is similar to staccato playing, except that the notes need not be sharply accented or emphasized. The chanter is closed on the knee momentarily eliminating the need for gracenotes for dividing purposes.
- Crossover:** the base drummer hold the sticks over his head in a cross over fashion, striking the left side of the drum with the right hand and the right side of the drum with the left hand.
- Crossover Instrument:** the pennywhistle is considered a crossover instrument between the highland pipes and the uilleann pipes. Highland pipers who want to learn the uilleann pipes frequently use the penny whistle as the crossover instrument or practice chanter.
- Crotchet:** is a one-quarter note: (1/4th)
- Crow:** a good reed gives off a crow (or scratchy sound) when blown without the chanter. Some reed makers claim they can hear all the notes of the chanter in the crow. A new reed blown in the chanter at Hi A (highland chanter) will give off a slight scratchy sound which is heard as an indicator of a good reed when it settles in.
- Crunluath:** a weighty embellishment played between theme notes in piobaireachd. See illustration (xiv) in the Embellishment table at the top of the page. May come from Gaelic words for crown (crun) and quick (luath).
- Crunluath a Mach:** a weighty embellishment played between theme notes in piobaireachd. See illustration (xv) in the Embellishment table at the top of the page. May come from Gaelic words for crown (crun) and quick (luath)

**Cuisle:** means flute but Gaelic poets may have extended meaning to bagpipe. (S.Donnelly)

**Cut:** has two meanings: (i) an old term for a single gracenote; (ii) to cut the value of a note by one-half, usually accompanied by dotting a companion note so as to preserve the overall value of the combined notes. Another example: the triplet usually found in jigs might be written as three eighth notes connected by a brace. The triplet can be played evenly, or it can be cut in 6 different ways while dotting a companion note.

**Cut Common Time:** also called reel time or Alla breve time. The tempo symbol after the clef is a C with a vertical line through it, representing 2/2 time. Two half notes per measure, each half note a beat. The overall tempo is 120 beats per minute.

**Cylindrical Bore:** the drones of highland and uilleann pipes, including regulators are cylindrical. Changing the length of a drone, by use of the sliders, changes the length of the column of air thereby producing a different pitch. A cylindrical bore will tend to be softer, mellower than a conical bore (of the same size). Conical bores tend to be more nasal and shrill than cylindrical bores, all other things being equal.

## D

**Dampers:** strips of appropriate material inside the drum head and offset from the center. Dampers reduce rate of skin vibration and affects tonal quality. Over-damped drums will produce a dull thud sound.

**Day/Evening Wear:** formal attire with kilts and tuxedo jacket. The distinguishing feature is a leather sporran.

**Deachínn Ghleusda[Deachinn Ghleusda]:** means a test of the tuning: a bagpipe or harp prelude to warm up and appropriately set the mood for the concert piece.

**Decibel:** a measure of acoustical power. The original measure was Bel, symbol B. The Bel was too large to work with so they introduced the "decibel" which is one-tenth of a Bel. The decibel is an exponential number. The bagpipe decibel output is 90 or greater. 90 decibels is 1,000,000,000 times greater than one decibel. Bagpipes are dangerous to the player's ear under prolonged playing conditions. Ear plugs should be worn at all times. The Highland Regiments have placed restrictions on the amount of time pipers are allowed to play or practice each day.

**Degrees:** of a scale are the divisions of pitch represented by the first seven letters of the alphabet: A B C D E F G. These divisions are also denoted by the Roman Numerals I II III IV V VI VII VIII.

**Demi-Semi Quaver Note:** 1/32nd

**Depth:** or weight is added to pipe music by the use of embellishments which go through low G. Examples are the Grip, the Birl, and the Throw on D. The drumming counterpart for depth would be the use of the Four Stroke Ruff.

**Diatonic scale:** one of the key features of a diatonic scale is that it contains five tones and two semi-tones, where the semi-tones are maximally separated. The pattern is T T S T T T S. The diatonic scale is composed of two tetrachords separated by a full tone. As a practical matter, in C Major, two notes separated by a semitone will have different letter names (e.g. E to F). Derives from the Greek word diatonic meaning through tones, or the Greek word heptatonia prima.

**Dirk:** a dagger probably less than 12 inches. Usually a highly decorative item with silver scroll work and semi precious stones. Worn on the right hip with military pipe band uniforms. Originally believed to serve as a weapon or utensil.

**Dithis:** Piobaireachd Variation. Pronounced: "jee-esh" but other pronunciations exist. Means two or a pair. Represents a variation of the Urlar or Ground or theme of the Piobaireachd. Sometimes used interchangeably with the variation referred to as Siubhal. The authority Seumas MacNeill (fact) states the terms mean different but somewhat similar variations and should not be used interchangeably. The Dithis is composed of several theme notes from the Urlar. The theme notes are played with one or two alternating lower notes such as A and G. The theme notes are accented and the following single notes are cut or of shorter duration. Emphasis and mood are of critical importance among the masters. When the theme note and a given alternating note are repeated in pairs, the dithis is called a doubling, otherwise it is referred to as a dithis singling

**Dodecaphonic:** means the Chromatic scale.

**Dressing:** used to season the bag; can include milk, honey, beeswax, whiskey. The novice should be careful.

**Dotted Note:** increases the value or duration of the note by 50%. Two dots following a note increases the value by 75%.

**Dominant:** the dominant note is called the Fifth (V) and its ratio to the Tonic or Keynote is 3/2. It produces a pleasing harmonious sound to the ear when sounded with the tonic.

**Double Bar line:** the two dots after the bar line signify the beginning of a melody that needs to be repeated. The dots before the double bar line indicate the end of the melody that must be repeated.

**Double Base:** some uilleann pipes have a fourth regulator. The regulator will resonate at D3 (146.83 Hertz), the same as the Base Drone, but with a deeper tone. A clarinet and oboe playing D4 will produce the same note (Hertz produce a different tone which distinguishes instruments from each other. Tone is effected by the harmonics or overtones generated by the instrument and its reeds.

**Double Chanter:** a bagpipe with two chanters with two bores and two sets of finger holes. On some, both bores have the same finger hole spacing and sound in unison. On others, one bore may have only a single finger hole and is used as a sort of alternating-tone drone. Also some pipes have two completely separate chanters (for example: Italian Zampognas).

**Double Gold Medal:** winning two premier competitions (Oban and Inverness) in the same year

**Double Jig:** may be the oldest type of dance tune surviving, more popular than the hornpipe, almost as popular as the reel. Has a time signature of 6/8. the rhythm is 1 2 3 - 1 2 3. frequently, two groups of eight notes.

**Double Tone:** an acoustical phenomenon that is not well understood. When starting the bagpipes, as the pressure is increased, the drones strike in at a higher pitch, perhaps a semitone or tone higher than normal. As the pressure continues to increase, the drones fully strike in at a normal and smoother pitch. This is deemed to be indicative of a higher quality reed.

**Double Tonic:** About 80% of Piobaireachd is written in the Pentatonic scale. So it is not uncommon to hear two tonics or keys in a single tune. This occurs because the tune has two themes, with similar structure, written a semitone apart. The phenomenon is unmistakable when it is heard; the aural recognition that the key has change in the middle of a tune.

**Double Whole Note:** equal to 8 crotchets or 8 quarter notes.

**Doubling:** sound like warbles or trills. Consists of two are three gracenotes usually with an accent note on the melody note and the note over the melody note.

**Dressing:** for the bagpipe bag to insure airtightness. See treacle

**Drone, Baritone:** uilleann baritone drone resonates at D3, 146.8 Hertz.

**Drone, Base:** uilleann base drone resonates at D2, 74.4 Hertz.

**Drone, Tenor:** uilleann tenor drone resonates at D4, 293.6 Hertz.

**Drone Assembly:** the uilleann pipe drone come in two pieces: A reed stock or bed (male piece a slide (female piece)

**Drum Major:** the common role of the pipe band drum major is to lead the band in parade with elegant dress and great showmanship, as well as choreograph marching movements, and transmit visual signals to the marching band. In military organizations the Drum Major has additional responsibilities including Military discipline.

**Drum Sticks:** both sticks should be identical in composition, weight, size and elasticity. The shape of the sticks can be altered with abrasive tools to suit the individual drummer. Usually made of hickory, maple, ramin, Japanese oak and laminated woods. Base Drum sticks are sometimes made with malacca cane and either cork or lambs wool heads. The tenor drum sticks are similar to the base drum sticks but a bit smaller.

**Duple Time:** two beats per bar.

## E

**Elder:** the wood of the elder tree was used when cane was not available for making reeds.

**Embellishments:** used extensively on the highland bagpipe to produce Accents, Mood, and Virtuosity.

**Enharmonic:** when two notes have different names but are the same pitch, e.g. E# and F, and C Flat and B.

**Epaulette:** referred to as wing epaulettes. Decorative in nature. Worn on each shoulder with military pipe band uniforms. Originally used to signify rank, or as padding for carry munitions, or as protection of the shoulder from sword cuts.

## F

**False Notes:** the fingering for the highland and uilleann is precise in terms of open and closed holes. False notes can be introduced when the time of gracenotes is not precise or when the hands on the chanter are changed carelessly. When playing is recorded in digital format, the false notes show up as blips on the spectrograph or piano roll.

**Feadan Dubh:** the black chanter; a famous relic of Clan Chattan.

**Feather Bonnet:** was worn by Highland regiments. It is now usually only worn by drummers, pipers and bandsmen with a military pipe band uniform. The Bonnet is about 12 inches in height, designed to fit squarely on the crown of the head and held in place by a black chin strip. The headdress is decorated with Black feathers and a tail assembly of feathers attached at the top and draping down to the back of the neck. The crown band is usually contains red and white checkerboard pattern.

**Feeling Note G:** Thomas Peaston, described in 1973 the feelings associated with each note on the chanter. G: the note of the Gathering, as it is the loudest note on the chanter.

**Feeling Note A:** the piper's note.

**Feeling Note B:** the note of the challenge, the chiming note.

**Feeling Note C#:** the most musical note.

**Feeling Note D:** the note of the Battle; the angry note.

**Feeling Note E:** the echoing note.

**Feeling Note F#:** the note of love

**Feeling Note High G:** the note of sorrow or lament.

**Feeling Note High A:** the piper's note.

**Fifth:** see Perfect fifth. A fifth can be perfect, or a diminished fifth (or Tritone) or an augmented fifth. The ratio of the two notes of a perfect fifth are 3:2.

**Finger holes:** in the chanter may be undercut or bored at a slant to the bore axis, and vary widely among different bagpipes in size and shape.

**Fingering:** when fingering the highland and uilleann chanters, it is suggested to keep the fingers as straight as possible, while covering the holes with the finger pads between the first and second joints of the hand.

**Fermata:** a symbol of a semi-circle with a dot at the origin. It means that the note should be held longer than its correct value. The note is usually at the end of a phrase, and helps to add feeling to the phrase at the discretion of the piper.

**Ferrule:** a band made ivory or imitation ivory, or metal such as brass, copper or silver, mounted around the ends of stocks, drone joints and blowpipes to be both decorative and to reinforce thin-walled areas of these and similar parts.

**Flap Valve:** a device that keeps air from backing out of a blowpipe when the piper takes a breath. The valve is nothing more than a flap of leather that is mounted so as to block the airway when air pressure becomes greater on the inside than on the outside. Bellows-operated pipes usually have two flap valves, one in the air-inlet (in one of the cheeks) and the other in the connecting pipe between the bellows and the bag.

**Flashes:** a decorative garter worn with the white or plaid hose. The color of the flash is coordinated. the hose folds down over the flash so as to hide the flash. Attached to the garter are small ribbons that hang perpendicular to the ground and adorn the hose.

**Flat:** lower in pitch. As an example: B4 Flat (466.16 Hertz) denotes a note one semitone lower than the natural note B4 (493.88 Hertz). Since there are multiple reeds in a bagpipe, the expression sharp or flat usually means that a chanter or drone or regulator may be out of tune with the other reeds. It is also important to note that the highland pipe is a transposing instrument and the notes sound about a semitone higher than the written music. Competitive pipers and pipebands tend to favor chanters with a higher or sharper pitch.

- Flea Hole:** a very small chanter finger hole most commonly found on Eastern European and Balkan pipes that, when uncovered, raises the pitch being played by the other fingers by approximately a semitone, allowing chromatic possibilities. It is distinct from a "vent hole", which raises the chanter's pitch by an octave (on conical-bored chanters).
- Fontennelle:** a rigid tubular cover that fits over the lowest key on some bagpipe chanters (notably Italian Zampognas), covering all of the keys except the very end of the actuating lever. Usually made of the same material as the chanter or the chanter's trim work.
- Form:** the arrangement of sections of the tune. The analysis of the melody in terms of its construction of its phrases or sections. The analysis generally takes the form of letters A B C meant to identify motifs, or phrases or sections and so forth. Piobaireachd lends itself to analysis in this manner. Also see Binary Form and Ternary Form.
- Foursome reel:** a Scottish Country Dance. The piper should be aware that the reel time part is the tune "Reel of Tulloch" which is played in common Time (2/4) at 112 beats per minute. The Reel follows a Foursome Reel Strathspey played at 132 beats per minute.
- Four Stroke Ruff drumming:** used to provide weight or depth to the melody. See weight or depth.
- Free Hand Chords:** when the lower right hand is free and can be removed from the uilleann chanter, it can be used to play chords on the regulators. Specifically, there are three sets of chords: number 1: G3 D4 B3 for Chord G for notes G4, B4 and D4; number 2: B3 D4 G4 for use with B4 or G4; number 3: A3 D4 F#4 for use with D4 and A5 on the chanter. See Scientific Pitch Notation.
- Fugue:** a complex form of contrapuntal music whereby contrapuntal melodies follow each other using a variety of pitches and tempo. Of limited use with the bagpipes, but very effective with some folk tunes or creative compositions.
- Full Set:** the uilleann pipes are difficult to play, and there are many pipers who have not played the full set with reeds activated because of the wind and pressure requirements as well as physical dexterity. In addition there is a Practice Set for beginners and a Half Set for more experienced players.

## G

- Gaita, also known as Galician gaita.** Plays a normal major scale with a different set of holes.
- GDE Gracenotes:** a frequently used gracenote rhythm used in reels and jigs and triplets. See Illustration under Embellishments.
- Grace note:** highland piping grace notes are written with a value of a 1/32nd note, or a demi-semi quaver. They are executed by a smart stroke of the finger on the melody (or theme or main or plain) note. Single gracenotes give accent or emphasis to the note, adding strength and pronunciation. It can also separate two or more notes of the same pitch. But they are not really an ornament or an embellishment in the musical sense of a grace note. They are an essential part of the technique of playing the Great Highland Bagpipe]] The time value of 1/32nd note is taken off the melody or theme note.
- Grade I-V:** highland pipe bands are graded by the local pipe band associations in various sections from Grade V to Grade I for the top bands. The usual test in the various contests is the playing of a set comprising of a March, Strathspey and Reel.
- Great Staff:** contains eleven horizontal lines and 10 intermediate spaces. The central line is not shown, but is replaced by a Leger line to accommodate Middle C4. Highland pipe music uses a Short Staff (five lines and four intermediate spaces) with a leger line above the staff to accommodate Hi A. The Great Staff includes the treble, alto and bass clef and accommodates the note range F2 (87.3 Hertz) just below the staff to G5 (784 Hertz) just above the staff. The uilleann pipe also uses only the Short Staff but has a larger note range than the highland pipe. The uilleann pipe ranges from D3 (146.8 Hertz) just below the staff to E5 Flat (1318.5 Hertz) on the third Leger line above the staff.
- Grip:** also called Leumluath in Gaelic. A gracenote movement. See illustration.
- Ground:** see Piobaireachd Structure
- Goat:** Eastern European and Mediterranean pipe bags are usually made of goatskin. Frequently the pipes will be adorned with elaborate carved goat heads serving as chanter stocks.

**Good-going-pipes:** a satisfying experience when one is enveloped with the smooth harmonious sound of the chanter and drones. The chanter reed vibrates through the finger holes and onto the fingers. The second, third and fourth harmonics mesh in a saw-like buzz. The quintessential experience has been reported as playing "good-sounding-pipes" in a high quality anechoic chamber such as can be found in Bell Labs, NJ.

**Gooseneck:** some bagpipe bags are made with a long neck or "gooseneck" to house the chanter stock. It is helpful for pipers with long arms.

**Gulls:** uilleann pipe drone reeds

## H

**Hackle:** The hackle is a feather plume (usually made of horsehair) that is attached to the headdress or feather bonnet worn by members of a pipe band usually wearing a military uniform. The color would signify the pipe band colors.

**Half Set:** includes the chanter and drones for the Uilleann Pipes. See Full Set.

**Half Sized Pipes:** from about 1900, half-sized pipes were used in boys' bands. Half-sized pipes were similar but somewhat more skill compared to the great highland pipe. Not to be confused with the Reel Pipes.

**Hand Changing:** required in highland piping. the bottom hand is closed when the top hand is playing and vice versa. It is critical when changing hands from high or low notes and vice versa, that false notes not be introduced accidentally.

**Hand Chords:** see Free Hand Chords.

**Harmony:** two or more notes played simultaneously (and vertically) form a chord. The fundamental note of the chord is called the Root. A fundamental note or root with a third and a fifth is called a triad or common chord. If the root is raised by an octave, it is said to be the First Inversion. If the third is then raised an octave, it is called the Second Inversion. Chords can be inverted upward or downward by moving the affected note an octave in either direction.

**Harmonics of Bagpipe:** same as overtone or partial.

**Heads:** a component of the Drum. The ideal skin is one that takes little tension to bring the drum to perfect tone. Nor should it be affected by temperature and lose tension.

**Heel:** the heel of the hand is where the wrist begins and is used to strike the keys on the uilleann regulators. Some uilleann pipers use the side of their hands on the base regulator and the heel on the baritone and tenor regulators.

**Hemidemisiquaver:** a 1/64th note. Rarely seen in piping; sometimes used in drumming.

**Hemiola:** is a cross rhythm, combining of simple triple time and compound duple time.

**Hertz:** an international standard of measurement for the frequency of a vibrating entity. An equal temperament tuned piano playing at concert A produces a fundamental vibration of 440 cycles per second, or 440 Hertz. Of course, the sounded note is producing overtones as well that vibrate at 880 hertz and higher frequencies that are a multiple of 440.

**Hexatonic Scale:** or hexatonic mode. Certain pipe tunes use six notes rather than five notes in a pentatonic scale.

**Hi A:** is written on a very short ledger line above the staff or stave. The frequency for the highland pipes is about 950 hertz whereas the frequency on the uilleann pipes is 880 hertz. On the uilleann pipes, the fingering for Low A and Hi A are the same, so the left arm must be squeezed with extra pressure to obtain the high note. Inexperienced pipers will find it difficult to reach Hi A unless a lower note is played preceding it, such as Hi F or Hi G.

**High Hand:** the left hand if the highland piper is right handed. In many woodwind instruments the fingers are successively removed from the instrument as higher notes are played. In highland piping, the Low Hand is kept on the notes A, B and C while playing E, F, and G. The High Hand is kept on the notes Hi A, G, F, and E when playing lower notes. When playing Hi A, the thumb and right pinky holes are uncovered. On The uilleann chanter the fingers are successively removed, like the penny whistle, but there exists alternate fingering and cross fingering where only one, two or three holes are left uncovered. It depends on the type uilleann chanter.

**Highland Bagpipes:** Two of the principal characteristics of the highland bagpipe are: (i) continuity of sound (no staccato is possible) which precludes any break between notes; (ii)

the absence of any means of varying the volume of a note so that it sounds loudly or softly. As a result expression in highland pipe music is dependent wholly on the varying length of the notes, called agogic accent, and to a lesser extent on embellishment by means of grace notes. Two other features have come into play: (i) use of vibrato; (ii) the accompaniment of the ensemble of drums.

**Highland Drums:** are an essential part of competitive pipe bands and parade pipe bands. Drums cover a sound range of about two octaves. They range from A3, an octave below Low A4, to A5, and octave higher than concert A4. Drums are not tuned as precisely as highland pipes. See Base, Tenor, Snare Drum.

**Homophonic:** a melody accompanied by one or or harmonizing voices. a pipe band playing seconds is playing homophonically.

**Horn:** of various kinds is used in construction of many bagpipes, as bells and ferrules. The most common is cow horn but sheep and goat horns are also used.

**Hornpipe:** historically a favorite exhibition tune or competition tune, but gradually replaced by more lively jigs and reels. The time signature is 4/4 and sometimes shown a C. The rhythm is long - short - long - short, or emphasis - cut - emphasis - cut. Even though there are 4 quarter notes per measure, it is customary to sound out two beats per measure. Played at 104 - 110 beats per minute; beat equals a quarter note. Hornpipes frequently employ triplets, a common form of musical ornamentation.

**Hornpipe (Instrument):** an ancient mouth-blown reed instrument, cylindrical bore, that is somehow related to certain types of bagpipes. Widely spread from Wales to India and from Russia to Sicily. Sometimes used with a bag.

## I

**Intensity:** is the degree of loudness or softness of the musical sound. The volume of the Highland Bagpipe cannot be varied whereas the intensity of drum accompaniment can vary.

**Interval:** most cultures agree on the octave with a ratio of 2:1. The next challenge is to create a scale by dividing the octave, low doh to high doh into intervals in such a manner that the intervals are simple fractions. The fraction is obtained by dividing the frequencies of the two notes in question. The selection of a scale is a very controversial as well as cultural issue. So an interval is a measure of the difference in pitch between two notes. It may be calculated by counting the number of degrees or steps between the notes. For example, the interval of a Fifth contains 5 degrees. A melodic interval occurs when two notes which are at least one interval apart are place in succession. A harmonic interval occurs when two notes at least one interval apart are played at the same time. A compound interval occurs when the number of degrees exceeds eight. The scale of the Great Highland Bagpipe is a special case and has generated much heated discussion among pipers and other musicians.

**Interval, Great Highland Bagpipe:** the chanter has a range of G, A, B, C#, D<sup>^</sup>, E, F#, G<sup>^</sup> and High A. Where the D<sup>^</sup> and G<sup>^</sup> are about a quarter tone sharp. The intervals are expressed as follows: G (9/8 or 204 cents or a major semitone), A (9/8 or 204 cents), B (10/9 or 182 cents or a minor semitone), C# (27/25 or 133 cents or a limma), D<sup>^</sup> (10/9 or 182 cents), E (10/9 or 182 cents), F# (27/25 or 133 cents) G<sup>^</sup> (10/9 or 182 cents). A limma is a diatonic semitone (16/15 or 111.7 cents) augmented by a comma (16/15 or 111.7 cents). 100 cents is an equal tempered semitone. (MacNeill). CAUTION: this discussion of Interval assumes that the pitch of the tonic A is 440 hertz. The pitch of Note A on modern chanters used by competition pipe bands could be as high as 480 hertz, slightly higher than B flat.

**Ivory:** a hard, white, opaque substance from the teeth and tusks of animals such as the elephant. Used as decorative and functional mounts for bagpipes. Replaced by plastic ivory mounts when importation of ivory was banned.

## J

**Joints:** drones come in sections. Instead of referring to the connection between two parts or sections, it is the entire section of a drone that is called a joint. For example, a typical three-piece Western European drone has (in addition to its stock) a bottom (or lower), a middle and a top (or upper) joint.

**Jigs:** played at tempo of 124 - 128 beats per minute; beat equals a dotted quarter note.

## K

**Key:** in theory, identifies the tonic triad, the chord, major or minor, which represents the final point of rest for a piece, or the focal point of a section. Uilleann pipe comes in Concert D [pitch](#) which is suitable for Irish Music. The chanter is constructed for the Keys of C, C#, B, B flat, and E flat.

**Key (Mechanical):** the term applies to a mechanism, usually simple and made of metal and a bit of leather, which serves to open or close holes in the chanter or regulators of pipes and drones to obtain certain notes or chords. Highland bagpipes do not have much keywork; if any, just a single key fitted near the lower end of large chanters, which effectively serves to extend the reach of the piper's fingers. There are notable exceptions - few woodwinds have more keys than some Uilleann pipes (with their auxiliary drone-like pipes called regulators), and the French Musette de Cour and some Northumbrian Smallpipes are loaded with elaborate keywork. The Great Irish Warpiper and the Brion Boru Chanter are fitted with mechanical keys.

**Keynote:** also known as the Tonic and is the first degree (I) of the scale.

**Key Signature:** by looking at the key signature one can work out which note is the key note. When the key signature is in sharps, the last Sharp is the seventh note of the scale. When the key signature is in Flats, the last Flat is the fourth note of the scale. Since notes on the highland bagpipe cannot be sharpened or flattened on the chanter, key signatures have no relevance. However, many highland pipe tunes have a Low A or D as their key note, and therefore should be written with a key signature of either A (three sharps) or D (two sharps). On the other hand, the highland bagpipe chanter sounds about one semitone higher than the written music. For this reason, the highland bagpipe can be considered a transposing instrument.

**Kilt:** a pleated plaided garment similar to a skirt (but never to be called a skirt) worn by pipers. The plaid pattern or tartan is very important and is linked to Scottish clan and Regimental Pipe Bands. The kilt is also used in formal settings and social settings. The kilt was made from 9 yards of material whence the expression "the whole nine yards." Modern kilts are made from 5-8 yards of material. See also Irish kilt and Welsh kilt.

**Knob:** aka bole. A semi-spherical shaped section at the top of the chanter supporting the lapped reed seat nipple. The part of the chanter to be gripped when removing the chanter from the stock.

## L

**Lapped:** usually Indian hemp is wound around (i.e. lapped) tuning slides, or stock joints to provide a tight but manageable fit of sections of pipe. The beginning section of hemp is usually waxed to provide a firm grip for the lapping to avoid the lapped hemp from rotating around the slide or stock under pressure. Plumbers tape is sometimes used for temporary fixes.

**Ledger Line:** sometimes written leger, is a small line immediately above or below the musical staff to contain a note such as middle C on the leger line just below the a staff with a treble clef, or an octave higher than concert A, or Hi A on the highland bagpipe, just above the staff with a treble clef. Only one ledger line is used in highland piping to indicate Hi A above the staff.

**Legato:** there are two methods of playing notes smoothly or legato on the uilleann pipes. (i) with the chanter on the knee (closed) ; (ii) playing off the knee (open) when the piper wishes to swell the tone of pipes.

**Leger:** sometimes written ledger, is a small line immediately above or below the musical staff to contain a note such as middle C on the leger line just below the a staff with a treble clef, or an octave higher than concert A, or Hi A on the highland bagpipe, just above the staff with a treble clef. Only one leger line is used in highland piping to indicate Hi A above the staff.

**Leumluath:** also called a Grip. a highland pipe gracenote movement. See illustration - [\\_](#) Embellishments.

**Light 2/4 March:** played at 84 - 90 beats per minute; beat equals a quarter note.

**Limma:** the interval 27/25 or 133 cents occurs in the Phrygian scale of ancient Greek music. It is equal to a diatonic semitone (16/15 or 111.7 cents) augmented by a comma (81/80 or 21.4 cents). The limma occurs twice on the Great Highland Bagpipe chanter between C and D, and again between F and High G.

**Low Hand:** see High Hand.

## M

**MacCrimmons:** were hereditary pipers to MacLeod and according to tradition they maintained a college or school of piping in Skye for a period of several hundred years. Simon Fraser (1845-1934) maintained that an Italian named Petrus Bruno came from Cremona, Italy, came to Scotland, via Ireland and invented the old piper's language of Canntaireachd. The story is overlaid with religious mysticism and is not widely accepted by experts on the history of the bagpipes.

**Mace:** The Drum Major carries a mace to give visual signals to the band when marching.

**Main Note:** the note upon which a gracenote is played is called the main note (or a theme, plain or melody note).

**Major Scale:** usually described as bright, light hearted, extroverted. In diatonic Ionian mode the semitone pattern is TTSTTTS.

**March:** often in four four time (4/4) with a tempo of 88 beats (quarter note beats) per minute by pipe bands. The names of the marches in many cases commemorate famous battles or famous personalities.

**Massed Bands:** occurs at Military Tattoos and at the conclusion of many Highland Games

**Massed Bands Beatings:** generally agreed up drum beatings for use when multiple bands gather for a Mass Band ceremony.

**Measure:** in conjunction with the time signature, the measure determines the number of beats in the rhythm.

**M.B.E.** Member of Order of the British Empire

**Melody:** is a tune. A succession of single notes (not necessarily of the same note value or time value) producing a musical shape that are pleasing to someone. Chords and drones and drum beats accompany a melody but are not part of the melody. A melody can involve step by step progression call conjunct movement or Interval progression of thirds and fourths which are called a disjunct movement. Also in bagpipe music, a melody contains phrases which may contain several motifs. Phrases combine to form musical sentences. Each sentence forms a part which consists of four phrases which can be one or two bars long. The sentences or parts form a paragraph which is a complete work or melody

**Metronome:** a tool that can give a beat-per-minute tempo as a clicking sound or a pulse of light

**Military Tattoo:** a signal sounded (as on a bugle or drum) shortly before taps. Also evening entertainment given by troops usually in the form of outdoor military exercises with bagpipe music and massed bands. The annual Edinburgh Festival Tattoo is famous for its exhibition of pipeband marching and playing, including the Massed Bands finale.

**Miniature Bagpipes:** smaller than the highland bagpipe, with three smaller and narrower bored drones. Uses a practice chanter. Not as loud be somewhat sweeter than the highland bagpipe. Some use practice chanter reeds in drones as well.

**Minim:** one half of a whole note.

**Minor scale:** usually described as sad, dark, introverted. In the diatonic aeolian mode the pattern of semitones is TSTTSTT.

**Mixolydian mode:** the order of tones in a mixolydian scale (Lydian mode) is TTSTTST (T = tone, S = semitone). When sounded, the scale of the highland bagpipe can be described as a myxolydian scale with B Flat Major with a diminished seventh or E Flat Major as its tonic, depending on whether the music was written in A Major or D Major respectively. Technically, if a melody is written in A Major (three #s) the G# should be changed to G natural sign. In this musical construct, the general tone-semitone pattern conforms to a major diatonic scale. Compositions do exist for Key signatures other than A Major and D Major, but in general, because of the limitations of the traditional highland bagpipe scale, key signatures are usually omitted.

**Monophonic:** a highland pipe band playing without the drum corps without seconds is playing monophonically; a number of voices playing in unison.

**Mordent:** used in uilleann piping. It is written with a musical diacritic over the selected note that looks like  $\wedge$ . It signifies that a rapid alternation of the printed note and the note immediately following it be played in the same scale and played only once. The mordent can be an upper or under mordent. See Mordent.

**Motive:** also Motif. The smallest identifiable component of a composition. Consists of two or more notes with a rhythmic pattern. A motive can be repeated, modified or transposed (modulated) to a different pitch or key to form a phrase. The modifications can be rhythmic or melodic. Contrasting motifs can occur in the composition, referred to as Repartee. Many times in piping the rhythm is more important than the melody. In bagpipe music it is usually difficult to identify a motif; consequently phrases are more important but may contain multiple motifs.

**Mounts:** decorative trim on the wooden parts of a bagpipe. Some is functional, some purely decorative. Full-mounted pipes have all terminal ends of sections fitted with metal, ivory, horn, various plastics. Half-mounted pipes leave some of the terminal sections plain; for example, the [tenons] may be plain.

**Mouthpiece:** a hard piece of vulcanite or plastic material that screws on the end of the blowpipe.

**MSR:** acronym for March, Strathspey & Reel. The MSR is a competitive piping event whereby the competitor must play a set containing a March, Strathspey & Reel.

**Musette:** also called baroque musette is a musical instrument of the bagpipe family. It has a short, cylindrical shuttle-drone and the two chalumeaux. Both the chanters and the drones have a cylindrical bore and use a double reed, giving a quiet tone similar to the oboe. The instrument is always bellows-blown. Indigenous to France, starting in the late 16th century.

## N

**Natural Scale:** The natural major scale starting from middle C and ascending T T S T T T S using the white keys of the piano is an example of a natural major scale. B using the white keys and starting at A, the pattern is TSTTSTT and is recognized as a natural minor scale.

**Neck:** The narrowest part of the chanter, just below the bole or knob.

**Neutral Thirds:** the interval ratio approximates 9:11. Most of the thirds are smaller than a major third and greater than a minor third. Found in folk, (including Gaelic) vocal scales. Somewhat characteristic of the scale of the Great Highland Bagpipe

**Nicols & Brown Competition:** an annual piping competition in the USA founded by Pipe Major Donald Lindsay in honor of R.U.Brown and R.B.Nicol, both were pipers to Her Majesty the Queen at Balmoral. Both had been pupils of John Macdonald of Inverness.

**Non-Return Valve:** usually a piece of leather secured at the stock end of the blowpipe to function as a check valve and preventing air under pressure from escaping back through the blowpipe.

**Northern Meeting:** an annual piping competition formerly held at Inverness and now Aviemore, Scotland, attracting the piping Masters from around the world. The competitive events are similar to the events held at the Argyllshire Gathering at Oban, Scotland. About 30 applicants are carefully selected to compete for the Silver Medal. Winners of the Silver can compete for the Gold. Only winners of the Gold can compete for the Clasp or Seniors medal. The Clasp is a gold bar attached to the Gold Medal.

**Northumbrian smallpipe:** from Northumbria in the north-east of England. Bellows blown with a closed chanter allowing staccato. The cylindrical bore enables a more mellow sound capable of two octaves without overblowing. The music is written in G, but chanters are available in D, E, F and G. The nominal G pitch is about 20 cents higher than F and is referred to as F+ (412 Hertz). Four to seven drones are available but usually only three are played. Earlier Northumbrian Smallpipes were key-less, but now the smallpipes have between 7 and 17 metal keys.

## O

**Octave:** is the eight degree (VIII) of the scale and is also known as the upper tonic. The ratio of the octave to the tonic is 2/1.

**Off the knee:** the uilleann chanter is open. See legato above.

**On the knee:** the uilleann chanter rests on the pipers apron or popping strap and is closed. See legato above.

**Open Fingering:** Produces smooth flowing music; a matter of style.

**Overblown:** used in two differing contexts. First to over blow a note on the uilleann pipes to reach a note an octave higher. Secondly, to overblow high notes on the highland pipes because the piper is inexperienced or the reeds are too weak resulting in a high note that is too sharp.

**Overtones, Drums:** caused by excess tension on the snares, causing a background hum or choking effect.

**Overtones, Pipes:** same as Partial or Harmonics. See Harmonics of the Bagpipe

## P

**Partials:** same as harmonic or overtone. See harmonic of bagpipe

**Pedal Sound:** usually associated with the organ, is a drone like sound

**Pentatonic Scale:** The Gael shares with the African Blacks and American Indians a love for music in the pentatonic scale. Pentatonic means five notes, and may be the most ancient scale. Can be easily produced as an example using the five successive black keys on the piano starting with the note F#. Sometimes called the Gapped Scale. The interval sequence is T T T S T T S. So two intervals are three semitones in length. Three pentatonic scales can be played on the highland bagpipe: Low A Tonic (A B C# E F# A'); Low G Tonic (G A B D E G' A), and D Tonic (A B D E F# A'). The well known tunes Auld Lang Syne and The Campbells are Coming are examples of pentatonic music. See also Piobaireachd Scale. The notes are **doh ray me soh la doh**. The intervals are: 9/8, 10/9, 6/5, 10/9, 6/5. The ratio 6/5 is a minor third and is of great importance in forming pentatonic scales.

**Pennywhistle** also known as an Irish whistle, or whistle, or flageolet, or tin whistle. Consider by some teachers as a crossover instrument to enable highland pipers to learn transition their fingering to the uilleann pipes.

**Perfect Time:** triple time was believed to be perfect time because it was reminiscent of the Trinity and represented by a circle. Quadruple time was held to be imperfect and was shown as an incomplete circle and became known as common time and hence the letter C.

**Perfect Fifth:** two notes played together that are 700 cents or 7 semitones apart. Usually the dominant and the tonic. Abbreviated as P5 and when inverted becomes P4, a perfect fourth. In equal temperament - 700 cents. In Just intonation - 702 cents. In just interval 3:2. Essentially the ratio of the dominant note to the tonic in Hertz is 3/2.

**Phrase:** a musical phrase contains one or more motives. In piping, motives and phrasing are applied consistently for the pipe melody and the drum score. Phrases are combined to form sentences (or parts). Sentences are combined to form a paragraph or a complete work or a tune. The end of a phrase is called a Cadence.

**Pibroch:** an anglicized name for Piobaireachd. Also Pibroch.

**Pick:** a wax substance that is placed into a finger hole to change the pitch of a note. Note that the note can only be flattened; one cannot sharpen a note by this procedure.

**Piece of Rush:** tape material placed partially on a hole in the chanter to flatten the musical note.

**Piob:** means "a pipe" in Gaelic.

**Piobaire:** means a piper in Gaelic.

**Piobaireachd:** means literally piping or pipe music. It is peculiar to the highland bagpipes and Scotland. Not even Ireland, which at one time shared a common culture with the Highlands of Scotland.

**Piobaireachd Scale:** a significant number of piobaireachd tunes are composed in the pentatonic scales such as "A": A B C# E F# A, and "G": G A B D E G A, and "D": A B D E F# A. It is estimated that about 80% of Piobaireachd tunes are pentatonic.

**Piobaireachd Structure:** the tune usually has a simple theme and a number of variations, which could exceed 15. The theme is played slowly and does not adhere to a defined meter. The theme and variations will usually use one of several internal structures for the ordering of its musical phrases. These are usually classified as Primary, Secondary and Tertiary. For

example, the primary theme or Ground or Urlar in Gaelic is composed of two two-bar phrases, A and B, played in the following order: (i) A A B; (ii) A B B; (iii) A B.

**Piob Bhreac:** means the speckled pipes, preserved at Dunvegan Castle, and may have belonged to the MacCrimmon family in the seventeenth century.

**Piob Mhór:** aka Piob Mhor. Mouth blown Great Highland Bagpipe or great pipes.

**Piob Mór:** aka Piob Mor. Mouth blown Irish pipes or great Irish War Pipes.

**Piob Uilleann:** pronounced ill-en, means elbow. Played sitting down with the bellows are strapped to the players elbow. Also called Union pipes as early as 1800 but origin of name is uncertain. Now known simply as the Irish Pipes.

**Piper and Drummer:** a Canadian publication dedicated to piping.

**Pipers Apron:** a piece a soft leather tied to the right knee of an uilleann piper to facilitate stopping or closing the chanter.

**Piping Times:** a Scottish publication dedicated to piping.

**Pitch:** a musical pitch is a periodic motion or vibration of a sonorous body. The pitch of Low A on the bagpipe chanter historically was set around concert A (440 Hertz). Competition pipe bands in the year 2005 set their chanters to about 475 hertz because it sounds better to their piping ears. High A would be set about an octave higher at 950 hertz. The Uilleann pipes are tuned closer to concert pitch. The uilleann pipes have seven or eight reeds that need to be tuned according to some performance plan. In solo playing, the piper wants each chanter note to sound as pleasing and consonant as possible with the drones and regulators. Choices have to be made. Some argue that the uilleann pipes are tuned to just intonation but one is on safer ground if they use the term rational intonation. In the concert world, the pitch number relationships are Octave (1:2), Fifth (2:3), Fourth (3:4), Major Third (4:5), Minor Sixth (5:6), Major Sixth (3:5).

**Plaid:** very decorative highland piper clothing, or field blanket, that is partly pleated to facilitate its wrapping from the back left shoulder, under the pipers right arm, across the piper's chest and over the pipers left shoulder, and then fanning out in a cape like fashion covering the backside of the torso.

**Plain Note:** the note upon which a gracenote is played is called the Plain note (or a main, theme or melody note).

**Plumbers Tape:** used in an emergency, in lieu of hemp, to secure joints.

**Poetry** ancient Gaelic poetry was confined within a great number of artificial rules, but these rules provided the poet with a "confined space" to develop his art. Rules governing the positioning of assonance, alliteration, rhyme, stress as examples. The Right Honorable Ian McKay, a successful competitor and student of piobaireachd, suggests that the "confined space" carried forward into Piobaireachd structure. See Piobaireachd above.

**Pop:** see cran.

**Popping:** lifting the uilleann pipe quickly off the knee for E, F# or G in the high octave.

**Popping Strap:** see pipers apron.

**Practice Set:** includes the chanter and a bag and bellows for the beginning uilleann piping student. Also See Full Set and Half Set.

**Praiscin:** the old Gaelic word for a blacksmith's apron, sometimes used when referring to a popping strap.

**Prince Charlie Outfit:** primarily distinguished by the Prince Charles Cutaway Short Tuxedo jacket with three silver buttons on each sleeve as well up each side of the jacket along side of the lapel. The sporran is usually very decorative with silver ornamentation and decorative animal skins.

**Pulse:** a subdivision of a beat in compound time. the space between two accents.

**Pungi:** aka pūngī. a gourd instrument of India with two pipes: chanter and drone without bag. Piper uses circular breathing to produce an unbroken continuous sound without the aid of a pipe bag.

## Q

**Quadruple time:** four beats per bar.

**Quadruplet:** four notes paid in the time value of three notes.

**Quaver:** 1/8th

**Quality of Sound:** also called Timbre or Colour or Tone. It distinguishes the pitch, say concert A at 440 Hertz, among different instruments. Each instrument is playing the same pitch but each sound has a different quality. This is a function of the Fundamental, and its Harmonics (Overtones or Partial). See Harmonics of the bagpipe.

## R

**Rational intonation:** similar to Just intonation. The intervals in the chanter scale are expressed as a/b where both a and b are positive integers. Since solo pipers need to tune their chanters to one or more drones and registers, the tuning frequently needs to be fine tuned with tape and other devices. The notion of Rational intonation is more accurate descriptor than Just intonation which has preconceived standards of intonation intervals associated with it.

**Redundant A:** the older notation for Piobaireachd for Lemluaths and Crunluaths included an extra note A to help other musicians get a sense of the movement. The notation has since been cleaned up and the redundant A note is not longer required.

**Reed, Drone:** drone reeds for the highland pipe are made of cane. Tenor drone reeds are about 3.75" long and 3/8" in diameter. Bass drone reeds are about 4.5" long and .5" in diameter. The reeds have sealing wax at the tip to make them airtight; and the base is covered with waxed hemp to provide firm footing in the drone socket. Cuts are made in the cane to produce a vibrating tongue.

**Reel:** presently the reel is the most common tune played by Irish musicians. The time signature is 4/4 and is played with energy. Although it contains 4 quarter notes, it is customary to sound out two beats per measure. the rhythm is 1 - 2 - 1 - 2 . Played at 100 - 108 beats per minute; half note equals a beat.

**Reel Pipes:** a second smaller set of pipes, similar in all respects to the great pipe, but not as loud, were used for dance music, in the mid-eighteenth century.

**Regulators:** the uilleann pipes contain three regulators, base, baritone and tenor. Each regulator use a double reed similar to the chanter. The three regulators contain a total of 13 keyed notes.

**Regulator, Baritone:** resonates at D4, F#4, G4 or A4 depending whether row 1,2,3,or 4 is selected

**Regulator, Base:** resonates at G3, A3, B3, and C4 depending whether row 1,2,3,or 4 is selected.

**Regulator, Tenor:** resonates at F#4, G4, A4, B4, and C5 depending whether row 1,2,3,4 or 5 is selected.

**Resonator:** part of the drum that resonates. See Shell.

**Rests:** each musical note value has an equivalent rest value. The rest indicates silence for the duration of the rest. a dotted rest increases the duration of the rest by one-half. A semibreve rest hangs on the underside of the D line in the treble clef. A minim rest sits on the B line in the treble clef.

**Retreat:** played at 84 - 90 beats per minute; beat equals a quarter note.

**Rexine:** airtight, non-porous bag for uilleann pipes

**Rhythm:** the periodic occurrence of strong and weak accents. In Duple time, the first beat is accented more than the second; in triple time, the first beat is accented more than the later two beats; in quadruple time, the first beat is accented more than the third beat; and the third beat is accented more than the second and fourth beat; strong, weak, medium weak. Strathspey rhythms sometimes follow the pattern: strong, weak, medium, weak.

**Roll:** used in uilleann piping. A combination of an Acciacatura and a Triplet. Similar to a Turn.

**Rush:** a wire that is inserted into the chanter up to a selected hole in the chanter. The rush effectively reduces the volume of the conical chanter below the desired hole. This causes the chanter to dampen or flatten the notes below the selected note. Other material can be used like a strip of cane and similar objects. Other techniques can be employed to sharpen or flatten notes on the chanter, including taping the holes (only to flatten) , or changing the position of the reed as it sits in its socket.

## S

- Scale:** many different scales are in use; the more common in Western Culture are Diatonic, Chromatic, Whole-tone, and Pentatonic.
- Scale D:** Uilleann D chanter - D (open chanter bottom) , E, F#, G, A, B, C#, D. The scale contains two sharp signs so all F and C notes are sharpened.
- Scale G:** Uilleann G chanter - G, A, B, C natural, D', E' F# G'. the ' sign indicates an octave higher. The bottom of the chanter is closed for all notes. The scale contains one sharp sign, indicating all F notes will be sharpened.
- Scale Test:** the chanter needs to be tested to determine whether the reed is set properly in its socket. The pipe major or other piper with an excellent sense of pitch would undertake a scale test. (i) tune to low A, then test high A; (ii) tune to low A, test E and high A; (iii) tune to low A, test C, E and high A; (iv) tune to low A, test B, D., F, high G, low G. The test continues by tuning the changer to C and going through the Sequence (1)-(iv). finally tune to E, and follow the sequence (i)-(iv) above.
- Scraping:** chanter reeds may be flattened by removing with a sharp razor a small amount of the cane from the surface of the blades. The cane should be removed in uniformly for both blades.
- Scraper:** tool (knife) used to scrape reeds; the shape of the tool is critical.
- Screws:** on the drums should be tightened alternately: 1, 3, 5, 7, 9, 2, 4, 6, 8, 10.
- Sean-nos:** a Gaelic style of singing, adopted by uilleann pipes, whereby certain notes, particularly at the end of phrases, are lengthened or shortened depending on the mood being conveyed by the piper.
- Seconds:** in piping, seconds refer to pipes played in harmony. The word seconds should not be confused with the Second Interval
- Semibreve:** whole note, equal in duration to four crochets.
- Semitone:** The smallest interval used in a diatonic scale (western music culture). In Equal temperament scale, the ratio between two notes such as D4/C4 is given by the factor  $\sqrt[12]{2}$  which is approximately 1.059 since the ratio is an irrational number. bagpipes can be tuned to with equal temperament but are usually not when played solo so as tune more harmoniously with the drones and regulators. See Tuning to understanding the flexibility and limitations of tuning bagpipes.
- Semi Quaver:** 1/16th
- Sentence:** phrases combine to form sentences. A typical length for a sentence is eight bars.
- Sharp:** means the note is played at a higher pitch. As an example: C5# ( 554.37 Hertz) denotes the note that is one semitone higher than the natural note C5 (523.25 Hertz). Since there are multiple reeds in a bagpipe, In piping, the expression sharp or flat usually means that a chanter or drone or regulator may be out of tune with the other reeds. Competitive pipers tend to favor chanters with a higher or sharper pitch.
- Shawm:** an ancestor of the oboe since the Middle Ages in Europe and Asia. Has a conical bore and double reed like the bassoon. Analogous to the pipe chanter.
- Shell:** a component of the drum or chanter. Chanter: the wooden or plastic part of the chanter as a whole is called the shell. Drum: made of heavy laminated woods, like birch or maple, or other material molded together and straightened at certain points. Also called a spacer (i.e. separate the heads) or a resonator.
- Shooting Board:** a wood block about 6" by x 2" x 1" with a groove running through the long end. Used to make reeds.
- Short Roll:** a crotchet Roll. See Roll above.
- Shoulder Broach:** a decorative pin, used to pin the plaid out of the way of the sword arm.
- Shoemakers wax:** sometimes added to the free end of the uilleann pipe drone reed blade to increase the weight on the vibrating blade thereby slowing the vibrations or decreasing the Hertz or simply flattening the musical sound of the drone reed.
- Simple Duple:** two beats to each bar with simple notes. Examples are 2/2, 2/4, 2/8. The 2/4 time signature can be written with a **C** with a vertical line | through it.
- Simple Triple:** three beats to each bar wit simple notes. Examples are 3/2, 3/4, 3/8.
- Simple Quadruple:** four beats to each bar with simple notes. Examples are 4/2, 4/4 or **C**, or 4/8.

**Simple Note:** can be replaced by two notes of equal but lesser value. For example, a quarter note is a simple note because it can be replaced by two eighth notes.

**Single Reed:** A reed with one lip, which sounds continuously through passage of air. The three drones of both the highland bagpipe and the uilleann bagpipe use single reeds. Usually the shape of a cylinder with a tongue or flap and a bridle.

**Six Eight March (6/8):** Played at 80 - 84 beats per minute; beat equals a dotted quarter note.

**Sliding:** in uilleann piping, sliding the fingers up to a note from the note below.

**Slip Jig:** similar to double jigs but not commonly played by musicians. The time signature is 9/8. The rhythm is 1 2 3 - 1 2 3 - 1 2 3. Three sets of three eighth notes. Popular dance tune for Irish step dancing.

**Slow Aire:** played at 52 - 58 beats per minute; beat equals a dotted quarter note.

**Slur:** indicates that the notes grouped under the curved line must be played smoothly or legato.

**Slur:** embellishment on the uilleann pipes, whereby the pipe slides from one note to the next higher note producing a wailing sound. Achieved by gradually sliding the finger off the lower hole until the hole is completely uncovered.

**Slur:** a one finger grace note on the highland chanter; see Strike.

**Sockets:** pipe reeds sit in a socket in the chanter or drones or regulators. Hemp can be added or removed from the Staple or base of the reed to allow the reed to sit more deeply or less deeply in the socket. Usually the hemp is waxed.

**Snares:** add brilliance to the performance. Pipe bands usually use two snares, top and bottom. many marching bands in the USA use only one snare at the bottom.

**Spacer:** see Shell

**Spanish Bagpipe:** aka Galician gaita. Plays a normal major scale with chanter holes of differing sizes.

**Spats:** a decorative shoe accessory worn by military pipe bands. Generally white in color.

**Sporran:** a decorative item worn with the kilt. Since the kilt does not have pockets, the sporran was originally a leather wallet, used to carry a day's rations.

**Staccato:** in uilleann piping, dots placed over or under the notes indicate they must be played with a sharp accent, each note being disconnected and distinct.

**Staff:** a ladder like arrangement of five horizontal lines containing four spaces. The notes are written on the lines and spaces. Each line or space is called a degree.

**Stave:** a ladder like arrangement of five horizontal lines containing four spaces. The notes are written on the lines and spaces. Each line or space is called a degree.

**Staple:** the foundation upon which a chanter double reed is constructed. A small cylindrical piece of metal (copper) tubing used to support the cane reeds. The cylinder is flattened to an elliptical shape to accommodate the sides of the two blades. The reeds are fastened to the Staple using a copper wire or other suitable material. Staples are used for other type reeds such as oboe, bassoon and similar double reeded instruments. Uilleann staples are about 2 1/4 " long and about 5/32nd " in diameter.

**Stems:** whole notes do not contain stems. all other notes of a lesser value contain a stem attached to the head of the note. The stem points downward. The stems of grace notes point upward. In drumming notation, the stems always point downward while the grace notes point upwards.

**Stock and Horn:** a member of the hornpipe family; with fingering similar to a practice chanter. Last used in 18th century; no evidence it was used as a practice chanter.

**Strathspey:** A Strathspey is a dance tune in 4/4, usually written in 1/8th notes which are cut and dotted to produce a musical and dance effect referred to as a Scots snap. To visualize a Scots snap: visualize two 1/8th notes connected by a beam (music). If the first 1/8th note is cut to a sixteenth note, the second is dotted to a 3/16th note producing a snap. If the first 1/8th note is dotted to a 3/16th note, the second is cut to a 1/16th note, again the combination producing a snap. In team dancing, Strathspeys are played with a tempo between 120 and 132 beats per minute. The Strathspey is similar to a hornpipe but slower and more stately and contains many Scots snaps. Strathspey refers both to the type of pipe tune, and to the type of dance usually done to it. Strathspeys are also frequently danced to slow airs at 60 beats per minutes. It also is a geographical region of Scotland.

**Strathy Pipes:** a famous relic of a bagpipe still in working order.

**Strike:** a one finger grace note to accent or separate two notes of the same value and usually the same duration. On the Low Hand the strike is to Low G, requiring one, two, three or four fingers to close the finger holes at precisely the same time. On the [[#High Hand|High Hand, the next lower open hole is struck closed in a flash.

**Siubhal:** Piobaireachd Variation. Pronounced: "shoe-al" but other pronunciations exist. Means passing or traversing. Represents a variation of the Urlar or Ground or theme of the Piobaireachd. Sometimes used interchangeably with the variation referred to as Dithis. The authority Seumas MacNeill (fact) states the terms mean different but somewhat similar variations and should not be used interchangeably. The Siubhal is composed of several theme notes from the Urlar. The theme notes are played with single notes of either higher or lower pitch which precede the theme note. The theme notes are accented and the single notes are cut or of shorter duration. Emphasis and mood of are critical importance among the masters. When the theme note and single note are repeated in pairs, the Siubhal is called a doubling, otherwise it is referred to as a Siubhal singling.

**Swan-necked bags:** useful for pipers with long arms.

**Sword:** Worn by the Drum Major on the left side at the belt with a basket hilt. It was called a clath veg in Gaelic (pronounced clay beg), or small sword to distinguish it from the clath mhor (pronounced claymore) or great sword.

**Syncopation:** rhythm device to disrupt the natural rhythm flow to produce colour. Four common methods of producing syncopation are (i) stressing a weak accent; (ii) placing a rests in places of strong accents; (iii) tying a weak accent over a strong accent; (iv) changing the time signature.

## T

**Tachum:** a highland Strathspey dance rhythm. Two notes played quickly that sound like "ta-come" with the emphasis on "come". For example a G gracenote on the sixteenth note D followed by an E gracenote on the dotted eighth note Lo A.

**Tails:** a quarter note has a stem but no tail. Adding a tail to the note reduces its value by 1/2 and produces an eighth note. Adding a second tail produces a sixteenth note, and so on.

**Taorluath:** a weighty embellishment. It may be played between two notes of the same pitch, like A, B, C. Or it can be played from a high note to Low A. It plays through G and uses two gracenotes D and E. See illustration - Embellishment at top of page.

**Tattoo:** a rhythmic beating. See also Military Tattoo.

**Tenon:** the end of the pipe, of smaller circumference, which fits into an adjacent part, the stock. For example the tenon of a chanter fits into the chanter stock. Most bagpipes have drones with multiple sections or joints. They are equipped with very long tenons and correspondingly long sockets in the adjacent sections. This configuration allows the overall length, and the pitch, of the drone to be adjusted. Tenons are typically wrapped with waxed thread or plumbers tape to keep them from falling out of the sockets and for making an airtight connection. Cork, o-rings, and other materials are also employed for this purpose. Some pipes use the shape of the tenon to create a firm sealed connection. Italian pipes use bare tapered tenons mating into tapered sockets, and screw threads carved into wood or ivory are also seen.

**Tenor Clef:** denotes the note C.

**Tension Hoops:** used at the top and bottom of the drum to maintain pressure on the drum heads.

**Tempo:** should not be confused with time. It is the speed in beats per minute at which the music is played.

**Tempo rubato:** the light change in note values to minimize rigid playing and to help identify phrases.

**Tempradura:** a prelude played by Spanish bagpipers as a warmup exercise; perhaps a prelude appropriate to set the mood for the concert piece. See deachinn ghleusda

**Tetrachord:** earliest scales developed by the Greeks were called tetrachords, meaning four notes. The modes were named after Greek sects: Dorian, Ionian, Lydian, Aeolian. Some believe they became the foundation of music typical of Western culture. Two Tetrachord, a lower and an upper Tetrachord can be combined to form an eight note scale. The Interval of

Disjunction is the frequency gap between the contiguous notes joining the scale. Usually it is either a tone or semi tone.

**Theme Note:** the note upon which a gracenote is played is called the theme note (or a main, plain or melody note).

**Throat:** the upper part of the chanter houses the reed seat which tapers down to the throat, the narrowest part of the chanter, about half the distance to the first finger hole, the back hole or thumb hole or back D on the uilleann chanter.

**Throw on D:** an important embellishment in highland piping. There are two types of D throws: heavy and light. See illustration under Embellishments.

**Tie:** a tie is a curved line connecting the heads of two notes of the same pitch, indicating that they are to be played as a single note with a duration equal to the sum of the individual notes' note values. A tie is similar in appearance to a slur. Ties are frequently used to connect notes across the bar line. It is sometimes called a Bind.

**Tight Fingering:** produces short, tight notes and can sound choppy. A matter of style.

**Timbre:** the quality of a sound. Timbre helps distinguish two sounds of the same pitch. Timbre is a function of the distribution of harmonics or overtones of the instrument.

**Time Signature:** the two numbers shown at the beginning of a piece of music denotes the time signature. The top number signifies the number of beats per measure, and the bottom number signifies the note value of a beat.. For example, in pipe music a 4/4 tells us that there are four beats in the measure, each valued as a quarter note. This is a typical time signature for marches, reels and hornpipes. (NB: although a time signature may be written as 4/4, there is not dividing line between the two numbers.)

**Tippling:** is analogous to tonguing in other instruments. The uilleann chanter is momentarily closed after each note.

**Tonality:** an ordered arrangement of tones and semitones, or intervals. For example: tonic (keynote), supertonic, mediant, subdominant, dominant, submediant, leading note, octave or upper tonic. In the diatonic scale, tonality is a concept linking notes, intervals and chords are determined in a set pattern.

**Tone:** same as timbre, colour or quality.

**Tonic:** is the first degree (i) of the scale and is also known as the Keynote.

**Tongue:** the vibrating element of a drone reed which has a single vibrating element. Chanter reeds have two vibrating elements or blades.

**Transcription:** when a melody composed for one voice or instrument is changed to accommodate a different voice or instrument. Not to be confused with transposition.

**Transposition:** changing a melody by raising or lowering its pitch. Changing from one key to another. It is frequently said that music was transposed for the bagpipe. This is generally incorrect usage. Usually music is transcribed for the bagpipe. See transcription

**Treacle:** a gooey, syrupy, wax like substance used to season the inside of a leather bagpipe bags. The purpose for the seasoning is to seal the bag, to seal the sewn edges of the bag, reduce its porousness, and make it airtight but not waterproof. It is desirable that moisture escape from the bag.

**Treble Clef:** The primary clef for the Great Highland Bagpipe. Denotes G4 (392 hertz), traditionally on the second ledger line above middle C4 (261.6 hertz) which is below concert A4 (440 hertz). The note A on the highland pipe is much sharper than Concert A4 for reasons described under the term "Low A" herein. Contemporary pipe chanters are frequently tuned to Low A with a frequency of 475 hertz and higher which is slightly sharper than A# or B flat. Historically, wooden pipe chanters were constructed to concert A (440 hertz). In 1980 the chanters were set around 468 hertz. The trend among competitive pipe bands is for sharper chanters.

**Trews:** from the Gaelic word Triubhas meaning trousers. A close cut tartan short drawers to be worn under the kilt.

**Triad:** a fundamental note played with its third and fifth interval note. Also referred to as a common chord.

**Trill:** written as tr~~ over a note. Means the rapid alternation of the designated note and the note immediately above it, and then finished with a Turn. Consider the whole note C as an example: played with the following sequence of 17 sixteenth notes: CDCD CDCD CDCD

CDCD CDCBC. Note that the final sequence of five notes is a 5-tuple played with the duration of four sixteenth notes.

**Triple Time:** three beats per bar.

**Triplet:** a common form of musical ornamentation called a tuplet. In a 4/4 tune such as a hornpipe, a triplet will contain three eighth notes under a brace containing the number 3. The triplet of equally spaced notes is played as a quarter note. Some pipers prefer polyrhythms and will emphasize the first note of the triplet and cut the second note of the triplet. It is a matter of style and rhythm.

**Trip ling:** consists of three grace notes and three melody notes. A grace note is played on each of the melody notes. The tripling is actually a tuplet. In 4/4 time the tripling would contain three quarter notes under a brace with the number 3. The tripling would be played as a quarter note.

**TSTTSTT:** minor diatonic Aeolian mode scale.

**TTSTTTS:** major diatonic Ionian mode scale.

**Turn:** written as a tilde over a note or after a note for uilleann music. When placed over a note, say a quarter note A, then four sixteenth notes are played in the following sequence: B, A, G, A. When placed after a note, say quarter note C, then five notes are played, the first would be the eighth note C, followed by four 32nd notes in the following sequence: D, C, B, C.

**Two Dots:** following a note increases the duration of the note by 75%.

## U

**Uilleann:** The uilleann pipe closely resembles the bassoon and oboe. The both use double reeds or split reeds. When air passes through the blades of the reed, sound is produced. It has a range of two octaves.

**Undercut:** removing material from the lower part of a fingerhole to sharpen the note on the chanter.

**Union:** an early name for Uilleann Pipes

**Unison:** used to describe harmony of two or more notes of the same pitch or an octave apart. In pipe band drumming, the term is used to describe movements or phrases when all snare drummers c syn ch with the lead drummer to emphasize certain aspects of the rhythm. Of course, the word *[tutti]* might be more appropriate but the word unison is well establish in drumming. The term unison also applies to tuning drones.

**Urlar:** Gaelic word for Ground. See Piobaireachd Structure above.

## V

**Variation:** usually used in the sense of the Piobaireachd. Variations include Siubhal, Dithis, Crunluath, Crunluath a Mach, Leumluath, Taorluath. In a broader sense, variation also includes the Piobaireachd structure: Primary, Secondary, Tertiary A, Tertiary B, and Irregular. See Piobaireachd Structure.

**Vent Holes:** also known as the voicing hole. Usually one or two vent holes are found near the bottom of the chanter (below all the other finger holes) to determine the low note of the chanter. Alternately, on some pipes, a hole for the upper thumb that, when uncovered, raises the sound of the chanter by an octave.

**Vibrato:** the finger rapidly vibrates over a selected note hole, sometimes called drumming. This movement imparts a tremulous sound to the note being played, and is most effective in slow airs, and whenever the piper wants to express feeling to interpret sorrow, anger, or triumph.

**Voice:** an American publication dedicated to piping. Also Voice meaning a musical instrument.

**Volume:** also called amplitude or intensity is the degree of loudness or softness of sound. In simple terms, amplitude is the distance from the peak and the trough of a wave form.

## W

**Waver:** an embellishment for the uilleann pipes. Written as W~~. Same as Vibrato.

**Weight:** see Depth or Four Stroke Ruff.

**Wrist Chords:** see Free Hand Chords.

**Y**

**Yoke:** a circular stock designed to hold a chanter(s) and one or more additional drones.