Articulation: The Inside Story

by Scott Reiss (1951-2005)

Scott Reiss was founder and co-director since 1979 of HESPERUS, as well as a founding member and co-director from 1977 to 1998 of the Folger Consort, ensemble-in-residence at the Folger Shakespeare Library. He was at home in Medieval, Renaissance and Baroque styles, while possessing a command of Irish and Appalachian music and the blues. He performed as soloist with groups including the National Symphony, the Washington Bach Sinfonia, Piffaro and the Annapolis Brass Quintet. In 2005, he played Bach's Brandenburg Concerto No. 4 *with the Choate Rosemary Hall Orchestra on a tour that included a performance on China's Great Wall (see his report in the September 2005* AR*).*

One of the world's leading recorder players, Reiss has written articles on recorder technique, improvisation and traditional music that were published in American Recorder, Continuo, Early Music America *and* Tibia. *This article on articulation was to have been the first of a series of articles, forming the foundation of a book on recorder technique.*

Reiss can be heard on more than 35 recordings (some available through the ARS CD Club). His most recent solo recording was The Banshee's Wail, *with his wife, Dr. Tina Chancey, and Zan McLeod and Glen Velez.*

Reiss and Chancey were 1998 recipients of a two-year grant from Earthwatch supporting their ethnographic research on Celtic music in Ireland. From that research, Reiss wrote the chapter, "Tradition and Imaginary: Irish Traditional Music and the Celtic Phenomenon" for the book Celtic Modern *(Scarecrow Press, 2003).*

Reiss directed SoundCatcher, *a series of workshops teaching musicians the skills of playing by ear, which will continue under the direction of Chancey and other members of HESPERUS.*

Articulation is often misunderstood as a "specialized" technique in recorder playing. It's unfortunate that it is often thought of as an esoteric aspect of technique, one that only "advanced" players can fully utilize.

On the contrary, articulation is not esoteric, but basic to the playing of anything on the instrument. It is something that every recorder player has to do to create the beginning and end of each and every note played. It is one of the three fundamental aspects of playing the recorder: breath and support, fingering, and articulation.

Articulation is the way in which we regulate breath flowing through the recorder. Breathing and breath support on the recorder differs from that used in playing other wind instruments and in singing because there is so little resistance to the breath. With the recorder, we need to create support and resistance with a somewhat indirect method.

Breath and Support

Before a note is articulated, correct breathing must take place: align the body with the sit bones resting on the chair and supporting one's weight, with feet flat on the floor, shoulders above the pelvic bone, head erect and resting on the neck. (This all seems obvious—but often we let our bodies lapse into a posture that inhibits energy and breath, so it's always a good routine to review basic alignment.)

Next, inhale—easy, right? But we usually inhale without mindfulness, so that the breath enters the body haphazardly. The most common way in which people breathe is shallowly—breathing into the upper part of the chest cavity, expanding the upper ribs, and perhaps extending into the clavicle area and the shoulders.

Instead, the player must invite the breath to enter the body, and direct the air down—through the pelvis, through the chair, through the floor. As the air enters, think of it filling first the pelvic area, then the belly and lower torso, and only then think of the air starting to fill the lungs and chest.

As it fills the chest, think of the air expanding the ribs, from the lowest to the highest—being careful to expand both *front and back* ribs at the same time. The body should expand with the breath evenly on all sides. Don't fall into the habit of thinking only of the front of the body!

As the breath moves down through the floor and expands the body from the bottom up, the head, neck and shoulders remain completely relaxed. When the breath reaches the collar bone, its upward journey is done.

One of the most powerful tools the recorder possesses is the ability to create an infinite number of gradations ranging from the sharpest attack and shortest duration to the softest attack and longest duration.

Exhalation is the reverse of the inhalation. Bring the air up from beneath the floor, through the pelvis, and up through the spine and back of the neck. Then send it out through the back and top of the head, focusing it in a curve that lands in a cup made by the hands extended out from the chest (the approximate location of your instrument).

As the breath moves out of the body, it leaves in the opposite order in which the inhalation filled: from the upper chest, down through the torso, and finally emptying the pelvic region.

Exhalation is what I will call the *breath-stream* because—except during inhalation—the process of exhalation is constant. The support of the breath doesn't change when the flow of the breath starts and stops. The breath-stream continues through any break in sound—between notes or even through rests. It follows the shape of the phrase.

Single Tonguing

A note begins with an attack. Single tonguing is the basic articulation, in which the note starts with an attack I describe as *dental*. In a dental attack, the tip of the tongue touches the palatal ridge: the part of the hard palate right behind the upper front teeth, just at the point where it starts to curve up toward the soft palate. (In linguistics and speech therapy, the similar term is "alveolus." But, although one definition of alveolus is "teethridge," alveolus also describes "the part of the jaws where the teeth arise." The latter does not seem to me to describe the place where the tongue should touch, so I chose to use my own term.)

As the tongue rests there, it acts like a dam: the breath-stream builds up behind it. The tongue is also in contact with the upper molars, creating a seal. When the tongue is brought away from the palatal ridge and the upper molars, the breath flows and the note is started.

Each note ends with a release. To end the note, the player moves the tongue back to the palatal ridge to stop the breath-stream.

Articulation syllables have been used for centuries to guide movements of the tongue inside the mouth and produce articulation on the recorder. An articulation syllable consists of a consonant and a vowel that describe the movement of the tongue and the shape of the mouth for the attack and duration of one note.

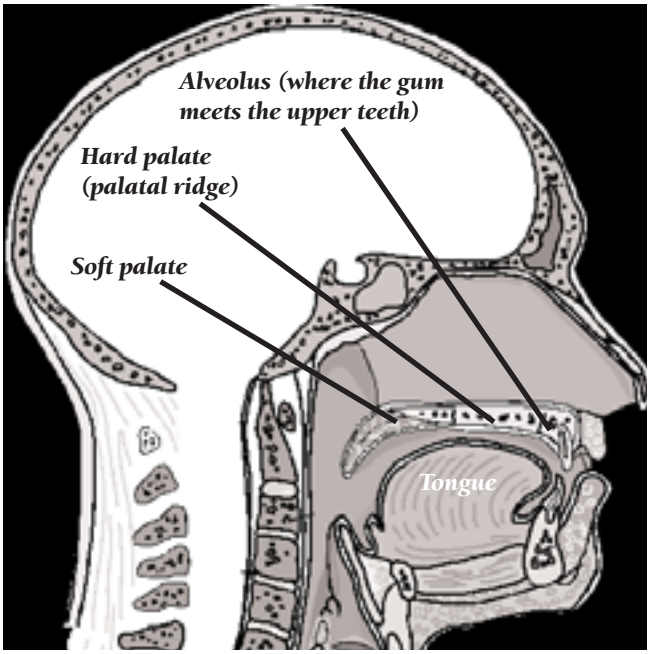
Most of us learned single-tonguing by using either the syllable "ta" or "da." These syllables describe the dental attack and a neutral duration—neither short staccato, nor long legato, but filling with sound most of the time allotted to a note.

When playing a note that is one beat long, it's easy to forget that the beat consists of the sounding note plus the time after it and before the next beat is due. It's better to think of the beat as the time between the attacks.

One of the most powerful tools the recorder possesses is the ability to create an infinite number of gradations ranging from the sharpest attack and shortest duration to the softest attack and longest duration. This continuum of articulation cannot be written down: there are neither infinite gradations of dental consonants nor the vowels necessary to describe such a continuum.

Start with the most neutral attack, and create a note of sufficient length to fill about 90% of its rhythmic value, leaving only enough time at the end to fully release the note and stop the air flow. That might be described by the syllables "dah-it."

If that note is a quarter note, the airflow begins in its stopped position—the tip of the tongue touching the palatal ridge behind the teeth. The "d" is the tongue coming away from the palatal ridge on the downbeat, allowing the breath to flow. The "ah" represents the duration of the note. With the "i" of "it," the tongue moves back toward its original position; and the "t" stops the airflow, creating the release of the note.



As the attack moves from a neutral "d" through a harder and harder "d" (as though one were saying "do it" first as an emotionally gentle suggestion, and then as an increasingly forceful command), and also increasing through the same continuum of emotionally charged feeling with "t" sounds, the attack becomes harder or sharper. As the attack becomes sharper, the tongue becomes more pointed, with less surface area of the tongue actually touching the palatal ridge.

If the two vowels—representing the dual motions of the tongue going first back, then forward, in the attack and release respectively—are combined into one vowel that instead represents the duration of the note, a single syllable results. This starts with the neutral "dot," and progresses through many iterations through "dat," "det," "tet" and "tit," then finally ending with a very short "teet." As the vowel becomes more spread, the center of the tongue rises, the corners of the mouth move outward (hence the term, "spread"); the cavity inside the mouth becomes narrower and actually smaller. This formation of the mouth is more conducive to creating increasingly shorter notes.

Starting again from a neutral "dat" or "dot," a continuum of legato attacks can be created by gradually flattening the tongue, creating more and more contact with the palatal ridge. The attack might sound like a consonant moving from "d" through "dh," continuing until one is almost using "th," and then to the ultimate legato attack, "l."

The duration continuum passes through the "open" vowels: "ah," "aw," "o," "oh," "oo," "u." The mouth cavity becomes more and more round as the tongue and jaw drop, and gradually the corners of the mouth move in toward each other, creating the oval formation for "u." Since the articulation becomes progressively more legato, there is a point on this continuum where the release of the first note and the attack of the next are the same.

When the consonant of the articulation syllable is at its most legato—the "l" attack—the player is executing an articulated slur. Why go to the trouble of developing an articulation that simply imitates a non-articulation? The answer lies in the grey area of subtlety and choice. The subtle difference between an articulated slur and an actual slur is that—although the articulated slur, if executed properly, sounds to an audience like a real slur—individual notes within an articulated "slur" are more distinct and project better.

This is an issue of balancing aesthetics and practical performance. The delicacy of the fipple flute's sound production leads a player to make an aesthetic choice: the quality of the sound of an articulated slur is different from that of a real slur. It is the prerogative of the player to make the decision about which is more "beautiful."

And if the performance space is particularly "live," as in a church, slurred notes can become mush. This unfortunate result will have the same effect as the sound of a bass soloist singing a Baroque aria with a vibrato wider than the notes he is trying to project. It may simply be a practical matter of creating an attack to separate the notes of the slur and to clarify them within a performance space.

Release

The release portion of articulation has occupied more and more of my attention. Even when conscious of the ability to vary the attack of a note, players seldom think about the release—or how to end that same note.

To try to teach more effectively, I find that I constantly analyze what I do when I play, in order to be able to express it to my students—who end up teaching me through their questions. Every time a student says to me, "I am doing everything you told me to do, but it always sounds better when you do it," I have to further analyze my own technique in order to teach it. The awareness that I vary release as well as attack has been extremely useful for my students.

Every note has a beginning, middle and end (attack, duration and release). Each of those three elements determines the quality of the note, and how it relates to the notes adjacent to it.

A note can have a strong attack and a strong release, which is usually referred to as *marcato*. The note starts and ends strongly, and the force of the note remains constant throughout its duration.

A note can also have a strong attack and a gentle release. In that case, the note begins strongly, may grow or "bloom," and then tapers off toward the end. The gentle release is made by slower movement of the tongue and by creating the release with a flatter tongue—more surface area of the tongue touching the palatal ridge.

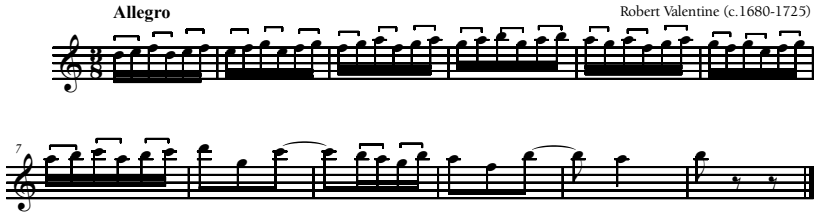
Conversely, a note can have a gentle attack, grow through its duration, and end with a sharp release—with the tongue more pointed at the end of the note, stopping airflow like a door slamming.

By developing awareness of how one creates each note, it becomes necessary to think about and control both the beginning and end of the note (with the tongue), and also the duration of the note (with the breath).

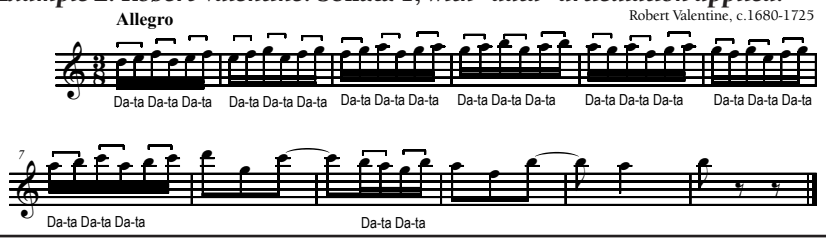
Pairing

Up to this point we have examined individual notes and their relationship to other individual notes. In reality, each beat consists of subdivisions that are usually duple or triple. For example, if the beat is a quarter note, it will either have a duple subdivision of two eighth notes (in the meters 2/4, 3/4, 4/4, etc.) or a triple subdivision of three eighth notes (3/8, 6/8, 9/8, 12/8, etc.).

***Example 1. Robert Valentine:* Sonata 1.**



Example 2. Robert Valentine:* Sonata 1, *with "data" articulation applied.



In any of these situations, subdivision is expressed using articulation to divide the beat into its component parts in a way that can be heard.

The simplest and most common of these pairings consists of two eighth notes in one beat that flow together to create the pleasant susurration of "legato pairs." Several legato pairs in a row create the effect of a murmuring brook, or of the easy speech of two friends having a relaxed conversation *(see example 1)*.

There have been numerous examples throughout history of articulation syllables that create this effect. The clearest and most definitive come from the great recorder players of the Italian Renaissance: Dalla Casa, Rognioni and Bassano. (See this author's article, "Articulation: The Key to Expressive Playing," in the November 1986 *AR*.) Unfortunately, articulation syllables only work in the language in which they are produced. The Italian syllables for legato pairs are "di-ri," "de-re" and "ti-ri." The obvious problem is that, in American English, the syllables "ri" and "re" are not articulated. They require the Italian flip of the tongue to act as articulations.

An articulation syllable is useful only insofar as it guides the tongue through a series of motions to create the desired effect. I looked for a word in American English to create the effect of the legato pair. Try saying "data," a word that has become important in our modern culture ("dah-tah" with the vowels in both syllables sounding similar). When pronouncing "data," an odd reversal occurs with the relative sharpness of the consonants. The word begins with a hard dental attack on the consonant "d," but the unstressed syllable, "ta," makes the "t" much softer than the "d."

Using the word "data" as two articulation syllables will produce a legato pair—as will "tee-di" (as in "tedious," the English equivalent of the Italian "ti-ri"), or "To-do" (slightly softening the pronunciation of the name of Dorothy's dog in *The Wizard of Oz*).

The components of a legato pair are: a sharp attack on the first note, then a soft release in which the tongue just touches the palatal ridge and immediately comes away to create the attack of the second note. This joins the notes into almost a single unit—a pair of notes separated by the slightest soft articulation.

Another way of thinking about legato pairing could be called a "brush-stroke." On the second note of a pair, the tongue "brushes" the palatal ridge—not actually stopping the air-flow, but rather "indenting" it, the way a piece of paper is perforated to make a tear-slip. Whether the brush-stroke is used only for a pair of notes, or in connecting a longer sequence of notes, the back of the tongue stays in contact with the back molars while creating the legato connection. Combining several legato pairs with a brush-stroke can create the susurration mentioned above—gentle pairs of notes that communicate a relaxed rhythm, described in French Baroque music as the affect of *gracieusement*.

Using the articulation syllables produced by saying "da-ta," apply those to example 1. The release of the second note in a legato pair can range from fairly sharp or hard to rather soft and gentle, but it must be a complete release, severing it from the next note. When a legato pair is followed by another legato pair, the attack of the first of that pair must be a standard dental attack in which the tongue breaks from the palatal ridge and the upper molars *(see example 2)*.

Using legato pairs is the first step in creating rhetoric in a musical line. Rhetoric can be defined as "the study of writing or speaking as a means of communication or persuasion." In this

context, it creates a way of playing that maximizes communication of a musical idea, or that can persuade the listener to a greater understanding of the musical line. The legato pair is the first of many examples of combining notes into "bits" of two to five (or more) notes that convey a particular musical idea.

Weight

In order to go further into a discussion of articulation and rhetoric, the issue of weight must be addressed. Weight refers to the relative strength of notes—within a beat, a measure, or a phrase. The techniques for making one note stronger in relation to those around it are not simple—but they are not too difficult for the average recorder player to learn.

There are two elements to weight: *loudness* and *length*. Playing loud is more subtle on recorder and different from playing loud on other instruments. We can't just blow harder, or the note goes sharp. Instead of thinking of loudness as identical to volume, consider it a combination of volume and intensity.

Playing loud is more subtle on recorder and different from playing loud on other instruments.

Intensity is created by increasing the support of the breath-stream (as mentioned above). Like the technique used to support the tone of other wind instruments or the voice, support has to do with increasing the pressure of the diaphragm on the lungs. Unlike those instruments, simple diaphragmatic pressure is too gross an action for the delicate tone produced by a fipple flute.

Using the breathing images described above, inhale by bringing the air in and sending it down. Now, on the exhalation, the recorder provides some resistance, but much less than that of other wind instruments. Continue with the image of the breath-stream starting deep down—below the torso, the pelvic area and the floor, from deep inside the Earth: think of the breath-stream as originating below the diaphragm. (These images are not physically possible, but are useful tools for trying to achieve better breathing.)

As the breath-stream is allowed to flow to execute the attack of a note, imagine a giant donut or inner-tube surrounding your middle, going inside the body and under the diaphragm. As the donut is squeezed, it exerts pressure on the diaphragm—which in turn supports the breath-stream, but somewhat indirectly. (Again, these images are not anatomically correct, but can guide players in correct breathing and in controlling the diaphragm to provide support.)

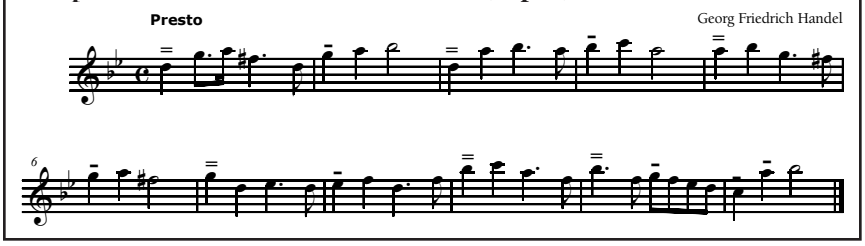
Intensity is created by squeezing the donut and giving the breath-stream more support. With more air going through the recorder, the player might need to compensate for pitch-change by shading an open hole. (See this author's article, "Pitch Control: Shading and Leaking" in the November 1987 *AR*.)

This may or may not produce increased volume. Particularly on the lowest notes of the recorder, there is not much room to increase the volume before the note cracks—but an increase in intensity, which produces a distinct change in the tone color of the note, will be perceived as the note getting louder.

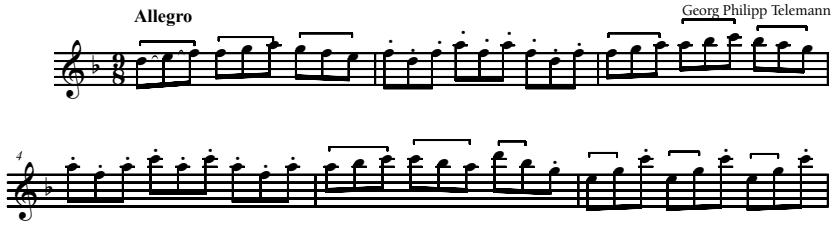
Weight is the point at which a force is exerted in the musical line. It is a quality of strength—the creation of a sense of downward physical motion, which lands to propel the following notes in response to the impulse of the weighted note.

In Baroque music, meter is a primary musical component. The relative weight of notes in strategic places creates the architecture of a Baroque dance: the downbeat of each measure is heavier than any other beat; the downbeat of the first measure of each phrase is heavier than the downbeats of the other measures in the phrase; and the downbeat of each period is subsequently heavier than the downbeat of each phrase within the period *(see example 3)*.

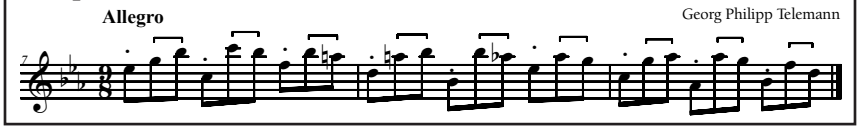
Example 3. G. F. Handel: **Sonata in G minor, Op. 1, No. 2.**



Example 4. G. P. Telemann:* Sonata in D minor *from "Essercizii Musici."



***Example 5. G. P. Telemann:* Fantasia No. 5.**



Triplets

In the meters 3/8, 6/8, 9/8 and 12/8, the beat is divided into three parts. Articulation patterns become more complex in triple subdivision of the beat, as the ways to combine three notes are more diverse than the ways for combining two notes.

We have essentially four ways to combine three notes within a beat:

- Three connected notes
- Three separate notes
- Two connected notes (a legato pair) plus one separate note
- One separate note plus a legato pair *(see example 4)*.

When three notes of a triple subdivision of the beat are either all detached or all legato, they should seldom all be played the same way. Generally the first of the three should be heavier, and the first note of the measure the heaviest. This is the first level of creating a rhetoric of meters having triple subdivision.

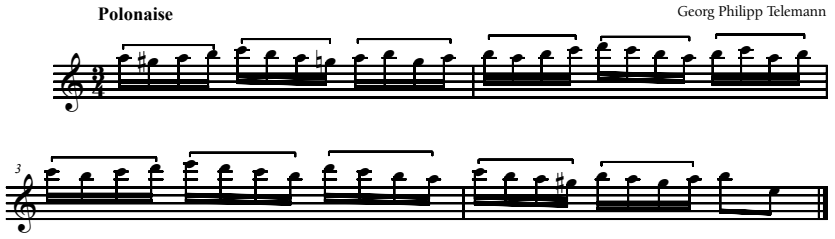
When three subdivisions are articulated as three detached notes, the first is heavier—*i.e.*, more weight is given to the first, and usually the attack of that note is sharper. More pressure builds up behind the tongue to prepare for the attack, and the tongue will be more pointed (more perpendicular to the palatal ridge with less contact of the tongue on the palate).

The attack will therefore be more explosive (without thinking of the attack as the classical *sforzando*, which is more forceful and therefore less effective on the recorder.) This creates a hierarchy among the three notes, in which the first note is primary. Each note has a duration appropriate to the rhetorical idea, and each a sharp release.

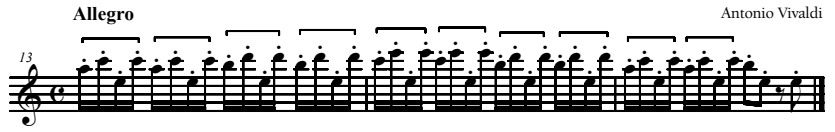
The same is true for three legato subdivisions—except that the release of the first note is gentle, as well as the attacks and releases of the second and third notes. The first note carries the weight, so it has a strong attack, but each subsequent release and attack is gentle.

In a pattern of two legato notes plus one detached, the first two constitute a legato pair. They are followed by a light detached note. The legato pair is created with a sharp, weighted attack on the first note, then a soft release in which the tongue just touches the palatal ridge, coming away immediately to create the attack of the second note. The release of the second note is a complete release that stops the breath-flow, but the quality of that release is gentle, leaving the note with the feeling of being suspended in the air (no weight). The third note has a sharp attack, short duration, and a sharp release—but also little or no weight, preparing the way for the next downbeat to carry the weight of the rhetorical remark. You could refer to these single "bits" of rhetorical meaning as gestures *(see example 5)*.

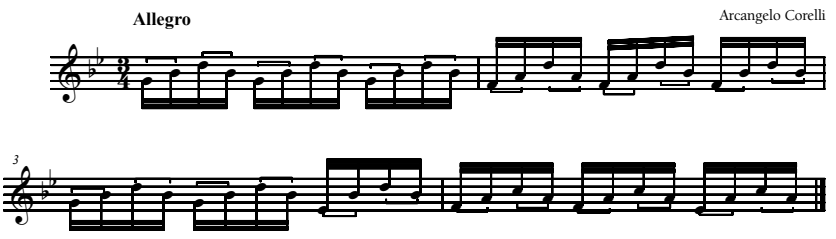
***Example 6. G. P. Telemann*: Suite in A minor.**



***Example 7. Antonio Vivaldi*: Concerto in A minor.**



***Example 8. Arcangelo Corelli*: La Follia.**



In the pattern of one detached note plus two legato notes, the first note has a sharp attack and carries the weight—but it has a short duration and a sharp release, creating space before the subsequent legato pair. In that legato pair, the first note has a relatively soft attack, giving the two notes of the pair equal, and light, weight. The release of the second note of the pair is gentle, but complete, creating space before the next downbeat.

Sixteenth-note Subdivisions

Quadruple subdivisions, usually in the context of 16th-notes in a meter with a quarter-note beat (2/4, 3/4, 4/4), are very common, particularly in Baroque music. Groupings include:

- Four legato or four detached notes
- Two pairs, further subdivided into
  - Two legato pairs
  - Two detached pairs
  - One legato pair, one detached pair
  - One detached pair, one legato pair
- Three legato notes plus one detached
- One detached note plus three legato.

With four legato or four detached notes, the technique is the same as with three notes to the beat *(see example 6)*. Each group of four legato notes starts with a relatively sharp attack, followed by soft releases and attacks on other notes. The weight on the first note of each four varies with the phrase's rhetorical needs.

For detached quadruplets, the first note is usually made stronger through a combination of a slightly sharper attack and slightly more weight *(see example 7)*.

With two legato pairs, the attack of the first pair is sharper, and its initial note carries the weight. The second legato pair is executed like the legato pair in the triple-subdivision of 1+2 *(see example 8)*.

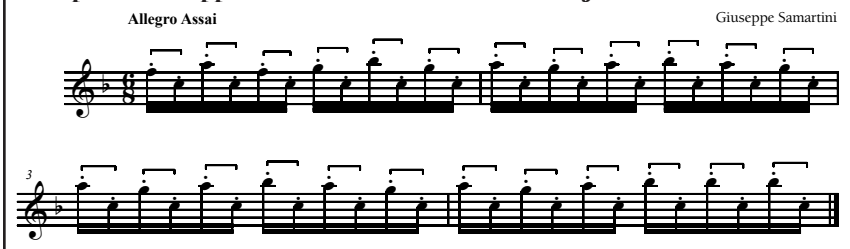
In the case of detached pairs, we often encounter a pattern that could be called "staccato pairs"—two notes, both of which are detached, the first being heavier than the second. These are often found in passages where the first of each pair of notes is the melodic note and the second a "pedal point": the same note repeating between the melodic notes creating the effect of the organ pedal point, obviously without being able to sustain that note *(see example 9)*.

Staccato pairs can also be sequences of two notes having a large interval between them. In this model one needs to decide whether the downbeats or the upbeats constitute the melody, and bring these out, softening the accompanying notes in between. Or staccato pairs could be pairs of notes that are not exact sequences, but that are two notes of a chord *(see example 10)*.

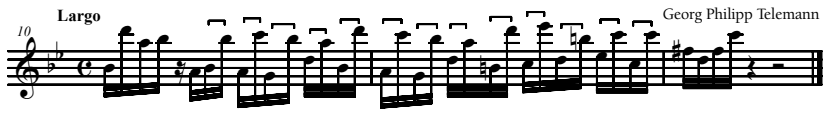
In the case of one legato pair and one detached pair, or vice-versa, the detached pair is usually equal in weight, especially if it comes after the legato pair (on the upbeat, *see example 11)*. But if the detached pair comes on the beat, it is sometimes equal or it may be obviously stronger when the rhetoric of the beat requires more weight *(see example 12)*.

In 16th-note combinations of 3+1 *(example 13)* or 1+3 *(example 14)*, three 16ths are created in much the same way as in three legato subdivisions of the beat: the release of the first note is gentle, as well as the attack and release of the second and the attack of the third. The only differences are that the third of the three legato notes is somewhat shorter, giving space for a detached fourth note: in the 1+3 pattern, the release of the third legato note is harder than in the 3+1 combination legato triplets.

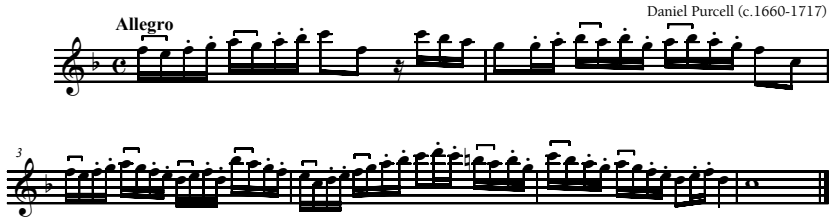
***Example 9. Giuseppe Sammartini*: Concerto in F Major.**



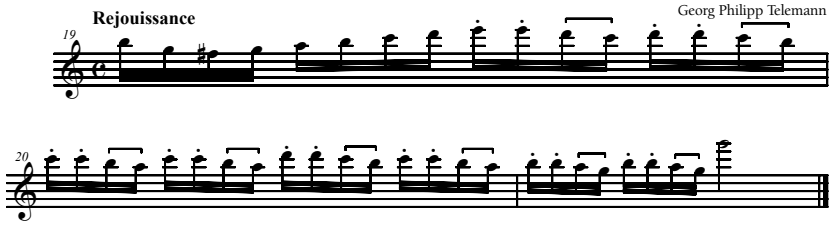
***Example 10. G. P. Telemann*: Fantasia No. 8.**



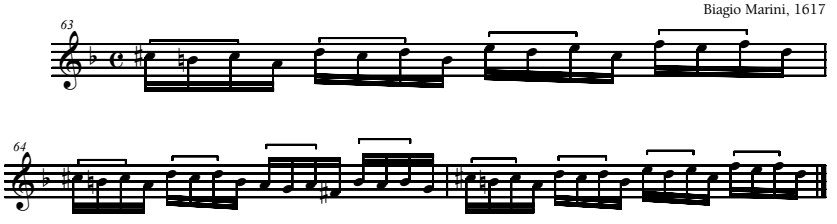
***Example 11. Daniel Purcell*: Sonata in F Major.**



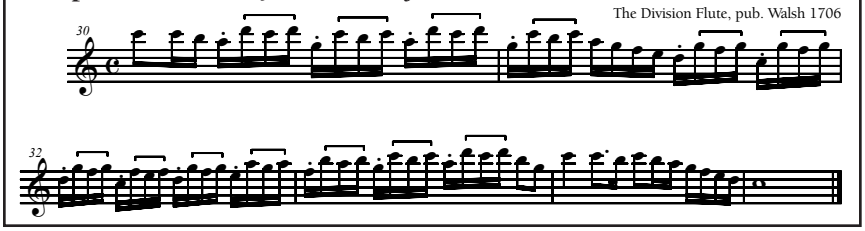
***Example 12. G. P. Telemann*: Suite in A minor.**



***Example 13. Biagio Marini*: Sonata a3 "*La Foscarina*."**



***Example 14. Division by Mr. Gorton from* The Division Flute.**



Our instrument still carries an undeserved stigma: people often think of the recorder as a kid's instrument, one inherently inferior to "real" instruments. Unfortunately, that prejudice is often reinforced by players and teachers who still think of recorder technique as staccato and legato playing, with no articulations in between.

I believe the opposite: that the recorder possesses more possibilities than any other woodwind instrument for using articulation as a powerful technique to express subtleties of music —perhaps more than any species of instrument at all.