Tactus/Rhythm

Tactus (German: Takt) is defined in the Random House Dictionary as the basic counting unit of medieval times. It is derived from the Latin term for 'touch' and it is related to the word tact, which expresses a feeling and a keen sense of awareness of touch. Therefore, 'tactus' represents a regular beat, like a heart beat, a pulse and a recurring motion, like the waves of a river. Therefore 'tactus' means rhythm (Greek: 'rhythmos' is flow, movement). Music was not always divided into equal parts (bars). Such metrical divisions in written music did not emerge until the 17th century. The Genevan tunes originated before that time. They are not metric but rhythmic.

During the 13th century, P. de Cruce assigned a time value to notes in accordance to their *shape.* The long note represented the *basic* unit. Two or three shorter notes could take the place of one long one. The names and shapes of notes changed between 1300 and 1500 A.D. Along with the names and shapes of notes in written music, notation *systems* also changed. The systems were subsequently called Modus, Tempus, Prolatio and Proportio. Modus (method) showed the relationship between the Longa (long) and the Brevis (short) notes. The Tempus (time) system of notation generally used the Brevis and the Semibrevis notes (our present double whole note and the whole note). Prolatio (extend) mainly showed the use of the Semibrevis (a diamond figure, our circular whole note) and the Minim (a diamond with a tail, our present round half-note).

The system Proportio (ratio) developed overtime into the system we have today. It shows a division of each note into two others. Not only did the Semibreve equal two Minim notes (shortest or open notes with a tail, later called half note); each Minim was again equal to *two* Quavers (quarter notes) and the Quaver (a closed note with a tail) could be divided into two Semi-quavers (adding a flag / eighth-note etc.). In all these systems, the **longer** note always represented the basic unit, the natural pulse or the beat of the music. In those days (between 1300 and 1500 A.D.), the long note could be divided into either *two* or *three* shorter ones. When a tune showed *three* notes in the space of each long one, it was called “perfect” (Modus Perfectum, Tempus Perfectum etc.). When the basic unit was divided into *two,* it was called “imperfectum”.

Later on (16th C), **signs** were introduced at the start of the music that developed into *time-signatures.* A division into *three* showed a circle (O; think of trinity, perfection, heaven). An incomplete or open circle (C) was used to indicate a division into *two*. Until today, **all** musical scores are still divided into these *two main categories*, be they simple or compound, namely the **tripartite** (¾, 3/8, 9/8) and the **bipartite** time signatures (2/4, 4/4, 6/8 12/8 etc.).

Due to the increase of new instruments, new musical forms and instrumental music, the metrical system of music notation developed. Rather than having the long note as the basic unit, the quarter-note (Quaver) was more and more taken as the basic measuring unit, so that any long note was viewed as equal to a multiple of quarter notes.

So during the 16th century the *shorter* note became the measuring unit, resulting in written music that showed *groups* of notes making up the basic recurring rhythm within one bar. The open circle sign or a capital letter C, is still used today, but it no longer shows that the long note is *divided* into two. An open circle or C is *now* used to show that four short notes make up one

whole note or fill one bar (in place of 4/4) and the beat or the basic counting unit is the *shorter* of the two notes, the quarter note.

The Genevan tunes were composed in the **earlier style** and with the *longer* note representing the beat, pulse, wave or basic counting unit. (Tactus, if you like). These tunes are not metrical, for they move rhythmically like the Hebrew poetic text. This original rhythm was almost lost during the past few centuries of singing these French tunes on only long notes in the Dutch language. However, the rhythm resurfaced since the nineteen thirties and forties with the pulse beat on the *longer* of the two note values.

A *pulsation* of the heart includes both a systole plus a diastole (a contraction plus an expansion). This also applies to sound made by any means such as clapping hands, pounding hammers or clanging symbols. At all times *two* movements are involved to produce one sound or *one* beat. Even when one counts with a pointing finger, only the down movement is counted, for it represents both the up and the down movement. So lets not confuse such a *natural* beat with the movement of today's music director, whose arm motion in any direction may represent one count. In medieval times a choir director would use wrist movements to show a rise or fall in the melody (punctum or virga), rather than a metrical beat.

When speaking of the Genevan tunes, the *long* note is historically determined to form the basic unit. These tunes showed a sign at the start, a slashed C or a half-note. At present it is clearer shown by the number 1 over a half-note (see Book of Praise). From this follows that we sing two short notes (quarter-notes or black notes) on each beat. Instrumental accompanists may wish to show the beat by mainly using long notes in the bass line. This is done in my instrumental accompaniment PSALMS & HYMNS available from www.bookofpraise.ca .

Shifting the beat, or **syncopation**, is obvious when the long note, forms the basic counting unit. For example in the first lines of Psalm 25, 35 and repeatedly in Psalm 42. Using the short note as the basic counting unit erases the intended rhythmic shift, unless one makes it metrical by stressing the first part or by counting one-two, one-two on each long note. That severely impoverishes the Genevan melodies for they do *not* stress one short note over the next as, for example in a march, left-right, left ..., left ... .

[The purpose of a **time-signature** is to show what kind of time is to continue at a regular pace throughout a piece of music. The upper figure (the numerator of the quotient) indicates the *number* of beats per measure, while the lower figure (the denominator) shows which *kind* of note represents one beat. For example, ¾ time signature indicates three beats per measure *and* that the quarter-note or its equivalent receives one count. A slashed letter C or 2/2 means that there are two counts in each measure *and* that each count is the equivalent of a half-note. The first beat of any measure is always stressed. However, this regular recurrence of strong and weak stresses, is foreign to the Geneva melodies].

In the Genevan tunes, two short notes are the two equal halves of the one basic counting unit. D. J. Zwart correctly concluded his brief article with respect to 'tactus' (back cover, Koraalboek deel 1, Bureau voor koraalmuziek, Waddinxveen, The Netherlands) when he stated that (my translation), ”The half tactus exists only as a half of the whole, never as an independent something (unit/grootheid). It seems that tactus (a medieval musical term) was a confusing term already in the 16th C, for D. J. Zwart quoted Sebastian Heyden (1540) as saying,“One should not split the duration of the tactus. Therefore one should not differentiate between the several signs

for modus, tempus, prolatio, proportio". Zwart went on to say that "this theory of one tactus was literally adopted and practised by Bourgeois" (Genevan composer) "and by Valette" (Genevan precentor,-Dutch:'voorzanger'). Zwart also quoted Pierre Valette in his explanation of the time signature used in the 1556 psalm-book as follows,

> *"Concerning this sign (a slashed C), one will find it at the beginning of every psalm. It indicates the value (duration) of the notes i.e. the long note has the value of one beat or tactus, which means the up plus the down movement, the one the lowering and the other the raising of the hand".*

D. J. Zwart concluded that,

> *"From this, it appears that the long note in psalm tunes has the value of a whole tactus; every short note lasts one half a tactus".*

Nevertheless, Zwart's other statements, as well as his compositions, suggest that he adopted the opposite, i.e. that the *shorter* of the two notes determine the basic counting unit.

To *describe the rhythm* of a throbbing pulse is difficult. The beat in the Genevan tunes needs to be ***experienced***. But how can that be accomplished? Musicians could emphasize the pulse-beat by using only long notes in the accompaniment or in the bass line. Those who have little or no musical know-how, can just as well experience the stately pulse of the Genevan tunes. When listening to music generally, one may feel the beat and inadvertently start toe-tapping. One may even do so with some of our psalm tunes. However, each *long* note was likely given two taps. Learning to feel a different rhythm, one may at first have to make a conscious effort to tap *once on only every long note* or one tap for every two short notes.

All Genevan tunes *start* with one or more long notes; so that makes it easier to feel the beat on the *long* notes. I suggest to first try with Psalms 1, 8, or 111, followed by Psalms 107, 34 and then 68. It only takes very little practice to maintain the beat set by the initial notes and to feel that natural pulse. This change from the customary will no doubt enrich the enjoyment of the Genevan tunes. A music catechism defines music as "the art to please the ear, to stir the heart, to entertain the mind and to awaken the imagination" (Johann Christian Lobe). Another theorist (Luersen) proposed that music is an art-form embodied by sounds that are aligned in accordance with time, pitch and volume. With respect to 'time', the above only discussed the relationship between the long and short notes of the Genevan tunes. Another aspect is speed, tempo or the 'alignment with' the heart.

The **speed** of moving sounds (rhythm) is either faster or slower than the natural beat of a human heart. Prof. Dr. H. Riemann classified the speed of melodic movement from a central point he called 'normal'. A normal tempo, he figured, is about 75 – 80 beats per minute, which is similar to a human pulse or a leisurely walking pace. "According to Riemann, this tempo is experienced as neither fast nor slow, because this movement is completely absorbed by the natural rhythm of the body (or body frequency)". (Mart J. Luersen, p.22).

For the past few hundred years, Italian terms have been used to indicate an approximate range of speed in music. Dr. Riemann called the *normal* tempo 'Andante' (or 'andare', Italian for walking or strolling). Faster speeds are Allegro (fast), Presto (quick), Vivace (rapid) etc. Slower tempos (or tempi) are such as Adagio (slow), Largo (broad, noble), Lento or Grave (weighty, pompous, majestic, regal). The latter represent a range of slow speeds that fit-in with the Genevan psalm-tunes. But exactly how slow is slow?

Before 1600 A.D., composers did not indicate a tempo in music notation. They likely assumed a natural rhythm that suited the character of the music. Nevertheless, this tempo/speed may differ from one people to another. For example, a brisk march of *about* 95 steps per minute, may turn out to be 90 steps for an American soldier, but 110 paces for a Japanese drill sergeant.

After 1800 A.D., the Maelzel Metronome was marketed. It is an instrument invented to tick off any prescribed number of beats per minute. Ludwig van Beethoven was the first major composer to use such speed indicators. For example, *MM with a half-note = 50* means that 50 half-notes, or their equivalent, are to be played or sung in one minute.

The above mentioned Italian terms for the slow range of speed is about 40 – 60 beats per minute. So, for the Genevan songs it is on average around 50 to 55 long notes per minute. Of course, this is only an approximation and not a prescription for two reasons. First of all, the content of the song demands a difference in tempo. For example, Psalms 51 and 130 expect a somewhat slower pace than Psalms 47 and 150. Moreover, one congregation may differ significantly from another in character, customs or configurations. For Genevan tunes, speed indicators are not necessary, because the *content* prescribes or suggests a tempo that is overall *naturally* slower than the speed of a pulsating human heart.

Our Sunday is a prescribed day of *rest,* to come together in worship and to enter the eternal Sabbath. To put the meaning of the fourth commandment in one phrase, permit me to say that "on Sunday we are in love getting our batteries re-charged" by the LORD our Creator and Redeemer (see Heidelberg Catechism, Lord's Day 38).

We meet Him as His people in public worship services and listen to his Word of forgiveness, comfort and assurance. Guilt is dispelled, stress dissipates and His peace is distributed among us. We are again at peace and how does that affect our heart-beat? Our pulse was likely racing all week and as we arrived in church. Keeping the Sabbath gives rest. Our heart-beat slows down. This is reflected in our songs and in the singing of the inspired Word. This promotes and even causes the heart-beat to slow down in the enjoyment of His peace.

Therefore, the rhythm, the beat or the *pulse* of Genevan songs is slower that our heart-beat or below 70 beats per minute. After all, the tunes are comforting and not boring, consoling but not intoxicating. They can also be uplifting and exuberant, but never frantic. They are elevating and edifying, but not frivolous or hysterical. For more information refer to my booklet on Genevan Tunes in the Anglo-Genevan Psalter Winnipeg, MB 2005/2013.

D. T.