THE USE OF A-M-I SCALE TECHNIQUE TO FACILITATE THE PERFORMANCE
OF JOAQUÍN RODRIGO’S CONCIERTO DE ARANJUEZ

by

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A Document Submitted to the Faculty of the

SCHOOL OF MUSIC

In Partial Fulfillment of the Requirements
For the Degree of

DOCTOR OF MUSICAL ARTS

In the Graduate College

THE UNIVERSITY OF ARIZONA

2012
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SIGNED: Matthew Clayton Palmer
ACKNOWLEDGMENTS

First and foremost, I would like to thank my mentor Professor Thomas Patterson for accepting me into his guitar program, and for suggesting to me such an exciting project. Thank you for your professional example, insight, and guidance throughout my graduate career. I would also like to thank the members of my dissertation committee, Professor Mark Rush and Professor Patrick Neher, for your input and comments that improved the content of this document.

Thanks to Phyllis and Sanford Bolton, Marc and Debbie Sandroff, Don and Carol Eagle, William Wolfe, Ralph Grosswald, David Francis for your friendship and support of my graduate studies at The University of Arizona.

Thank you to European American Music Distributors Company, agent for Schott Music GmbH & Co. KG, for kindly granting permission to use the musical examples throughout this document.

Finally, I would like to thank my wife, Gladys Erives, for your love and support throughout our years together.
DEDICATION

To my son Alexander
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LIST OF ABBREVIATIONS AND KEY TO NOTATION

Right-hand fingers are represented by the letters P-I-M-A.

P – Thumb (Pulgar)
I – Index (Indice)
M – Middle (Medio)
A – Ring (Anular)

Left-hand fingers are represented by the numbers 1-2-3-4.

1 – Index
2 – Middle
3 – Ring
4 – Pinky

Strings on the guitar are represented by circled numbers.

① – E (high)
② – B
③ – G
④ – D
⑤ – A
⑥ – E (low)

A bracket may be used to clearly indicate how many notes are played on each string.

In the example above, all three notes are played on the 5th string, as indicated by the bracket. The D is fretted with left-hand finger 1 and attacked with right-hand finger A.
ABSTRACT

The abundance of scale passages found in Joaquín Rodrigo’s *Concierto de Aranjuez* for guitar and orchestra tests the stamina and swiftness of even the most capable guitarists. A relatively new technique of using three fingers of the right hand, known as A-M-I, to articulate fast scales provides an alternative means of effectively mastering Rodrigo’s masterpiece.

A-M-I scale technique is a fast and effective way to play scales on the classical guitar. In various forms, this three-finger right-hand system of fingering scales has been used effectively by a small group of classical guitarists since being pioneered by Narciso Yepes in the mid-twentieth century. The current approach to A-M-I scale technique requires specific fingering systems to effectively coordinate and synchronize the left and right hands, making it a distinct technique demanding thorough consideration and deliberate study. The increased right-hand velocity and greater efficiency inherent in A-M-I technique can greatly enhance the performance of Joaquín Rodrigo’s virtuosic *Concierto de Aranjuez*. 
CHAPTER 1: INTRODUCTION

General Comments

A-M-I scale technique is a method of playing scales in which the right hand utilizes three fingers to articulate notes, as opposed to the traditional two-finger, I-M approach (index-middle alternation). The repeated sequence of attacks is normally in the order A, M, I (ring, middle, index). Though an elegant and effective solution to playing fast scales on the guitar, this scale technique demands unique fingering systems to properly synchronize the left and right hands. Scale patterns and shapes in this approach are substantially different than those found in traditional approaches. Despite this, detailed information on the subject is difficult to find in classical guitar pedagogy. In the hands of a properly trained guitarist, A-M-I scale technique can be applied to virtually any fast scale passage in the classical guitar literature. It is therefore an important aspect of guitar technique and deserves more prominence in the pedagogy of the instrument.

The current study will focus upon the development of a logical and consistent A-M-I scale technique, and demonstrate how it can be effectively applied to Joaquín Rodrigo’s masterpiece, the Concierto de Aranjuez for solo guitar and orchestra (1939).

The guitar works of Joaquín Rodrigo (1901-1999) span his entire career as a composer. Though not himself a guitarist, the Spanish composer held a special affinity for the instrument, writing many of the most cherished compositions in the repertoire of the guitar. His greatest success, the Concierto de Aranjuez, was completed in 1939 and
dedicated to Spanish guitarist Regino Sainz de la Maza, who premiered the work in Barcelona in 1940. ¹

The *Concierto de Aranjuez* presents many technical challenges to guitarists. One of the major difficulties of the piece can be found in the numerous scale passages, which demand a very efficient scale technique and high level of virtuosity from the performer. It is not uncommon to hear guitarists, both amateur and professional, struggle to perform the scales at the tempos indicated by the composer. The traditional right-hand technique of playing scales on the classical guitar is I-M alternation. Unfortunately, many guitarists lack the ability to create great velocity with this technique, often adding non-musical, technical slurs to reach adequate tempos, resulting in accents which are not in the character of the music. A solution for many guitarists may be to use A-M-I as a supplemental technique for the fast scales of *Concierto de Aranjuez*. The use of A-M-I technique represents a marked technical improvement over standard I-M technique for rapid scalar passagework, and thus greatly facilitates the performance of Joaquín Rodrigo’s virtuosic *Concierto de Aranjuez*.

A-M-I scales can help create velocity and efficiency in the right hand by taking advantage of natural, sympathetic motions. Sympathetic motion is the natural reaction, or involuntary movement, of a finger that occurs when another finger is voluntarily moved. ² For instance, when the A finger is flexed towards the palm, the fingers around it also move towards the palm. When playing A-M-I scales, guitarists can capitalize on

this by allowing the next finger in the A-M-I sequence to follow through with the motion triggered by the use of the previous finger. The result is a three-note attack that originates from one stroke of effort. At a fundamental level, the A-M-I sequence of movement is essentially one motion toward the thumb, akin to making a fist. The incredible potential of the technique can be immediately seen. The use of three right-hand fingers to play scales yields obvious benefits in terms of efficiency and velocity.

The scarcity of practical information in the classical guitar literature about A-M-I technique often leaves guitarists on their own to explore this approach. Methods discussing the technique are few, and often differ at the most basic level: the fundamental approach. The fundamental approach is the way the left and right hands are synchronized, how many notes are assigned to each string, the sequence of attacks in the right hand, and the resulting right-hand string crossings. Furthermore, most methods fail to make an in-depth analysis of the technique, or demonstrate how to apply it to composed music.

There are two published editions of the *Concierto de Aranjuez*, one fingered by Renata Tarragó, and the other by Angel Romero. Both editions display fine examples of traditional guitar scale technique (I-M alternation with mostly position scales). None of the existing editions of the piece includes A-M-I scale fingerings.

In this project, I will show how A-M-I scales can be applied to the *Concierto de Aranjuez* and discuss various methods of developing A-M-I scales into a consistent and effective technique to perform virtuosic guitar music. I will show how A-M-I scales are most effective when the hands are synchronized in a predetermined way. The current
project will compare and contrast my approach with others’ by examining the editions and methods of guitarists that employ the technique, providing guitarists with an effective method of playing fast scales on the guitar. This will create new possibilities in terms of repertoire that guitarists can successfully play, will greatly expand the musical gestures guitarists can create, and will increase stamina, confidence and consistency. The new A-M-I scale fingerings for the *Concierto de Aranjuez* will allow many more guitarists the technique and means to effectively perform one of the most important, beloved and virtuosic works in the classical guitar repertoire.

Overview of Traditional Scale Technique

The Right Hand (Plucking Hand)

A thorough understanding of traditional scale technique is necessary to understand how A-M-I scale technique is fundamentally different than what has been pioneered in the past. Scales are normally plucked with I-M alternation.

Musical Example 1.1. D major scale played with I-M alternation.

![D major scale with I-M alternation](image)

The right-hand attacks may also occur in the opposite order, beginning with M. This is often a decision influenced by personal preference.
Musical Example 1.2. D major scale played with M-I alternation.

However, in certain instances the order of attacks can facilitate string crossings. In the example below, all the string crossings are initiated with the same finger, which simplifies the act of crossing strings.

Musical Example 1.3. Descending scale fingerings conceived to facilitate string crossings.

This fingering was conceived to create string crossings that fit more naturally with the position of the right hand. The natural right-hand alignment for a descending scale is M crossing to I (as shown above), while in the ascending scale it is I crossing to M. This is due to the oblique angle of approach of the right hand in relation to the strings.

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Musical Example 1.4. Ascending scale fingerings conceived to facilitate string crossings.

Though seeking out fingerings that have naturally-aligned string crossings can often result in overly difficult or unusual left-hand fingerings, it is a tendency amongst guitarists. Angel Romero’s edition of Rodrigo’s *Un tiempo fue Itálica famosa* is an example of this in a musical setting.

Musical Example 1.5. Joaquín Rodrigo, *Un tiempo fue Itálica famosa*, m. 121.

In this ascending scale, every string crossing is initiated with M. The particular left-hand fingering leaves no doubt that this was a preconceived plan. The A-M-I fingering (over beats 2-3) is only used to accommodate the right-hand during the shift. This is common

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practice within the technique of I-M alternation, and should not be considered a “pure” A-M-I technique.

The Left Hand (Fretting Hand)

An excellent example of traditional scale technique can be found in the seminal publication of Spanish guitarist Andrés Segovia, *Diatonic Major and Minor Scales*. This landmark work includes Segovia’s fingerings for scales over multiple octaves and positions on the guitar, and has been highly influential upon nearly all guitarists that followed. Segovia’s approach is quite useful to learn how to navigate the fretboard, and presents various ways of shifting to reach higher registers on the guitar. The two-octave C major scale fingered by Segovia is shown in the example below.

Musical Example 1.6. Andres Segovia’s Two-Octave C Major Scale.⁶

An analysis of Segovia’s C major scale shows a very definite intent: to present a two-octave scale that does not require any stretches with the left hand. All of the fingerings fall easily within the range of four frets on the guitar (one finger per fret or half-step). This approach is commonly referred to as “position playing,” or “in-the-box playing.” Left-hand stretches – successions of two whole-step or larger intervals on a

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single string – are generally avoided in this approach. To reach the notes of the higher register, Segovia finds an adequate place in the scale (on the 3rd string) to shift to a higher register so the scale can be completed “in-the-box” of a four-fret hand position. All notes would traditionally be articulated with I-M alternation, though Segovia also suggests to practice the scale with the combinations M-I, A-M, M-A, I-A, A-I, and I-M-A-M. 7

This approach to left-hand fingerings can be found in editions throughout the classical guitar repertoire, and is likely the most common way to approach scales in musical contexts. Several examples of this can be found in Renata Tarragó’s fingered edition of the Concierto de Aranjuez.

Musical Example 1.7. Joaquín Rodrigo, Concierto de Aranjuez, I. Allegro con spirito, m. 92. 8

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7 Segovia, 2.

The musical examples above show a traditional left-hand approach in which stretches, or finger extensions, are avoided.

**A-M-I Scales in the Literature**

The Spanish guitarist Narciso Yepes is generally credited to be among the first to use A-M-I scale fingerings on the guitar. His development of the technique was inspired in part by his early studies with the Romanian violinist George Enescu. Upon hearing Yepes play J.S. Bach’s *Chaconne* from Violin Partita in D minor, Enescu instructed that the scales should sound more connected and fluid, as if being bowed.  

Yepes also studied with Catalan composer Vicente Asencio, who demanded that Yepes be capable of performing technical exercises alongside pianists and violinists. With experimentation, Yepes found that a repeated pattern, A-M-I, provided the fluency that his instructors demanded, and allowed him to achieve greater velocity with minimal effort.

Most unfortunately, Yepes did not write a method detailing his innovative technique. Though there is little practical information written about Yepes’ A-M-I

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9 Rodrigo.


technique, guitarists can gain much insight into his approach by examining the fingered editions that he left behind. Representative examples of Yepes’ A-M-I fingerings can be found in his edition of the suite *Collectici intim* by Vicente Asencio.


Yepes’ left-hand fingering in Asencio’s *La joia* bears much similarity to the traditional left-hand techniques in the examples above. The fingerings are such that no stretches are required in the left hand. A shift is employed to reach the lower position of the scale, although Yepes utilizes the open E string to accommodate the shift in this instance. As groundbreaking as Yepes’ right-hand technique is, his left hand is often grounded in the traditional approach.

Analyzing the right-hand fingerings, it can be seen that Yepes uses the A-M-I sequence to create velocity. The motion of the A-M-I pattern used by Yepes is very economical. However, very uncommon fingerings are found in the descending scale. Notice the unusual string crossings that occur when combining an A-M-I right hand with an “in-the-box” left hand.

Musical Example 1.10. Vicente Asencio, *La joia* from *Collectici intim*, mm. 26-27.\(^{13}\)

These right-hand string crossings conflict with the inherent efficiency of the A-M-I motion. In the short span of five notes (boxed above), there are three string crossings. Furthermore, Yepes crosses strings *within* the pattern, which forces the hand and fingers to slightly change position *within* the A-M-I motion, effectively damaging the efficiency of the approach. This slight change of position also forces the right hand out of the standard playing position (oblique angle of approach), which can have adverse effects on tone production. Another example of Yepes’ A-M-I fingerings shows an alternate approach.

\(^{13}\) Asencio.
Musical Example 1.11. Vicente Asencio, *La joia* from *Collectici intim*, m. 7.\(^\text{14}\)

In this example, Yepes places the first seven notes on the 4\(^{\text{th}}\) string. He then crosses to the 3\(^{\text{rd}}\) string with the M finger, placing two notes on this string. The 2\(^{\text{nd}}\) and 1\(^{\text{st}}\) strings both have three notes and are initiated with attacks of the A finger. These examples suggest that right-hand string crossings are not a central issue in Yepes’ technique, that he can cross strings at any point of the A-M-I sequence, and that the left-hand fingerings are not dictated by the angle of approach of the right hand.

An early method discussing A-M-I technique is Teddy Chemla’s *Technique de la Guitare*. Published in 1959, this method includes a brief overview of A-M-I scales and several exercises to develop rhythmic accuracy with three fingers. Chemla’s first exercise using the A-M-I sequence presents a C major scale in triplet subdivisions. Chemla creates three unique right-hand fingerings for the scale by starting each scale with a different finger from the A-M-I sequence.

\(^{14}\) Asencio.
Musical Example 1.12. Chemla’s approach to A-M-I scales.¹⁵

The left-hand fingerings are borrowed from the two-octave C major scale fingered by Andres Segovia. Consequently, string crossings are executed with various right-hand fingers, and no attempt is made – by alternate left and/or right-hand fingerings – to facilitate these string crossings.


Musical Example 1.15. Alternate string crossings 3.

With this fingering, the number of notes found on each string varies significantly. As a result, right-hand string crossings are inconsistent. Given this, Chemla’s approach to A-M-I technique is quite similar to that of Yepes’. Traditional left-hand scale patterns are seemingly used without discretion with an A-M-I right-hand approach.

Leo Brouwer and Paulo Paolini discuss A-M-I scales in an entirely different way in *Scales for Guitar*. By synchronizing the hands in a predetermined way, the right hand maintains a more natural position. Brouwer and Paolini maintain that string crossings are to be executed “always with the annular (A) when ascending and the index (I) when descending.” In order to accomplish this, three-note-per-string scales are a necessity.


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The establishment of a set of simple rules for the application of A-M-I scales is a new and important development. Furthermore, the need for three-note-per-string scale patterns is also highlighted, illustrating that Brouwer and Paolini favor a synchronization of the two hands. The method does not elaborate further than describing how to play ascending and descending scales. However, this text is a step forward in the evolution of the technique.

An excellent source of A-M-I fingerings shown in a musical setting is Lucio Matarazzo’s fingered edition of Luigi Legnani’s 36 Capricci, Op. 20. These virtuosic works give insight into Matarazzo’s fingering process, and the great number of pieces in the publication ensures that a variety of technical and musical scenarios are covered. Upon analysis, Matarazzo’s approach bears resemblance to that of Brouwer and Paolini.

Musical Example 1.18. Luigi Legnani, Caprice 36, m. 1 (Matarazzo).

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In Caprice 36, the three-note-per-string approach to the ascending scale can be seen. In addition, all the string crossings are executed with A.

Musical Example 1.19. Luigi Legnani, Caprice 36, mm. 13-16 (Matarazzo).  

In the descending scales above, Matarazzo crosses strings with I. Even when the figure repeats with a different articulation (the slur), the fingering is modified to maintain this string crossing. Though in some instances Matarazzo deviates from this concept, it is a fairly consistent tendency throughout his edition of Legnani’s 36 Capricci.

Douglas Niedt’s approach to A-M-I technique demonstrates a small but significant departure from the rules offered by Brouwer and Paolini. String crossings are executed with the A finger in both ascending and descending scales.


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19 Legnani 2004, 80.

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\begin{music}
\guitar
\staff 1
\clef treble
\key c\major
\guitarfinger a\m\i\a\m\i\a\m\i\a\m\i\a\m\i
\end{music}
```

Of special mention is Niedt’s application of A-M-I technique to the opening scale of Heitor Villa-Lobos’ Etude 7. This example clearly shows one aspect of Niedt’s approach to musical application.


```
\begin{music}
\guitar
\staff 1
\clef treble
\key c\major
\guitarfinger i\a\m\i\a\m\i\a\m\i\a\m\i\a\m\i\a\m\i
\end{music}
```

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The unique sequence of right-hand fingerings that Niedt suggests at the opening allows the scale to continue three-notes-per-string with A leading on all string crossings. This shows that Niedt has a firmly established fundamental approach that remains a priority during musical application.

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21 Niedt.
Niedt does not describe other musical applications in which modification or expansion of the A-M-I sequence is necessary. He furthermore discourages the use of A-M-I fingerings in flamenco-based guitar repertoire, including in the opening movement of Concierto de Aranjuez, and states that I-M alternation “is still the major player in the fast scale race.” However, his approach is considerably more consistent and thorough than those of his predecessors.

Philip Hii covers A-M-I technique in some detail in Playing Three-Finger Scales: Concept and Practice. There are valuable lessons to be found here: rhythmic accuracy, speed, lightness of touch, etc. The open-string exercises suggest that Hii favors the three-note-per-string approach with the left hand, while the right-hand string crossings are executed with A. However, the scales that follow are position scales, not pure three-note-per-string scales.


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23 Niedt.
Musical Example 1.24. Hii combining traditional and A-M-I techniques. 25

These scales, while remaining in position, have aspects of both traditional and three-finger right-hand scale technique. The strings containing three notes are attacked with A-M-I. Strings with more or less than three notes are attacked with M-I alternation or a combination of M-I and A-M-I techniques. This is an interesting approach that avoids the left-hand extensions which occur in a pure three-note-per-string approach, and gains some of the benefits of the efficient A-M-I right hand. In addition, the string crossings in Hii’s approach are executed either with A or during moments of I-M alternation.

There is clear indication that Hii approaches A-M-I scales with some preconceived ideas about left and right-hand synchronization. However, Hii instructs, “do not feel compelled to be consistent in your right-hand fingerings,” further stating that when playing composed music, "I use different combinations of A-M-I, M-I and P-A-M-I. Anything as long as it gets the job done." 26

Ioannis Anastassakis’ The Art of Tremolo includes a notable mention of A-M-I technique. The author suggests to practice A-M-I scales in order to strengthen one’s

tremolo technique. The first exercise is a F# Phrygian scale in second position. The continuous A-M-I pattern produces constantly changing right-hand string crossings.

Musical Example 1.25. Anastassakis’ A-M-I scales.²⁷

Notice the various string crossings in the example above. Anastassakis instructs to repeat the scale several times in order to create even more unusual string crossings.

The remainder of the A-M-I exercises in *The Art of Tremolo* are strictly three-note-per-string scales. String crossings are executed with the A finger in both ascending and descending scales.


It cannot be positively inferred that this is Anastassakis’ fundamental approach to A-M-I scales. Given that these are exercises used to strengthen tremolo technique, in which string crossings always occur with A, one would expect that the A finger would initiate all string crossings. It can, however, be assumed that Anastassakis approaches A-M-I scale technique and the coordination of the left and right hands with some degree of flexibility.

In summary, valuable information has been written on A-M-I scales. However, the existing literature is incomplete, and authors have often produced conflicting information on the subject. Early writings and fingered editions do not focus upon establishing rules for the application of A-M-I fingerings. The result of this is inconsistency that arises from unusual right-hand string crossings. In later methods and editions, various fundamental approaches are established that allow a more functional use of the technique in music. However, with very few exceptions, practical application in music has been consistently neglected. Furthermore, other basic musical and technical scenarios, such as how to execute shifts using A-M-I and how to change direction, have been almost entirely overlooked. While obviously realizing the potential for velocity and

28 Anastassakis, 21.
efficiency of A-M-I right-hand technique, many advocates pay relatively little attention to synchronizing the left and right hands, which would fully maximize the potential of the technique. The need for more information on the subject of A-M-I scales is critical.
CHAPTER 2: CURRENT APPROACH TO A-M-I SCALES

The A-M-I technique I use in the Concierto de Aranjuez combines a three-note-per-string left hand with a strict A-M-I right-hand sequence that always crosses strings with A. As such, the fundamental approach of this technique is similar to that of Brouwer and Paolini, Anastassakis, Hii, and Niedt. This technique will depart from all other methods in its strict adherence to a consistent fundamental approach, formulaic treatment of musical figures, special fingerings and circumstances, and its ability to be readily applied to composed music.

Fundamental Approach

This A-M-I technique demands a strict adherence to the fundamental approach outlined below. This fundamental approach is the foundation upon which all the techniques and fingerings that follow are built upon. The left hand is rooted in three-note-per-string patterns, while the right hand repeats A-M-I.

Musical Example 2.1. Fundamental approach to the ascending A-M-I scale.

In the musical example above, each string begins with an attack of the A finger, and ends with I. Furthermore, the use of the A finger always coincides with the use of left-hand

29 Ascending scale approach only.
finger 1, while the I finger coincides with left-hand finger 4. With the exception of the 1-3-4 left-hand fingering on the 1st string, the left hand is continuously repeating 1-2-4. The consistencies that are built into the fundamental approach make this a very simple and reliable technique to play scales.

The descending scale is played in a similar fashion. String crossings are still initiated with the A finger. The consistencies outlined above are also present in the descending scale, albeit in the reverse order.

Musical Example 2.2. Fundamental approach to the descending A-M-I scale.

A-M-I Scales in Music: Where to Begin

When faced with the task of applying the above principles to concert music, many problems arise. First of all, depending on what position of the fretboard one is in, it may not be physically possible to begin a scale with three notes on the initial string.

Many factors can influence the initial left-hand fingering of a scale passage. On the classical guitar, scale fingering is often determined by bass notes or chord shapes. For instance, the fingerings found in the musical examples below are dictated by various

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30 This will not always be the case. In some positions of three-note-per-string scales, 1-3-4 will be the most common fingering. In any case, in diatonic scales there are only two unique left-hand fingerings in the fundamental approach – 1-2-4 and 1-3-4.
voicings of a D major chord. There are certainly other fingering possibilities for these examples, however these are the simplest for each circumstance.

Musical Example 2.3. D major scale with one note on initial string.

Musical Example 2.4. D major scale with two notes on initial string.

Musical Example 2.5. D major scale with three notes on initial string.

In the examples above, the number of notes on the initial string varies depending upon the shape of the chord on beat 1. The third option is well suited for the present A-M-I approach since the scale starts with three notes on the initial string.
Musical Example 2.6. A-M-I applied to D major scale with three notes on initial string.

All of the string crossings in this example line up according to the fundamental approach. However, observe the unnatural string crossings that occur if one indiscriminately applies A-M-I fingerings to the first two examples.

Musical Example 2.7. Unnatural string crossings 1.

Musical Example 2.8. Unnatural string crossings 2.
The A-M and M-I string crossings shown above force the right-hand to change its angle of attack, which can affect tone, accuracy, and speed. This should be avoided.

To avoid problematic string crossings and maintain a degree of consistency within this technique, strings with less than three notes should be performed with subsets of the A-M-I sequence. These subsets are M-I, and I. This keeps the hand moving in a motion that is consistent with the A-M-I motion. Revisiting the above examples, we can apply fingerings that are consistent with the fundamental approach.

Musical Example 2.9. A-M-I applied to D major scale with one note on initial string.

Musical Example 2.10. A-M-I applied to D major scale with two notes on initial string.

A summary of the above techniques shows three options of initiating a three-note-per-string scale with A-M-I and valid subsets.
Musical Example 2.11. Initiating ascending A-M-I scale with three notes on initial string.

Musical Example 2.12. Initiating ascending scale with two notes on initial string (M-I subset).

Musical Example 2.13. Initiating ascending scale with one note on initial string (I subset).


In descending scales, similar fingering options are available. The scale can be initiated with A-M-I, or with the subsets M-I or I when necessary.
Musical Example 2.15. Initiating descending scale with two notes on initial string (M-I subset).

Musical Example 2.16. Initiating descending scale with one note on initial string (I subset).

Fixed-Position Scales

Fixed-position scales are commonplace on the guitar. One result of position-playing is that at least one string is going to contain only two notes.


If an unbroken A-M-I sequence is used in a fixed-position scale, alternate right-hand string crossings occur immediately and continue throughout the scale.
Musical Example 2.18. Fixed-position scale played with unbroken A-M-I sequence.

The solution to this problem is to use a subset of the A-M-I sequence to play the two notes on the string in question. In this case, M-I is the solution.

Musical Example 2.19. Fixed-position scale with M-I subset solution.

Though there is a departure from the fundamental approach, there is also an immediate return on the following string. The odd fingering is isolated to a single string. An alternation of M-I-M-I can be found on the transition from the 2\textsuperscript{nd} to 3\textsuperscript{rd} string. This requires guitarists to have strong roots in the traditional method of playing scales with M-I alternation.
Changing Direction

The scales found in composed music are not always simply descending or ascending. Quite often, scales change direction from ascending to descending and vice versa. This poses unique problems for A-M-I technique, as very often there are more or less than three notes on a string. Even playing a basic C major scale ascending and descending can cause problems with the fundamental approach.

Musical Example 2.20. Inconsistent string crossings caused by change of direction.

As shown above, the change of direction causes string crossings that are not consistent with the fundamental approach. With the use of A-M-I subsets, repetitions of A-M-I, and special left-hand fingerings, these string crossings can be avoided and the player can return to the fundamental approach. The solution must be made on the string where the change of direction occurs. The five notes on the first string can be played with the subset M-I, followed by A-M-I. Afterwards, the scale can be executed in the normal fashion.

31 However, this particular example, with the right-hand finger I leading the way on descending string crossings, is consistent with Brouwer and Paolini’s fundamental approach described in Scales for Guitar (1992).

It is also possible to reverse the order of the fingering used to execute the five-note change of direction. This becomes A-M-I followed by subset M-I.

Musical Example 2.22. Alternate approach to the five-note change of direction.

Both of these solutions work well for strings that have five notes. The choice to use one over the other may come down to personal preference or interpretation. With either choice, there is an occurrence of M-I alternation, once again requiring guitarists to have a strong traditional technique.

Two other useful ways of changing direction do not require a modification of the A-M-I pattern. The first is a static left-hand pattern, i.e. this scale stays in the same position after the change of direction.
Musical Example 2.23. Three-note change of direction.

Conveniently, there are three notes on the string where the change of direction occurs, which allows for the use of an unmodified A-M-I attack.

The next option is an active left-hand pattern. The fingering of this scale requires a change of position, or shift, in the left hand. There is a repetition of A-M-I on the string where the change of direction occurs.


This is a very useful fingering when scales must be completed in higher positions. In addition, the A-M-I pattern is unbroken, making this fingering very fast and efficient.
Shifting

When a passage in music requires a shift to a higher or lower register, several potential problems arise. A very common method of shifting to higher and lower registers on the guitar is made possible by the use of an open string.

Musical Example 2.25. Ascending open-string shift.

The use of open strings to facilitate shifts is a very powerful tool for guitarists. The short period of time that the left hand is free gives the player ample opportunity to shift to a higher or lower position on the fretboard. Furthermore, the ringing open string effectively masks the technique from the listener.

Open strings can also be used with A-M-I scale technique. However, there is no way to carry this out without breaking a few of the established rules. Alternate string crossings must be employed at times in order to make it work.

While the descending A-M string crossing is not consistent with the fundamental approach, it is not a difficult technique to master. It is akin to a descending arpeggio, and the alignment of the right hand is quite natural (oblique angle of approach). The advantage of this technique is that it does not require any other modifications or subsets of A-M-I. The A-M-I sequence is unbroken.

This type of shift may be executed at various registers of the guitar, the lowest being the open fifth string.

Musical Example 2.27. Ascending open-string shift using A-M-I (shifting on string 5).

When applying A-M-I technique to descending scales, small but very significant changes must be made to the left-hand fingerings. Below is a common way of playing a descending scale that shifts on an open string into the open position.

\[32\] The scale is ascending at this point, but the right-hand technique is best described as descending from the 1st to 2nd string.
Musical Example 2.28. Descending open-string shift.

This example shows a shift to the open position, i.e. after the shift all notes are immediately accessible to the left hand, and descend to the open string before continuing on to the next string. This works well for traditional technique, but would again result in right-hand string crossings that do not conform to the fundamental approach of A-M-I technique.

Musical Example 2.29. Problematic string crossings after descending shift.

By simply replacing the open B string with a B fretted on the 3rd string, one can solve this problem and continue forth with no unusual string crossings. Though a simple change, this represents a significant departure from the traditional classical approach.
This new fingering shows that while the left hand is technically in the open position, three-note-per-string scales are still being considered and executed.  


Now that an ideal left-hand fingering has been found, A-M-I fingerings can be applied to the descending scale.


33 Scales in the open position, like other fixed-position scales, will very often have strings with less than three notes. This minor adjustment technically moves the left hand out of the open position until the 3rd string.
Rhythm and Development

Several aspects of this technique can cause scale passages to unintentionally sound like triplets. To effectively play A-M-I scales in four-note groupings, one must always be hyper-aware of the downbeats and their accentuation. In an extended passage of 16th notes in four-note groupings, the finger attacking on strong beats varies cyclically.

Musical Example 2.32. A-M-I accent exercise.

Interestingly, the accents in such passages follow the sequence A-M-I.

Many simple exercises can be used to effectively train the fingers to correctly accentuate scales in four-note groupings. Due to the nature of the technique – three-note-per-string scales being attacked by three fingers of the right hand – triplets come quite naturally and should therefore require significantly less practice to master.

Musical Example 2.33. A-M-I accent exercise with four-note chromatic figure.
Musical Example 2.34. A-M-I accent exercise with four-note fixed-position figure.

The exercise above resembles a recurring figure from the second movement of *Concierto de Aranjuez*.


The following exercise demonstrates the same accentuation principle presented above, only this time within the course of a two-octave D major scale.

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Musical Example 2.36. Accent exercise over a D major scale.

It is also useful to arrange three-note patterns into four-note groupings, as shown below.

Musical Example 2.37. Three-note pattern in four-note grouping accent exercise.

Depending on how many notes are present on the initial string, scales in this system may begin with different combinations of fingers. It would therefore be beneficial to create exercises that focus upon various fingering possibilities. Specifically, exercises that begin with I, M, and A will fully prepare guitarists for musical application. Douglas Niedt suggests these simple, yet very effective exercises to work on evenness. These can also be used to strengthen the various fingering combinations that must be used in music.

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Teddy Chemla also provides some valuable exercises for A-M-I development and rhythmic accuracy. In order to adapt Chemla’s exercises to the fundamental approach, the left-hand fingerings must be modified to a consistent three-note-per-string system.


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Musical Example 2.40. Chemla’s rhythmic exercises applied to current A-M-I system (M-I subset).

Musical Example 2.41. Chemla’s rhythmic exercises applied to current A-M-I system (I subset).

Rhythmic variation is key to developing speed, control, and strong relationships between the fingers. It also helps to maintain interest and avoid “aural lethargy.” The following are variations of the above examples. All three left-hand fingerings and right-hand finger sequences above should be practiced with the following rhythmic variations.

Musical Example 2.42. Chemla’s rhythmic variations applied to current A-M-I system 1.

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Musical Example 2.43. Chemla’s rhythmic variations applied to current A-M-I system 2.

A useful exercise to develop strength, speed and accuracy is to play speed bursts.

The exercises Scott Tenant includes in *Pumping Nylon* can easily be modified to include A-M-I technique.  

**Musical Example 2.44.** Tenant’s speed burst exercises modified to include A-M-I.

Observe the various A-M-I finger sequences above the staff. Some rhythmic patterns above will require several repetitions in order to cycle back to the initial finger sequence.

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Repeated-note scales are a valuable exercise. These figures allow one to focus more intently on tonal consistency amongst the fingers, and promote a strong rhythmic sense.

Musical Example 2.45. Exercise with repeated notes.

By maintaining the three-note-per-string arrangement, the right-hand string crossings are maintained. Once again, similar examples can be found in Concierto de Aranjuez, as shown below.

Musical Example 2.46. Joaquín Rodrigo, Concierto de Aranjuez, I. Allegro con spirito m. 89.

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40 Joaquín Rodrigo, Concierto de Aranjuez (Mainz: Schott Music GmbH & Co. KG, 1939).
CHAPTER 3: A-M-I SCALES IN CONCIERTO DE ARANJUEZ

The guidelines in the preceding pages will allow the use of A-M-I scales in *Concierto de Aranjuez*. The scales in the piece can be divided into four general categories, 1) scales that travel in one direction, 2) scales that change direction, 3) scales that require shifts, and 4) figurations or passagework. Each may have various subcategories, and there is some overlap amongst them, but all scales found in *Concierto de Aranjuez* can be grouped in these categories.

Scales Traveling in One Direction

Scales of this type will be the easiest to play with A-M-I fingerings. This section will not discuss scales that require shifts greater than those required to complete a three-note-per-string scale in position (generally one-fret shifts when crossing strings). These shifts can be found in a later section. There are seventeen scales in *Concierto de Aranjuez* that travel in one direction (i.e. either ascending or descending) and do not shift from a three-note-per-string scale position. An example is shown below. 41

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41 The 6th string of the guitar is tuned to D in the 1st movement.
Musical Example 3.1. Joaquín Rodrigo, *Concierto de Aranjuez*, I. *Allegro con spirito*, m. 78.  

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The first step in creating the A-M-I right-hand fingering for simple scale passages is to decide how many notes to place on the initial string. The left-hand position of the scale above is the preferred choice given the surrounding material. This requires the placement of one note on the initial string. To conform to the fundamental approach, this fingering requires the right-hand I subset for the first note. Afterwards, the scale lines up in a three-note-per-string position.

Musical Example 3.2. Joaquín Rodrigo, *Concierto de Aranjuez*, I. *Allegro con spirito*, m. 78.  

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43 Rodrigo.
This process of fingering will apply to all of the simple scales in *Concierto de Aranjuez*. If there are three notes on the initial string, A-M-I can be used. If there are one or two notes on the initial string, the subsets I or M-I, respectively, can be used. The remainder of the simple scales in the piece will require little, if any, further commentary.

Musical Example 3.3. Joaquin Rodrigo, *Concierto de Aranjuez*, I. *Allegro con spirito*, m. 25.  

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Musical Example 3.4. Joaquin Rodrigo, *Concierto de Aranjuez*, I. *Allegro con spirito*, m. 78.  

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44 Rodrigo.  
45 Rodrigo.
Musical Example 3.5. Joaquín Rodrigo, *Concierto de Aranjuez*, I. *Allegro con spirito*, m. 94.  

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46 Rodrigo.  
47 Rodrigo.  
48 Rodrigo.

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49 Rodrigo.
50 Rodrigo.
51 Rodrigo.
Musical Example 3.11. Joaquín Rodrigo, *Concierto de Aranjuez*, I. *Allegro con spirito*, m. 199. 52

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Musical Example 3.13. Joaquín Rodrigo, *Concierto de Aranjuez*, III. *Allegro gentile*, m. 138. 54

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52 Rodrigo.
53 Rodrigo.
54 Rodrigo.

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Musical Example 3.15. Joaquín Rodrigo, Concierto de Aranjuez, III. Allegro gentile, m. 185. © 1939 by Joaquín Rodrigo. © renewed. All Rights Reserved. Used by permission of European American Music Distributors Company; sole U.S. + Canadian agent for Schott Music GmbH + Co. KG.

Musical Example 3.16. Joaquín Rodrigo, Concierto de Aranjuez, I. Allegro con spirito, m. 204. © 1939 by Joaquín Rodrigo. © renewed. All Rights Reserved. Used by permission of European American Music Distributors Company; sole U.S. + Canadian agent for Schott Music GmbH + Co. KG.

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Scales That Change Direction

Many scales in *Concierto de Aranjuez* change direction from ascending to descending and vice versa. As previously discussed, each occurrence must be approached and treated with caution. Some of these scales will fit perfectly with the rules that have been established, while others may require combinations of A-M-I techniques. These scales will be grouped and discussed by type, rather than by order of occurrence.

The following scale figure is found in various keys throughout the 1st movement.


![Scale Diagram](image1)

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Musical Example 3.18. Joaquín Rodrigo, *Concierto de Aranjuez*, I. Allegro con spirito, m. 76 (Romero).  

![Scale Diagram](image2)

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The fingerings employed by Tarragó and Romero work well for I-M alternation. However, it can be seen by the number of notes each editor places on the strings that A-M-I fingerings will not readily fit with these left-hand fingerings. When these figures return in different keys, both editors use unique fingerings for each occurrence. This is a common result of position playing and the avoidance of left-hand stretches. It would be beneficial to create a single fingering that can be used for most, if not all, of these figures. This allows one to practice less material. The goal is to find a fingering that can be used for all similar figures that avoids problematic right-hand string crossings.

Musical Example 3.19. Joaquín Rodrigo, *Concierto de Aranjuez*, I. Allegro con spirito, m. 76. 60

This fingering accomplishes these technical goals. Furthermore, the six-note change of direction on the first string keeps the A-M-I pattern unbroken, making this fingering extremely efficient. As shown below, the same fingering can be used for all occurrences of this figure.

60 Joaquín Rodrigo, *Concierto de Aranjuez* (Mainz: Schott Music GmbH & Co. KG, 1939).

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61 Rodrigo.
62 Rodrigo.
63 Rodrigo.
Musical Example 3.23. Joaquin Rodrigo, *Concierto de Aranjuez, I. Allegro con spirito*, m. 197. 64

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Musical Example 3.24. Joaquin Rodrigo, *Concierto de Aranjuez, I. Allegro con spirito*, m. 211. 65

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As a comparison, the Tarragó edition presents five different fingerings for the figures above, and the Romero edition presents three different fingerings. This greatly increases the difficulty of the piece, and requires guitarists to practice and memorize much more material.

The six-note change of direction can be used in several other circumstances throughout the concerto. The excerpt below shows a variation of the figures above. Though there is octave displacement of the F natural, this is essentially a transposition of

64 Rodrigo.  
65 Rodrigo.
m. 106 of the 1st movement. The scale must be initiated and completed differently than the above examples, however the change of direction is executed in similar fashion.


The scale found at m. 21 of the 2nd movement can be fingered exactly like the scales above. After the change of direction, this scale continues to descend with A-M-I.


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66 Rodrigo.  
67 Rodrigo.
Measures 144-145 of the 1st movement also can be played with a six-note change of direction. Even though the scale is descending, one must shift to a higher position to complete the scale with this technique, and to keep the A-M-I pattern unbroken.

Musical Example 3.27. Joaquín Rodrigo, *Concierto de Aranjuez*, I. Allegro con spirito, mm. 144-145. 68

The three-note change of direction can be used in several instances throughout the *Concierto de Aranjuez*. Again, this technique is quite desirable because the A-M-I pattern remains intact.

Musical Example 3.28. Joaquín Rodrigo, *Concierto de Aranjuez*, I. Allegro con spirito, mm. 112-113. 69

68 Rodrigo.
69 Rodrigo.
The musical example below is essentially a three-note change of direction. However, this fingering is made possible by the use of P on the note D of the 2nd string. Using the thumb technically does not harm the fundamental approach. It is an expansion of the possibilities of A-M-I technique; an extra finger that can be used to keep players more in line with the fundamental approach.


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Observe the use of P at the outset of the scale above. This shows how P can be used to begin a scale with one note on the initial string, a technique normally executed with I.

A unique five-note change of direction can be executed at mm. 110-111 and mm. 215-216. This is actually setup by an ascending A-M string crossing, something that has been avoided until this point. This fingering is in effect a momentary departure from the fundamental approach. Since it only occurs at the outset of the scale, this fingering does not create difficult string crossings that continue throughout the passage. Furthermore,
this technique keeps the A-M-I pattern consistent, which usually does not happen in a five-note change of direction.  


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Measures 176-179 of the 1st movement have scales that continually change direction. This requires a combination of the right-hand techniques discussed above,

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71 The five-note change of direction usually contains an instance of M-I alternation.
72 Rodrigo.
73 Rodrigo.
as well as a clever approach to left-hand fingerings. In this instance, a near continuous A-M-I pattern is evident.


Measure 44 of the 2\textsuperscript{nd} movement also requires combinations of techniques to change direction. In this case, the open strings are used to alter the number of notes found on each string, which facilitates the A-M-I technique. In each instance of these complex figures that continually change direction, P is used to assist in the descending string crossings.

Musical Example 3.33. Joaquín Rodrigo, *Concierto de Aranjuez*, II. *Adagio*, m. 44.  

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Scales Requiring Shifts

There are several scales throughout the *Concierto de Aranjuez* that require significant shifts to higher registers on the guitar. These fall into two categories: 1) wherein the shift is facilitated by the use of P, and 2) wherein the shift is made possible by a descending A-M string crossing. Both techniques use an open string to shift to higher registers.

Measure 151 of the 1st movement uses P in the course of shifting. Once the shift is made, one can simply initiate the scale with P in the higher register.

Musical Example 3.34. Joaquín Rodrigo, *Concierto de Aranjuez*, I. Allegro con spirito, mm. 151-152. 76

The following examples demonstrate the descending A-M string crossing. Observe how the shift is made as early as possible in the scale. This is not an integral aspect of A-M-I shifting technique, as this type of shift can be carried out over any open string. However, this practice allows the player to execute the difficult shift at the outset of the scale, and to continue afterwards with a long, uninterrupted A-M-I sequence.

76 Rodrigo.

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77 Rodrigo.
78 Rodrigo.
79 Rodrigo.
Figuration and Passagework

There are many instances of figuration and passagework in the Concierto de Aranjuez. These are generally in the form of rapid repeated notes, or simply repetitions of fast four-note figures.

The first movement contains many instances of repeated-note figures. All can be played with A-M-I, however, care must be taken when choosing left-hand fingerings. If there are two attacks per note, the figures must be arranged with three unique notes per string, or by multiples of three. Not doing so would result in string crossings that are not consistent with the fundamental approach.

Musical Example 3.38. Joaquín Rodrigo, Concierto de Aranjuez, I. Allegro con spirito, m. 89.

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80 This is assuming the right-hand sequence begins with A. Other possibilities exist when A-M-I subsets begin the sequence.
81 Rodrigo.

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To play measure 208, it is necessary to arrange the entire passage on the 6th string.


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The repeated note figures found at mm. 192-194 can be played with A-M-I as well. However, this must be initiated with I in order to keep the right-hand string crossings intact. Again, the figure at m. 194 must be played entirely on the 6th string.

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82 Rodrigo.  
83 Rodrigo.

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The triplet figures found at mm. 141-142 and mm. 145-146 are easier to arrange with A-M-I. Since there are three attacks per note, one can cross strings on any new note and remain consistent with the fundamental approach. Given this, these measures can be arranged so they are most comfortable for the left hand.


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84 Rodrigo.

85 Rodrigo.
Musical Example 3.43. Joaquín Rodrigo, *Concierto de Aranjuez*, I. Allegro con spirito, mm. 145-146.  

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One last repeated note figure requires mention. As can be seen in the first group of 16\(^{th}\) notes, not every note of the figure is repeated. However, it can still be articulated with A-M-I as long as there are six attacks on each string, as shown below.

Musical Example 3.44. Joaquín Rodrigo, *Concierto de Aranjuez*, III. Allegro gentile, mm. 227-228.  

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The following examples require little written introduction, as virtually all are simple pattern repetitions on a single string. Since string crossings are not necessary, any sequence of A-M-I or its subsets can be used to initiate these figures.

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86 Rodrigo.
87 Rodrigo.
Musical Example 3.45. Joaquin Rodrigo, *Concierto de Aranjuez*, II. *Adagio*, m. 27.  

Notice the M-I-A-M-I fingering on the grace note figures in m. 49 and m. 52.

This is the same right-hand fingering used for a five-note change of direction.

Musical Example 3.47. Joaquin Rodrigo, *Concierto de Aranjuez*, II. *Adagio*, m. 49.  

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88 Rodrigo.
89 Rodrigo.
90 Rodrigo.
Musical Example 3.48. Joaquin Rodrigo, *Concierto de Aranjuez, II. Adagio*, m. 52.  

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The passages starting at m. 208 and at m. 314 are composed of what is essentially the same four-note figure. The A-M-I-slur fingering greatly reduces the difficulty of playing these passages. The fingering is one motion (A-M-I), followed by a rest for the right hand (the slur).


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91 Rodrigo.  
92 Rodrigo.

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93 Rodrigo.
CHAPTER 4: CONCLUDING REMARKS

There are many benefits of playing the scales in Concierto de Aranjuez with A-M-I fingerings. Three-note-per-string scales are much easier to visualize, and therefore easier to memorize. The left-hand fingerings are almost always in the sequence 1-2-4 or 1-3-4, or the reverse when descending. This means that the fingerings of these scales, no matter what key, mode, or scale degree the scales begin on, have very much in common. The techniques required to play these scales are simple, efficient and consistent. This is particularly true when one factors in the repeated A-M-I sequence of the right hand. In some aspects, to practice one of these scales is to practice them all.

With A-M-I technique, the left and right hands operate in a more efficient manner. To demonstrate this efficiency, I will compare a few fingerings from the Romero edition with A-M-I fingerings.

Angel Romero’s fingering of the scale at m. 180 of the 3rd movement shows a common occurrence in the traditional I-M approach. To maintain a more natural alignment of the right hand in relation to the strings, Romero obviously arranged the scale so that M is the first finger to attack after every ascending string crossing.

Though very cleverly conceived to accommodate the I-M alternation, this left-hand fingering feels cumbersome. There is little consistency in the fingering. Analyzing the sequence of left-hand fingerings on each string, six fingering sequences are found, five of which are unique: 1-3-4, 1-3, 1-3, 0, 1-2-4, and 1. Obviously, this is not a fingering that the mind or the muscles will memorize easily. There are a total of five string crossings in the scale. In the right-hand, there are six repetitions of I-M alternation. Furthermore, in order to line up his string crossings, Romero is forced to shift from position II to position VII on beat 3. As a comparison, an A-M-I arrangement of the same scale is below.

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There are only two unique left-hand finger sequences in this scale: 1-3-4 and 1-2-4 (Romero presents five unique finger sequences). This is a much easier fingering pattern to memorize. String crossings are limited to three (compared to Romero’s five). There are four repetitions of the A-M-I sequence (Romero alternates I-M six times), and the left-hand stays in the position of a three-note-per-string scale (Romero shifts from II to VII).

If one compares the scale at m. 185 of the 3rd movement, similar advantages for the A-M-I approach are evident. Furthermore, the two scales with A-M-I fingerings show a close resemblance in their execution, whereas Romero’s two scales require completely different fingerings to play.

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The use of A-M-I technique allows the performer to conserve energy in the demanding opening movement of the piece. Though the tempo of the first movement is manageable using a traditional scalar approach, the great amount of scales found throughout the movement make it quite difficult. Furthermore, as shown in the current study, the three-note-per-string left-hand approach allows for more consistent fingerings for many of the recurring scalar figures.

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97 Joaquín Rodrigo, Concierto de Aranjuez (Mainz: Schott Music GmbH & Co. KG, 1939).
The fast scales and figurations found in the second and third movements are certainly much easier to execute with A-M-I technique. Perhaps more importantly, the technique more effectively facilitates the realization of musical gestures demanded by the composer. For example, the figure below is found throughout the second movement.


![Musical Example 4.5](image)

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Many performers add slurs over multiple notes to achieve the velocity this passage requires. However, this practice does harm to the musical intent by accentuating the notes that are articulated. A more controlled and effective crescendo can be achieved by articulating each note. A-M-I scale technique makes this possible.

In conclusion, the benefits of A-M-I scale technique are many. The efficiency of the technique makes it a worthwhile skill to master, and the increased velocity potential can expand the repertoire of many guitarists. All of the scales in *Concierto de Aranjuez* can be successfully played with A-M-I technique. The resulting fingerings are highly efficient, fluid, and consistent. The ease of the three-note-per-string approach, along with

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98 Rodrigo.
99 Representative recordings are Christopher Parkening (1993) and John Williams (1994).
100 The recordings of Pepe Romero (2005) and Angel Romero (1990) are examples, however, both guitarists use strict I-M alternation.
the preconceived fingerings used for direction changes, shifts, and other scenarios, make this particular system of A-M-I scale technique simple to understand, execute, and apply to the repertoire of the classical guitar.
APPENDIX A

Matthew Palmer  
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Bowie, MD 20715

RE: Vicente Asencio COLLECTICI INTIM, movement "La joia", m. 7 and mm. 26-27;

Joaquin Rodrigo CONCIERTO DE ARANJUEZ, 1st movement: m. 25 m. 76 m. 78 m. 89 m. 92 m. 94 m. 103 m. 106 mm. 110-111 mm. 112-113 m. 131 m. 134 mm. 136-138 mm. 138-139 mm. 141-142 mm. 144-145 mm. 145-146 m. 151 m. 152 m. 157 m. 161 mm. 176-179 m. 181 m. 183 mm. 192-194 m. 197 m. 199 m. 201 m. 211 mm. 215-216 2nd movement m. 21 m. 27 mm. 30-31 m. 44 m. 48 m. 49 m. 52 3rd movement m. 134 m. 138 m. 180 m. 185 m. 204 mm. 208-212 mm. 227-228 mm. 288-291 mm. 314-319;

Joaquin Rodrigo UN TIEMPO FUE ITALICA FAMOSA, m. 121

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(continued)
Mr. Matthew Palmer  
July 9, 2012

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