

Chapter 3: Precursors of Alternation Sticking

This paper addresses one advantage of the Musser four-mallet grip: the ability to play linear passages by alternating the mallets within one hand. At first glance, this appears to be a challenging task as the difficulties associated with single-hand independence increase as the interval between the mallet balls decreases—and playing linear passages with alternating sticking frequently necessitates a spacing of a second between the mallets. For example, playing a left-handed C major scale with alternation sticking (see Figure 3.1) requires the player to set mallets 1 and 2 over C and D, then play C and D; the hand then resets placing mallets 1 and 2 over E and F to play E and F, and so on.

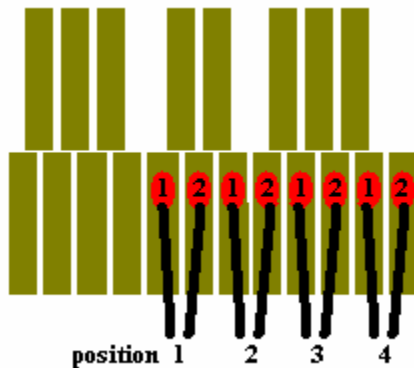


Figure 3.1: Hand positions for a left-handed C major scale played with alternation sticking.

While this sticking procedure requires a new hand position for each pair of notes, it reduces lateral arm motions by 50%, in both number and frequency, when compared to the existing practice of repeating a single mallet. Consider the same C major scale played with repetition sticking. Mallet 2 is first positioned over C and plays the C; the same mallet must then be re-set over D striking the D then immediately proceeding to the E, and so on. These resetting motions,

depending upon the tempo, may occur in rapid succession, and require near constant eye contact for maintenance (a particular difficulty in both Bach transcriptions and contemporary literature where the hands may be three to four feet apart). The term “hand position” is often used to describe the hand’s “embouchure.” This paper will contain numerous references to hand positions, but the term will be intended to invoke thoughts of moving the hands into varying playing positions in the fashion used by string instrument and piano pedagogues.

The binary (alternation) approach to the scale is analogous to the way pianists play linear passages: by placing the hand in one position, playing as many notes as possible from that position, then shifting to a new position to continue with the line. In the case of the left-handed C major scale mentioned above, the pianist would play (piano finger numbers now¹) 5-4-3-2-1, then reset to continue with 3-2-1 in a second hand position. A pianist would find it impractical to play a scale with his index finger, while awkwardly holding the remaining four fingers up in the air, yet this is a metaphorically accurate description of a marimbist using a repeated solitary mallet. It is unfortunate that the marimbist must reset the hand position so much more frequently than the pianist, but such is the unavoidable result of having sixty percent fewer striking digits per hand.

This discussion points to the crux of the issue of sticking—efficiency. The most efficient sticking is the one that minimizes the number of hand positions by using the fewest lateral arm motions. This definition of efficiency in sticking has the satisfying side effect, upon application, of roughly equalizing the number of strokes by each of the four mallets. Beginning two-mallet marimba students are often inclined to use a single hand to play a linear passage. After being

¹ Finger numbers on the piano are assigned in ascending order from the thumb (1) to the smallest finger (5.) In the left-handed scale discussed here, the numbering will begin with the left-most finger of the left hand—number 5.

encouraged to use both hands, the student will be moving each hand at half the speed of a single hand alone—giving each hand double the time to prepare for its next note (while the opposite hand is playing its share of the line). This is an example of improved efficiency as a direct consequence of using all available digits (specifically, mallets in the case of the marimba). If this two-hand concept is applied to two mallets in a single hand, then the interior and exterior mallets of each hand may alternate to improve efficiency in linear passages that must be played by one hand. The physical difficulty of routinely playing notes a second apart, in each hand of a four-mallet grip is the only obstacle to applying two-handed alternation to the two mallets of a single hand. This very difficulty, and suggested methods of overcoming it, will be the subject of Chapter 4.

While playing such narrow intervals in a single hand appears to be an awkward technique, there are several precedents in contemporary marimba literature. The left hand in Michael Burritt's *Shadow Chaser* (seen in Figure 3.2) is playing in the narrow positions necessary for the use of alternation sticking. Burritt is known for (among other things) the narrow interval demands of his works.² Figure 3.3 shows a different narrow-interval-sticking technique frequently used by Burritt. (A similar passage can also be found in the first four notes of the third measure of Figure 3.2). Figure 3.2 and Figure 3.3 illustrate the hands playing with an interval of a second between the inside and outside mallets; however, unlike the Bach and Sammut passages to be discussed below, Burritt always gives a brief pause to reset for the next position. In the first two measures of Figure 3.2 (left hand), this pause takes the form of a repeating break on the third sixteenth of a 3/16 cross-rhythm. (The break is sometimes seen as a sixteenth rest, and

² The term “narrow interval(s)” will be used to refer to “narrow interval(s) within one hand.”

sometimes contained in an eighth note on the second sixteenth note of the pattern—varied for notational simplicity). Figure 3.3 consists of a single line played by both hands, therefore each hand’s part contains a pause while the opposing hand plays its half of the combined line.



Figure 3.2: Illustration of narrow interval playing (in the left hand). Michael Burritt, *Shadow Chaser* mm. 46-8. [Sticking suggestions from the Burritt text.]



Figure 3.3: Illustration of narrow interval playing (in both hands). Michael Burritt *Shadow Chaser* mm. 163-4. [Sticking suggestion from the Burritt text.]

Stevens’ transcriptions (and presumably his amazing recordings) of the Bach inventions use narrow intervals sparingly, but effectively. Figure 3.4 illustrates measure 16 from Stevens’ transcription of Bach’s *Invention No. 1*. The right hand plays an upper mordent on count four that uses alternation sticking. The mordent has been written out in Figure 3.5 to demonstrate the exact motion of the alternation.

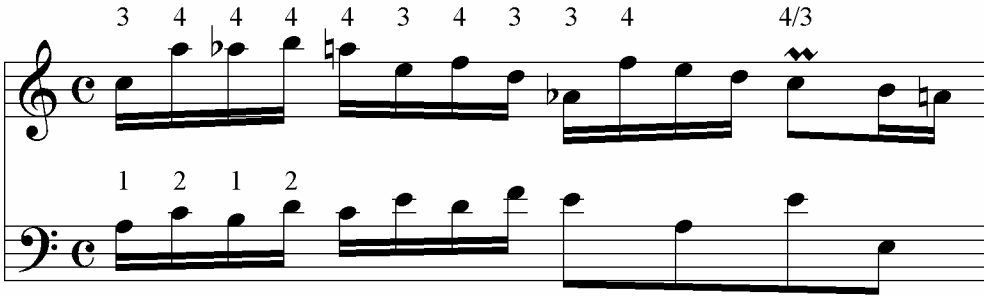


Figure 3.4: Illustration of narrow interval playing (in both hands). Leigh Howard Stevens, trans. of Bach’s *Invention No. 1*. [Sticking suggestions from the Stevens text.]

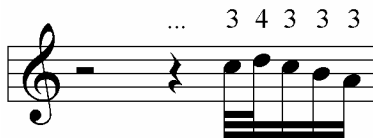


Figure 3.5: Mordent from Figure 3.4 written out as an illustration of narrow-interval alternation sticking.

The left-hand part for the first two counts of Figure 3.4 illustrates a different form of narrow-interval playing (and alternation sticking). At first glance the hand positions are ascending positions at the interval of a third (Figure 3.6)—the left hand plays A and C, then B and D. However, there is an intermediate position that places the mallet heads at the interval of a second (shown in Figure 3.7). The intermediate position that places the mallet heads at the interval of a second (shown in Figure 3.7). The intermediate narrow-interval position is set immediately after mallet 1 plays the A and is extant until mallet 2 finishes with the C—at which time the interval between the hands expands back to a third to position mallet 2 over the D. Using this intermediate narrow-interval position allows mallet 1 more time to prepare for its note than does the “locked thirds” approach to the passage. The intermediate position repeats between each subsequent pair of ascending thirds.

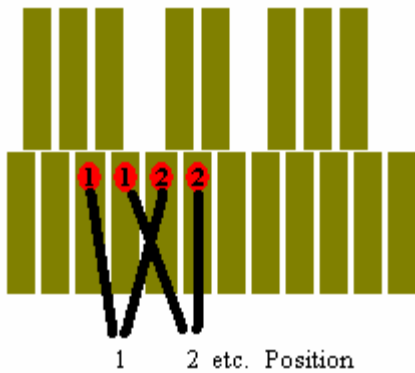


Figure 3.6: Apparent hand positions for first count of the left hand in Figure 3.4.

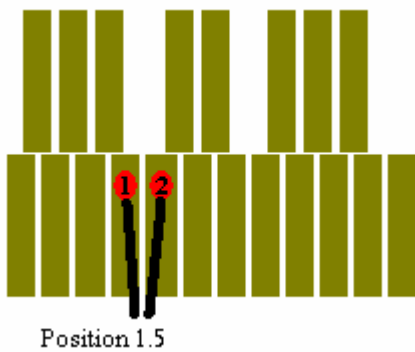


Figure 3.7: Intermediate position between positions 1 and 2 of Figure 3.6.

Figures 3.8 through Figure 3.14, and the accompanying text, describe Eric Sammut's use of single-hand alternation sticking to play linear parts. The only difference between Sammut's compositional style, in most cases, interpolates a mallet from the opposite hand between the notes of his line. When playing Bach's keyboard music on the marimba, no such interpolation is present, making the hands truly independent.

In figure 3.8, Sammut's hand sequence is thus: LLRLRLBLRLRLBLR.³ Only two pairs of notes in this passage (the right hand on the seventh and eighth sixteenths; and the left hand on the eighth and ninth sixteenths) require the alternation sticking to occur between

³ In this illustration, L=left mallet; R=right mallet; and B=both mallets

consecutive notes at an interval of a second. In the latter half of the measure, the three “LBL” notes actually require the left hand to play three notes in a row, but the notes here are no longer at narrow intervals. The right hand part, when extracted from the passage (of Figure 3.8), outlines a linear passage based on an E dorian scale—and uses alternating sticks to play it. Figure 3.9 shows the four distinct hand positions taken by the right hand to play the passage of Figure 3.8.

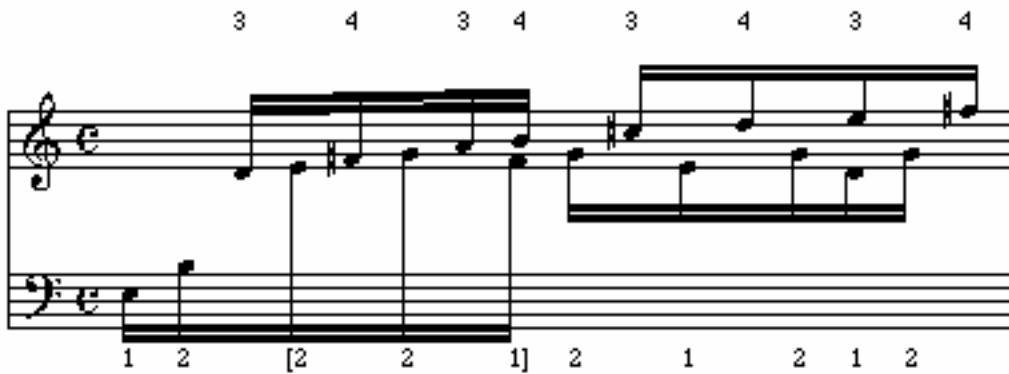


Figure 3.8: Illustration of alternation sticking in a composer’s sticking suggestions. Eric Sammut, *4 Rotations for Marimba*: Rotation 3 m. 32. [Stickings from the Sammut text.]

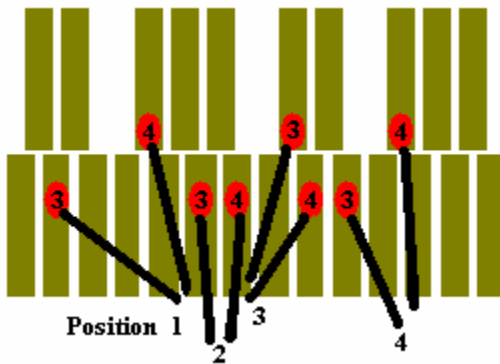


Figure 3.9: The four distinct right hand positions required to play Sammut’s stickings in Figure 3.8. Eric Sammut, *4 Rotations for Marimba*: Rotation 3 m. 32.

Sammut routinely uses this alternation-sticking technique in his compositions. Figure 3.10 illustrates a right-hand melody taken from an early portion of *Cameleon*. Note the three positions that are, again, delineated by Sammut’s “3-4” sticking pairs.



Figure 3.10: A second illustration of Sammut’s use of alternation sticking to play a (mostly) scalar line. Eric Sammut, *Cameleon* mm. 9-10 (right hand extracted). [Sticking suggestions from the Sammut text].

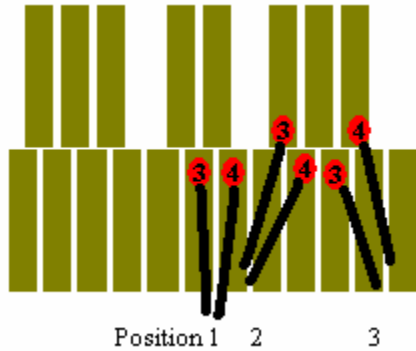


Figure 3.11: Hand positions for the passage featured in Figure 3.6. Eric Sammut, *Cameleon* mm. 9-10 (right hand extracted).



Figure 3.12: Illustration of alternation sticking in a composer’s sticking suggestions. Eric Sammut, *Cameleon* m. 1.

Once a player develops some facility with the type of alternation and positional shifting demonstrated in Figure 3.8 and Figure 3.10, there are some additional tools that alternation sticking can provide. Sammut applies, also in *Cameleon*, the same positional concept with alternation applied to a repeating note in order to change positions. In Figure 3.12, on the third and fourth eighth notes, Sammut alternates the mallets on D# in order to prepare for the subsequent F# on mallet 4, then alternates again on the F# to prepare mallet 4 for the upcoming

G#. The positions necessary for these shifts are shown in Figure 3.13, and they are similar to the type of hand positions seen in Figure 3.9 and Figure 3.11, with the exception of the repeating notes. It is important to note (with reference to Figure 3.13) that the actual striking positions of mallet 4 and mallet 3 on the D# and the F# would, in reality, be on the same position of the bar. The *Cameleon* sticking is technically less difficult to perform than the *Rotation 3* passage above because the repeating note reduces the distance of the lateral arm motion.

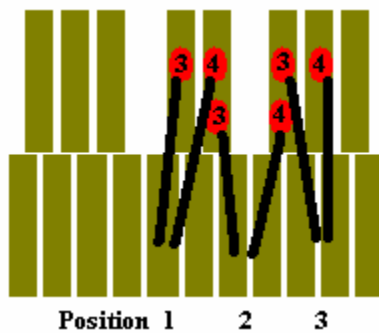


Figure 3.13: The three distinct right hand positions required to play Sammut's stickings in Figure 3.12. Eric Sammut, *Cameleon* m.1. [Sticking suggestions from the Sammut text.]

Later in *Cameleon*, Sammut takes the alternation-sticking concept one step further by applying the alternation to a repeating single note. Figure 3.14 begins with a technique similar to that of Figure 3.12, then uses alternating sticks to play three consecutive Eb's between measures 49 and 50. Sammut's approach to sticking in the right hand of Figure 3.14 is, to say the least, uncommon. Most performers would use a sticking such as: 3,3,3,3,4,4,3,3,3,3,3,4,4,3 for the right hand of Figure 3.14. Sammut's recommended sticking suggests a more pianistic approach to hand positions as the alternation on a single note is reminiscent of the way pianists play a quickly repeated note with multiple fingers.

Sammut's right-hand-sticking technique suggests the possibility of rolling on one note, with one hand, in the normal playing position, while the other hand is playing a separate moving part. While there are a couple of techniques for playing a one-handed roll already available to

marimbists, their use requires a radical change of hand position. In execution, the “mandolin roll” requires the player to position the mallet heads above and below the end of the bar with the outside mallet below. The mandolin roll is only possible on the white bars. The traditional form of alternating the mallets on a single bar puts the hand into the position shown in Figure 3.15.



Figure 3.14: Use of alternation sticking to change position on a repeating note (first measure), and to play multiple repetitions of a single note (the 3 consecutive right-hand Eb’s that cross the barline). Eric Sammut, *Cameleon* mm. 49-50.

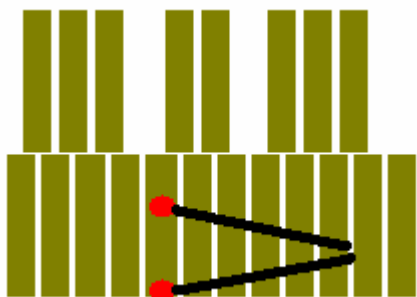


Figure 3.15: Hand position for a traditional one-handed roll executed by the right hand.

While the type of one-handed roll shown in Figure 3.15 undoubtedly provides the best sound, the logistic requirements of its arm position significantly restrict the freedom of motion in the opposite hand. Using the one-handed roll in the normal playing position, in the fashion of Sammut’s repeating Eb’s above (but in an unmetered roll style), does not give a fast or a strong roll sound. It is, however, surprisingly effective when the other hand is playing a busy passage. The Bach transcriptions of Chapter 5 contain several examples of this application of alternation sticking.

In conclusion, there is only one significant difficulty to playing alternation sticking within a single hand of a four-mallet grip: playing at narrow intervals. As has been shown in this chapter, there are a number of precedents hinting at the necessity for a well-defined narrow-interval playing technique. Chapter 4 and Chapter 5 will present a system combining the right-to-left independence of Bach's contrapuntal style with the narrow-interval playing concepts used by Burritt, Sammut, and Stevens in the examples of this chapter.