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**THE DEVELOPMENT OF RIGHT HAND GUITAR
TECHNIQUE WITH REFERENCE TO SOUND
PRODUCTION**

**by
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**A mini-dissertation submitted in partial fulfilment of
the requirements for the degree**

MMus (Performing Art)

**in the Department of Music at the
UNIVERSITY OF PRETORIA
FACULTY OF HUMMANITIES**

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November 2009

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CHAPTER 1

INTRODUCTION

1.1 Key phrases

- Right hand guitar technique
- *p* (*pulgar* or thumb), *i* (*indice* or index finger), *m* (*medio* or middle finger), *a* (annular or ring finger), *e* (little finger) or *c* (*cuarto* or fourth finger)
- Sound production on the classical guitar
- *Apoyando* (rest or supported stroke) and *tirando* (free stroke)
- *Vihuela*, four- and five-course guitars, and the six string guitar
- Courses, gut and nylon strings
- *Sul tasto* (playing near the neck) and *ponticello* (playing near the bridge)

1.2. Motivation for the study

Beginner to intermediate classical guitar players are often misinformed about how they can produce a louder sound, with a variety of *timbre* and better balance between the treble and bass strings. A lack of these elements could also be caused by bad habits and unsuccessful technical formation (Urshalmi 2008:52). Players often have an ideal sound in mind, but are left to trial and test for years to produce this sound (Taylor 1978:i). Through observation and discussion with colleagues and students, the writer has noticed that classical guitar players are mainly concerned with the dynamics of sound production, because the guitar is such a soft-sounding instrument.

Classical guitar performers should know how to improve certain aspects of their right hand technique - as the right hand is the initiator of the sound - in order to achieve the desired sound. A clear understanding of the player's own right hand technique and the instrument's sound spectrum will give him a head start in producing the exact sound he has in mind (Taylor 1978:ii).

Once right hand technique is improved and the ideal sound is attained, the performer will be free during playing to shift his focus to the interpretation of the music. The closer a player gets to understanding exactly what transpires when the right hand fingers meet the strings, the more positive the control of the sound quality will be (Taylor 1978:iii).

1.3. Objectives of the study

The primary objective of this study is to provide the reader with an historical perspective of how the theoretical view of right hand guitar technique has evolved. The final intention is to explain why contemporary performers use their own specific right hand techniques, and why many other theories have gone out of fashion.

Historically, the guitar has undergone many changes, and new playing methods were developed which influenced guitarists to adapt to increasing musical demands and changes in the instrument's construction. These new ways of playing will be the focal point of this study.

Once the reader has attained enough knowledge about right hand guitar technique, his own right hand technique can be adapted to create the desired sound. Emphasis will not be placed on the exercises given by each pedagogue, but rather on their theories about right hand guitar technique. By analysing these theories, the writer will explain to his reader why one performer sounds different to another, as well as which techniques are still being used, and why.

1.4. Research questions

The following formulates the main research question of this mini-dissertation:

How have the views of right hand guitar technique developed from the first written instructions to the treatises of today?

The following sub-questions are derived from the main question and will be answered accordingly:

Chapter 2: Methods of the Renaissance and the Baroque periods

- What type of sound is produced by different hand positions and why were they used in the Renaissance period?
- What is the role of right hand fingering in the interpretation of five-course guitar music?

Chapter 3: The first six-string masters

- When were the rest (*apoyando*) and free stroke (*tirando*) first mentioned?
- Why does the sound differ with these two techniques?

Chapter 4: Right hand technique from 1850–1900

- Who were the first Romantic composers for the guitar?
- What are the definitive characteristics of Romantic guitar music?
- Which right hand techniques were used during this time?

Chapter 5: Guitar technique and sound production in the early 20th Century

- What was Andrés Segovia's technique and why was it so popular?
- What are the main differences between Pujol and Segovia's techniques?
- Did people follow Pujol's theories about sound production?

Chapter 6: Revolutionary theories about guitar technique and sound production from 1970-1900

- Which part of the right hand finger should be used - flesh only, the nail only, or both?
- What advancements were made on Segovia's technique by Quine, Duarte, Taylor and Carlevaro?

Chapter 7: A modern approach to right hand guitar technique and sound production

- What are the differences between the *Open* and *Closed Hand Schools* of Anthony Glise and what sound does each produce?
- What are the latest theories about guitar technique and sound production?

Chapter 8: Conclusion: a summary of the development of right hand guitar technique and sound production

1.5. Research design

A chronological literature study will determine how right hand guitar technique developed. The study will avoid repetition of techniques and focus only on new developments and changes in right hand guitar technique. The researcher will explain the main ideas that pedagogues of each era had about right hand technique. The writer will guide the reader through the different periods with a short summary of the novel ideas from each period at the end of each chapter.

The research conclusion will summarise the changes that right hand guitar technique has undergone. These tendencies will explain why performers of the guitar use certain right hand positions, and why one player might sound different to another (even on the same instrument).

1.6. Research methodology

Raw data will be collected through various searches of guitar methods, history books, journal articles, autobiographies and music scores to find old and new tendencies in the development of right hand guitar technique.

1.7. Literature Review

The earliest printed instructional writings on right hand technique can be found in *El Maestro* (1535) by Luis Milan (c.1500-c.1561). Many of the right hand technical problems dealt with in his text can be found in one form or another in guitar methods ever since. Milan did not attempt to describe actual hand positions, but focused more on how certain rhythms (using up and down

strokes), ornamentation and contrapuntal lines were to be played with exact left and right hand fingerings (Corona-Alcalde 1992:598). *El Maestro* was not written for the guitar, but for the *vihuela de mano*.

A certain mystery surrounds the emergence of the five-course Baroque guitar. It became fashionable towards the end of the 16th Century in several European countries. The addition of another course to the four-course guitar brought about a change in its expressive powers, and soon the five-course guitar remained at the heart of guitaristic activities (Wade 2001:31). Music written for the five-course guitar was generally simpler than music written for the *vihuela*. The *vihuela* had polyphonic music as its main musical source and thus the right hand techniques involved were more intricate and took longer to learn than the chordal strumming of the five-course guitar. Inevitably the five-course guitar became more popular than the *vihuela* because it was easier to play.

The five-course guitar developed two distinct right hand styles. In Spain these were called *redobles* (used for music with counterpoint and plucked melodic lines) and *rasgueado* (a strumming style). The same distinctions in style could be found in Italy where they were referred to as *punteado* and *battente*.

A change in five-course guitar technique came about in the late 17th Century when guitarists fused the strumming style (*rasgueado*) with the plucking (*redobles*) style. The fusion of the two styles soon became the norm for playing the guitar.

From the mid-18th Century another type of guitar (now often termed the 'classical' guitar) became popular (Wade 2001:61). The first bracings (strengtheners on the sides and on the soundboard) inside the guitar were used from this period. The five courses lost favour and six strings became the norm. The oldest six string guitar that remains dates back to 1773 and was made in Orleans.

The first thorough methods in the 19th Century concerning right hand guitar technique were those of Fernando Sor (1778-1839) and Dionisio Aguado (1784-1849). These two pedagogues differed in their rationale and thoughts. Sor said that the right hand nails should be cut off whilst Aguado said that nails produce a louder and clearer sound (Jeffery 1997:10). The use of *apoyando* (rest stroke) and *tirando* (free stroke) and whether the e finger should rest on the soundboard will be discussed in Chapter 3. Other performers/composers of the time, Mauro Giuliani (1781-1829), Matteo Carcassi (1792-1853) and later Giulio Regondi (1822-1872), had very little to say about how the string should be struck with the right hand, but they still had an immense influence on future performers and pedagogues.

A section on guitar construction is dealt with in Chapter 4. The construction of the instrument had a primary effect on sound production and thus on right hand technique.

Francisco Tárrega (1852-1909) developed many novel concepts for technical improvement with regards to playing the new Torres guitar. He advocated specific right and left hand positioning because the new instrument allowed for more *timbres* to be exploited, especially in the higher register. His teaching was not documented, but was passed on orally from master to student (Wade 2001:97). The Romantic music that Tárrega wrote required the performer to use different *timbres*, which in turn required the performer to alter his technique.

New hand positions and the question of whether or not nails are to be used are dealt with in *The Dilemma of Timbre on the Guitar* (1930) and *Guitar School* (1969) by Emilio Pujol, a student of Tárrega. Pujol wrote that the most expressive tone on the guitar is achieved through the fingertips, and not by the use of nails (Pujol 1930:55).

Andrés Segovia helped change the sound of the guitar by making it the norm to play with nylon instead of gut strings. Segovia's right hand technique and his view on playing with nails will be discussed.

The mid- to late 20th Century saw many changes of opinion on guitar technique and sound production. In his *Bases of Classical Guitar Technique* (1974), John Duarte (1919-2004) explains how sound is produced when the nail strikes the string and how a good tone can be produced. Duarte's ideas reached many performers in the mid-20th Century when his book, *Bases of Classical Guitar Technique* was published. John Taylor's *Tone Production on the Classical Guitar* (1978) has a more scientific approach and many of the points that he makes are valid.

The Uruguayan pedagogue Abel Carlevaro (1918-2001) had many ideas of playing and striking the strings which are still used today, although some of his theories have gone out of fashion. Carlevaro describes specific hand placing and *toques* (touches) of the right hand in his *Escuela de la Guitarra* (1978).

Hector Quine's *Introduction to the Guitar* (1990) has a section that explains his ideas of tone production with free stroke playing. Quine's main principle is to aim the nail at an angle so that the string is projected more in a vertical than in a horizontal direction in relation to the soundboard. This creates a sound with more tone and volume.

Lee Ryan's *Natural Classical Guitar* (1991) and Charles Duncan's *The Art of Classical Playing* (1991) and *Guitar 2000* (1993) shed some new light on guitar technique. Both Ryan and Duncan explain how the right hand should be held and what the precise finger action should be. The finger actions of the rest and free strokes are explained with accurate drawings, which makes it easier for the reader to understand. These methods are rather extensive, so only the novel ideas of sound production and right hand technique will be discussed.

Anthony Glise wrote one of the most detailed instructional books for the classical guitar. Glise explains the position and action of the right hand with very simple exercises and photos. He divides all right hand finger movements and strokes into two basic schools, the *Closed Hand School* and the *Open*

Hand School. This emphasises the distinguishing factors between the two mainstream schools of the 20th Century.

In the last decade some of the most valuable writings include Julian Byzantine's *Guitar Technique Rationalised* (2002) and Joseph Urshalmi's *A Conscious Approach to Guitar Technique* (2006). Byzantine focuses on specific plucking action and the sounds that this action produces. Urshalmi goes into the finest detail of how to shape the hand with exercises not using the guitar, which fingers are best to use, and where the finger should connect with the string.

1.8. Delimitation of the study

The lineage of the guitar will be traced through the instruments already noted (the *vihuela*, the four- and five-course guitars and the six string guitar). Other instruments that stem from the plucked-string family will not be included.

The correlation between right hand guitar technique and sound production is a subjective matter because each individual has differently formed nails and fingertips (Byzantine 2002:11). Despite this, there are still certain factors that affect all players. It is important to realise that other aspects of technique and individual characteristics (i.e. left hand technique, correct posture, use of muscles, and physical shapes and sizes of fingers and nails) are important towards creating certain sounds, but are too varied and subjective to include in this study.

1.9. Discussion of proposed chapters

Chapter 1 serves as an introduction to the study and its purpose is to make the reader aware of the overall structure of the study. Chapter 1 includes the motivation and objective of the study.

Chapter 2 will focus on the first printed methods and scores from the Renaissance period. The study is structured chronologically. The Baroque period's five-course guitar techniques and teachings will also be included.

Chapter 3 includes the change from five courses to six strings as well as the changes in technique that this phenomenon brought about. The guitar methods of Dionisio Aguado and Fernando Sor, the foundation layers of modern right hand technique, will be analysed.

The School of Francisco Tárrega will be discussed in Chapter 4. It starts with theories Tárrega had about right hand guitar technique. Chapter 4 will include a section on the construction of the modern guitar as this important area of knowledge corresponds with Tárrega's theories on guitar technique.

Chapter 5 will cover the theories of two of Tárrega's pupils, Miguel Llobet and Emilio Pujol. They were taught at different times during Tárrega's career. Distinguishing characteristics will be analysed. The effect that Tárrega's earlier teachings had on Andrés Segovia will be discussed. Segovia's technical development and the influence that he had on the public will also be examined.

Chapter 6 will include the ideas and theories on sound production and right hand technique of four prominent theorists and pedagogues from the 1970's. These theorists explained and developed the manner in which Segovia created his tone. They developed novel concepts of right hand technique and tone production and each theorist had his own opinion on how to create the best possible tone.

The writer will analyse and discuss only the novel concepts of the modern approach to right hand technique and sound production in Chapter 7. Many pedagogues repeat what others have mentioned before, but there are still new concepts concerning tension and technical blockages.

Chapter 8 consists of a bulleted summary of the changes that guitar technique has undergone. A conclusion will be made about the development of right hand guitar technique over the last six centuries. The conclusion will explain why some right hand techniques are still used and others not, and why one player sounds different from the next.

CHAPTER 2

METHODS OF THE RENAISSANCE AND BAROQUE PERIODS

2.1 The first methods for the *vihuela*

The *vihuela* played a vital role in shaping the technique of plucked instruments. Early guitar composers were vague about right hand guitar technique, but a reasonably accurate picture can be drawn from *vihuela* sources (Tyler 1980:77).

2.1.1 The positioning of the right hand

There were two hand positions used for the right hand (Tyler 1980:77). The first was where the *p* finger is placed inside the hand, and the second where the *p* finger is placed outside the hand. This second position followed a modern approach. In both hand positions the *e* finger was placed on the soundboard. This was done so that a stable point could be used to determine the distance from the fingers to the strings. The right hand was placed midway between the rosette and the bridge of the *vihuela*.

2.1.2 Right hand fingering for the *vihuela*

Many 16th and early 17th Century composers had specific fingering for the right hand which produced precise articulation. *P* was meant to alternate with *i* in single-line passages. This technique was used on all the courses. Many guitar notation books indicated this by placing a dot under the notes that were meant to be played with the *i* finger. No dot meant that the note was to be played with *p* (Tyler 1980:78). Alternating *p* and *i* created strong and weak stresses, as the thumb is stronger than the index finger. This articulation was matched to the rhythm of the single-line passage and emphasised the strong beats.

Example 1: Alternating *p* and *i* in *vihuela* music (Tyler 1980:79)

The image shows a musical score for vihuela, consisting of a single melodic line and a bass line. The melodic line is written on a five-line staff with a treble clef. It begins with a half note 'b' on the first line, followed by a quarter note 'a' on the second line, a quarter note 'b' on the third line, and a quarter note 'd' on the fourth line. Above the staff, the letters 'a', 'b', and 'd' are written above the corresponding notes. The bass line is written on a five-line staff with a bass clef. It begins with a half note 'd' on the first line, followed by a quarter note 'a' on the second line, a quarter note 'b' on the third line, and a quarter note 'd' on the fourth line. Below the staff, the letters 'm', 'i', 'p', 'i', 'p', 'i', 'p' are written below the corresponding notes. The entire score is enclosed in a rectangular box.

The alternating *p*, and *i* pattern which was used for two-part music was also used for single-line passages with bass accompaniment. The *p* finger played the bass note at the start of the passage and then jumped to the treble strings to alternate with the *i*. This technique was known as *redoblar*. Two of the right hand fingers could alternate to play the melody: either *i* and *m* or *p* and *i* (Pujol 1930:41). The *p*, *i*, *m* and *a* fingers were all used when playing chords, with the *p* finger playing two or more courses in chords of more than four notes.

Although the use of *m* and *i* to play single-line passages was mentioned in Miguel de Fuenllana's (c.1553-1578) *vihuela* book (1554), it only became common practice in the 17th Century (Tyler 1980:79). Another technique described by Fuenllana was the *dedillo* stroke. With the *dedillo* stroke the *i* finger moves rapidly back and forth; one stroke in either direction served for one note.

2.1.3 The use of nails

References to right hand nails were rare; though the earliest reference was that of Fuenllana in 1554. He commented that he does not like the sound of the nail in the returning *dedillo* stroke. Discussing the use of the *m* and *p* fingers, Fuenllana stated that:

It is best not to use the nail or any other device, only the finger, the living thing, can communicate the intention of the spirit (Tyler 1980:80).

The flesh technique must be acknowledged to be the most commonly used technique during the 16th Century.

2.1.4 The four-course guitar

The four-course guitar co-existed throughout the 16th Century with the lute and the *vihuela*. It was known in Spain as the *guitarra*, in Italy as the *chitarrino*, in France as the *guiterne*, and in England as the *gittern* (Wade 2001:25). The right hand technique of this instrument did not influence modern technique to a great degree because it relied mainly on strumming.

2.2 Right hand guitar techniques for the five-course guitar

The five-course guitar developed two distinct right hand styles. In Spain these were called *redobles* (used for music with counterpoint and plucked melodic lines) and *rasgueado* (a strumming style). The same stylistic distinction could be found in Italy where they were referred to as *punteado* and *battente*. The strumming style was most common, and a whole range of distinctive ornaments, such as the *trillo* and *repicco*, were used.

2.2.1 The *rasgueado* technique

The *battente* or *rasgueado* technique was a fundamental and unique feature from the guitar's earliest days. The height of the five-course guitar's popularity was between 1596 and 1637 (Pinell 1980:27). Normally all five courses were struck unless the tablature indicated otherwise. When playing the same chord for more than one beat, weak beats (or *up-strums*) were played more lightly and with fewer bass strings. Emphasis could be placed on the strong beat by eliminating one or more of the treble strings, or by playing the treble strings lightly in order to let the basses resonate more strongly (Koonce 2006:22).

Chords could either be strummed quickly and percussively, or slowly as arpeggios, to provide variety and nuance for a more colourful and engaging performance. Chords could also be strummed with different right hand combinations. Chords strummed with only the *i* finger had a different sound to those being played with the back of the nail of the *m* finger, or *i*, *m* and *a*. Strummed articulation could also be divided using different combinations of

right hand fingers. Girolamo Montesardo (1606) suggested hitting the strings softly with three or four fingers in a harp-like manner as opposed to hitting the strings all at once (Koonce 2006:23).

The right hand was placed where the neck and body of the guitar meet. This was illustrated in several paintings and guitar books from the 17th Century.

Example 2: Position of the right hand when playing the *rasgueado* technique (Koonce 2006:1)



With a down stroke (from the fifth course to the first) one had the option of either playing only with the *i*, arpeggiating *i*, *m* and *a*, or only using *p*. Each of these methods produced a different sound. When playing an upstroke one used the *i* finger only, but in certain circumstances, such as with the *repicco* (a four-pattern strumming technique) then *p* is rather used (see the explanation of ornaments on page 15).

2.2.2 The five-course guitar technique and the use of nails

Allessandro Piccinini (1566-c.1638) advocated the use of nails in his book on playing the lute and *chitarrone* (1623). He wrote that the *p* nail should not be very long, and that the others should be somewhat longer than the *p* nail, appearing slightly above the finger tips, with the highest point at the middle of the nail. Piccinini said that the course should be struck with the flesh first and then pushed towards the sound-hole so that the fingernail can glide over both courses.

When playing a double-stringed instrument the player will find that long nails get in the way, and it is difficult to avoid scratching the soundboard (Tyler 1980:80). By using short nails and turning the hand in an oblique position, so that the string is hit diagonally, one avoids the annoying double sound that is created with a double-stringed instrument. This problem is not as pronounced when playing with flesh only, because the larger soft area of the fingertip touches both strings simultaneously.

Silvius Leopold Weiss (1686-1750), the highest-paid lutenist in Europe and a friend of J.S. Bach, wrote that the lute was usually played with the flesh but that the *theorbo* and *chitarrone* were played with nails. It was generally accepted that when one plays the five-course guitar in an ensemble, one used nails because the greater number of instruments demanded more volume. It was also accepted and preferred that the five-course guitar was played without nails when playing solo (Tyler 1980:81).

2.2.3 Francisco Corbetta's right hand technique

Francisco Corbetta's (1615-1681) right hand technique could be compared to that of the later Baroque guitarists: a fusion of the strumming style juxtaposed with plucked melodic lines. Corbetta was famous for his fourth book (1648). This led to him playing for King Philip IV of Spain, and later to teaching King Louis XIV, who was a young boy at the time. The guitar remained Louis XIV's favourite instrument, and when he became the most influential monarch of Western civilisation, the guitar was seen as a noble instrument (Pinnell 1980:122).

Corbetta wrote little about how his music was to be played. The general assumption was that the techniques of his contemporary pedagogues such as Piccinini and Montesardo were the foundations of Corbetta's technique, and that his music was to be played in that manner. It is accepted that Corbetta followed the teachings of Piccinini because he also used nails when playing the five-course guitar. Adam Ebert, in his *Auli Apronii Vermehrte Reise-Beschreibung* (1723) wrote:

The world famous guitarist Corbetta, who taught all the Potentates of Europe, came here from England. But because he had the misfortune to break a fingernail it was impossible for him to present himself at the festival with his consort (Tyler 1980:81).

2.2.4 Ornaments used in five-course guitar music

No ornament signs could be found in guitar sources from the 16th Century. This does not mean that the ornaments were not played. In fact, some writers complained about performers using too many ornaments (Tyler 1980:83). The ornaments were not added because the tablature became too complicated. From the beginning of the 17th Century information about ornaments started appearing in guitar literature. Ornaments were present in both of the two basic right hand playing styles.

The *trillo* and *repicco* were used with the *rasgueado* style. The *repicco* was more complicated than the *trillo*, and had more rhythmic vitality. Pico, in 1608 described it as playing four strokes, two down and two up. The first down-stroke was played with the *m* finger, the second down-stroke was played with the *p* finger, the first up-stroke was played with the *p* finger and the second up-stroke with the *i* finger, playing only the first course. The *repicco*, like the *trillo*, doubled the number of printed notes (Tyler 1980:87).

The *trillo* was a series of rapid down- and up-strokes. Different pedagogues described this right hand technique differently. Abbatessa, in 1627 recommended that only the *i* finger is used for the *trillo*, while Foscari, in 1630 stated that the *p* and *m* fingers should be used (Tyler 1980:84). Firstly, the *p* finger played a down- and-up stroke then the *m* finger did the same. Foscari continued by saying that the *trillo* could also be made by the *i* finger alone, dividing a minim into four quavers.

Punteado style ornaments, or single note ornaments, such as the trill, mordent, appoggiatura, slur and vibrato were all described as being played with the left hand only, and will therefore not be discussed. The technique of playing an arpeggio (*harpeado*) was described by Guerau in 1694 as

ornamentation, and was to be played using the *p*, *i* and *m* fingers only (Koonce 2006:18).

2.2.5 A fusion of the *rasgueado* and *punteado* techniques

A change in five-course guitar technique occurred in the late 17th Century when guitarists fused the strumming style (*rasgueado*) with the plucking style (*punteado*). The fusion of the two styles soon became standard for guitar playing. Some of the finest composers of the era used both the strumming and plucking styles.

The year of 1640 marked a great change in guitar music. The change came about when guitarists fused the old strummed style with the *punteado* style. The resulting notation may be appropriately called mixed tablature. The repertoire became more difficult and it became music to be performed by expert professionals and not by dabbling amateurs (Wade 2001:38).

When playing a combination of strumming and single notes, the hand should be closer to the bridge, but when extended chordal passages are played one should bring the hand back to the higher position. When playing in the lower position it is best to keep the strokes simple and to keep the *e* finger resting on the soundboard for stability (Tyler 1980:82). To avoid sounding unwanted bass strings, the *p* finger should be planted on the lowest bass string when it is not part of the chord.

2.3 The English six-course guitar

In England several musicians were concerned with exploring the subtler aspects of right hand technique to give it parity with other instruments of the time (Coggin 1987:215). The guitar was played mostly by women in Britain, and performing was an individual activity for women but a group activity for men (Coggin 1987:205). One of the earliest tutor books published in England was *The Ladies' Pocket Book*, published in 1755. The right hand techniques described here are rather undemanding, as only the *p* finger is used for the basses and the *i* finger for the three treble courses.

Robert Bremner's *Instructions for the Guitar* (1758) was the first comprehensive guitar tutor book published in Great Britain (Coggin 1987:206). Bremner suggested that the *e* finger should rest near the bridge of the guitar on its body. The best tone colour was achieved when the string was plucked midway between the sound-hole and the bridge. Bremner suggested that it is also pleasant to play as far as possible near the bridge to imitate the tone of the lute, or else one could move the planted *e* finger on the body as far as possible up the neck to represent a sound similar to that of the organ.

Bremner applied the technique of using only the *i* finger when playing or 'raking' descending arpeggios. He found it awkward using only the *i* finger in ascending arpeggios and he suggested that all four fingers be used. Bremner stated that it is impossible to move the *i* finger quickly enough over the strings and that there is no reason why any finger that naturally hangs over the string should be idle. Chords were played by pressing each string equally and then drawing towards the body of the instrument. Bremner explained the *apoyando* stroke as follows:

An arpeggio of three open strings is to be played with the thumb which must not be lifted at each, but made to slide over them. The next three have a finger to each; and as their strings are double it is important to make them vibrate equally. In returning these notes the fingers are the same, only the last three which, instead of the thumb, are to be played by drawing the forefinger over them (Coggin 1987:212).

Some new ideas on right hand technique were dealt with in Ann Ford's *Lessons and Instructions for the Guitar* (1761). The ball of the right hand was placed just over the bridge to dampen unwanted sounds. It was also placed lightly over the strings when playing quiet passages. The flesh of the fingertips, and not the nails was considered to produce the most effective tone (Coggin 1987:216). Ford believed that the nails give a sharper, harsher and scratchier tone. The flesh part of the finger gave a mellow and pleasing tone, sounding more like cat-gut strings and less metallic. Ford also explained how to play specific right hand ornaments:

The Tut is a grace note that is only played with the right hand. An open string is played and the very instant it is struck one brings down the forefinger taking away the sound of the played note. If you do it clearly, it will seem to speak the word 'Tut', so plainly, as if it were a living creature (Coggin 1987: 213).

2.4 Conclusion

Even though the Renaissance and Baroque periods extended over one and a half centuries, the only significant changes in right hand guitar technique occurred when four courses changed to five, and more music and methods started being published.

The most common hand position in the Renaissance period was to keep the e finger on the soundboard and to play at a position midway between the rosette and bridge. The strings are tenser at this position and cause the sound to be brighter and clearer. This position makes single-line runs more audible and distinguishes single-line passages from strumming.

The hand positions changed in five-course guitar music. *Rasgueados* were played at a higher position, closer to the neck, and *redobles* were played with a brighter sound, closer to the bridge. *Rasgueados* were played with alterations between *p* and *i*. *Redobles* were played with alternating *i* and *m* or *p* and *i*, depending on the accents in the music. Descending arpeggios were often played with only the *i* finger to create an equal sound on all the strings. The *a* finger was avoided when performing ascending arpeggios and the *p* finger was used to accentuate the main beats.

CHAPTER 3

THE FIRST SIX-STRING MASTERS

3.1 Introduction

The first detailed methods in the 19th Century concerning right hand guitar technique were those of Fernando Sor (1778-1839) and Dionisio Aguado (1784-1849). Here already the two pedagogues differed in their opinions about this aspect of guitar technique. Other performers and composers of the time, such as Ferdinando Carulli (1770-1841), Mauro Giuliani (1781-1829) and Matteo Carcassi (1792-1853), had very little to say about how the string should be struck with the right hand. Carulli and Giuliani will be mentioned as they were immensely prolific and their contribution to the guitar is nowadays considered to be particularly significant (Wade 2001:74).

3.2 The link between the five-course and the six string teachings

Mensural music notation replaced tabulated music towards the end of the 18th Century. The music of the 18th Century demanded more precise playing of chords and bass lines (Jordaan 2005:14). The mid- to late 18th Century was a transitional period for the guitar. During this period there were at least four types of guitars, all with their own right hand techniques. These were the five-course, six-course, five string and six string guitars. The stringed instruments were more common in Italy and the course guitars more common in Spain. Therefore, the six string guitar and its mensural notation, which many regard as native to Spain, is actually of Italian origin, owing only its 'figure eight-shape' to Spain (Wade 2001:70).

With the development of more integrate bass parts; the *punteado* technique was used more often in the 18th Century. Manuel García, also known as Padre Basilio, was an influential but obscure figure. It is known that he taught Dionisio Aguado, amongst other notable performers. Most of his compositions have been lost, but he may be considered as the initiator of the modern school of guitar, and he greatly influenced Sor and Aguado (Wade 2001:68).

The Italian - Federico Moretti, was another important historical figure in the development of guitar technique. Both Sor and Aguado claimed that he was the pedagogue who made them aware of the possibility of sustaining two or more parts on the guitar, and of accurately reflecting this in musical notation.

3.3 Ferdinando Carulli's right hand method (1810)

Ferdinando Carulli's contribution to the guitar was underestimated for over a century and a half, until a publication by the Italian scholar, Mario Torta appeared in 1993. Torta catalogued Carulli's work up to Op. 366. These included 400 pieces ranging from studies to concertos. Carulli's works are often neglected in concerts by major artists, apart from the odd concerto, because his compositions are not virtuosic. One of the most important and relevant works that he wrote was his *Méthode Complete Pour Guitare*, Op.27, in 1810 (Wade 2001:75).

Part One of Ferdinando Carulli's method recommends the beginner to reserve a strict positioning of the fingers on the strings. The *p* finger plays only the three bass strings, while the *i* finger may play on the fifth string and the *m* finger on the fourth, in passages of only a bass voice. Generally, the *i* finger plays the second and third strings, *m* plays the first and the *a* finger is only used to play arpeggios (Micheli 2003:47). Carulli, like Sor, suggests that chords are to be played as one unit and must not be arpeggiated. Chords with five or more notes are made possible by a rapid sweep of the *p* finger over strings six, five and four. The *i*, *m* and *a* fingers are kept on strings three, two and one, respectively.

Carulli abandons the 'finger per string method' of Part One in the second part of his *Méthode*. He suggests that in rapid passage work a single finger per string cannot play all the notes in time. Notes played without left hand slurs are obtained by alternating the *i* and *m* on the first three strings. Carulli maintains that *p* is the only finger to be used on the bass strings. Once again (as in Part One), the *a* finger has a small role and is only used for arpeggios. Carulli advises the reader to imitate the effect of a slur with the right hand.

This effect is achieved by sliding the thumb through two adjacent bass strings, suggesting an *apoyando* stroke (Micheli 2003:48).

3.4 Mauro Giuliani's right hand technique (1812)

Mauro Giuliani did not write a method, but it is possible to determine his technical principles by analysing his right hand studies. Giuliani's *Studio per la Chitarra* (Studies for the Guitar) Op.1 was his only attempt to define some of the fundamental issues of right hand technique (Micheli 2003:46). Part One consists of his famous 120 right hand arpeggios, which deals only with right hand finger patterns and appears to be warm-up exercises. Giuliani's Op.1 was revolutionary in the sense that he alternated the *p* and *i* fingers in exercise no. 17, where he could easily have used other fingers. Exercise no. 96 was a forerunner of the *tremolo* technique (see page 41) and no.100 a reversed *tremolo*.

Giuliani often used tone colour changes, and he used the *a* finger frequently in arpeggio patterns, where he could have used the *m* finger instead. Sor preferred to use the *p, i, m* pattern on triplet figurations while Giuliani spared the *p* finger for the bass part. An example of this can be seen in the variations that Giuliani wrote on Hummel's Op.71, on which Sor wrote his own set of variations.

Example 3: The correlation between Sor and Giuliani's right hand fingerings of Hummel's Op.71 (Micheli 2004:59)

The image displays a comparison of musical notation for Sor and Giuliani's right hand fingerings of Hummel's Op.71. It consists of four staves arranged in two pairs. The top pair is labeled 'Sor' and the bottom pair is labeled 'Giuliani'. Each staff shows a sequence of notes with fingerings indicated by numbers 1, 2, 3, and 4. The notation is in treble clef with a key signature of one sharp (F#). The Sor version shows a more complex, flowing line with many slurs and ties, while the Giuliani version shows a more structured, arpeggiated pattern with clear fingerings for each note.

Giuliani used the *a* finger in arpeggios on four strings and sometimes on the first string in chords. Most of the arpeggios could be played with only *p*, *i* and *m*, but Giuliani specifically advocated the use of the *a* finger. Hence, the 120 right hand arpeggios stand at the forefront of the development of four-finger technique (Micheli 2003:61).

His exercises in thirds, sixths and octaves are simple and innovative. Giuliani suggests that the performer should only use *p* and *i*, and that the two notes should be played separately. It is not certain whether Giuliani rested his *e* finger on the soundboard, but this was generally accepted at the time. There were new trends of adopting a stance in favour of freedom of the hand, so it could be that Giuliani used this flexible approach. Micheli (2003:62) suggests that he rested the *e* finger on the soundboard only when playing long passages on the first three strings with *i*, *m* and *a*.

There is no evidence whether or not Giuliani used nails. The common practice at the time was to use nails in ensembles, because it is difficult to hear the guitar when the flesh of the fingertip is used. Giuliani was renowned for his chamber music and concertos. He probably did use nails because he often performed in ensembles.

Giuliani used harmonics in his compositions sparingly. In ensemble pieces where the guitar performs with the piano or other orchestral instruments, he used natural harmonics which are more resonant. Unlike Sor, Giuliani used artificial harmonics in his guitar duos where the sonorities of the two guitars balance each other out. However, he did not mention how to play these harmonics.

3.5 Fernando Sor's *Méthode pour la Guitare* (1830)

Fernando Sor was born in Spain and lived in London, Moscow and Paris for several years. He travelled to Moscow in 1823 and proved a great success at the Russian court. Sor returned to Paris in 1827. He published many compositions in his later years including his *Méthode Pour la Guitare* which appeared in 1830 (Wade 2001:78).

3.5.1 Sor's right hand placement

Sor suggested that the common place to put the right hand is exactly one tenth of the length of the string from the bridge. If the hand is placed here, it will take no effort to obtain a clear and lengthened tone. For a mellow and sustained sound the right hand should be placed at one eighth of the string's length from the bridge. The first joints of the right hand fingers should be curved and the action of the finger must be a downward push, not a pull (Jeffery 1997:15).

Sor made a clear distinction between playing near the bridge (*ponticello*) or near the neck (*sul tasto*). He wrote that the string offers more resistance near the bridge and therefore the vibration must be made with a different velocity and not from a higher hand movement (Jeffery 1997:15).

In the right hand section of his method Sor says that he sometimes plants the *e* finger on the soundboard below the first string (Ophee 1979:8). He says that it is necessary to plant the *e* finger in passages where *p* plays the three bass strings whilst *i* and *m* play arpeggios on the top three strings. The *e* finger is placed on the soundboard to create a stable position for the hand, and to keep the fingers in position over the appropriate strings.

To create a louder sound one should place the hand closer to the bridge and the hand should use a little more force. The *p* finger could be used to create a very loud sound, and it should be perpendicular to the string. Sor says that the player should never make the volume of tone depend on the thumb's pressure against the strings, but rather on the velocity with which it strikes the string (Jeffery 1997:17). The height from which the finger is brought down as well as the velocity of the action is what gives the sound a louder quality.

Sor specifically stated that pizzicatos are not to be played with the flattened right hand. The performer should keep the volume loud with the right hand (in the normal position), with the left hand finger on the fret. The performer should apply less pressure (with the left hand) than usual, but not too lightly, so that a dampened sound is produced. Similarly, staccato notes should not be

produced by using the right hand, but by lifting the left hand finger as soon as the string is struck by the right hand. This lifting action should originate from the left hand thumb, and not from the whole hand.

3.5.2 Sor's three finger method

In addition to resting the *e* finger on the soundboard, when the hand does not need to move freely, Sor established the general rule that only the three fingers, *p*, *i* and *m* are to be used. The *a* finger is avoided because it moves the right hand out of position and creates a weak tone. However, in some instances, like four-note chords, he did use the *a* finger, and in so doing he changes the whole hand position to brush or slice the string to the right. Sor was not fond of arpeggiated chords:

Broken chords stand for nothing but themselves, it produces the effect of a continuous rolling of unbearable monotony on me (Jeffery 1997:30).

Sor avoided playing scales with separate notes at great speed. According to him the guitar would never be able to render the characteristics of the violin. It also brings the hand out of the normal range of the strings. Playing detached notes could only be achieved by displacing the arm or by bending the wrist, which is not desirable. Sor rather preferred to imitate the voice, by plucking the first note of the run then slurring the rest, because the guitar can produce slurring notes with ease. Sor said that if a pupil would like to play detached scales with only the right hand fingers, he should refer to Aguado's method (Micheli 2003:56).

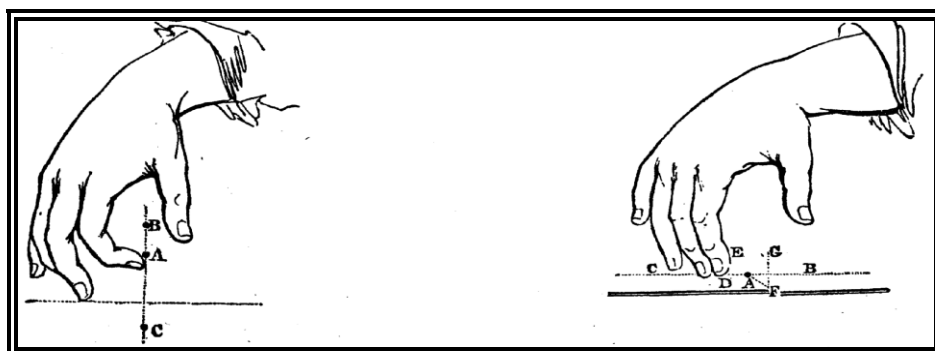
Sor advocated that accentuated notes are always played with the *p* finger. He held his hand at an elevated position which allowed *p* to pass over four strings; the *i* and *m* fingers remained on the second and first strings (Jeffery 1997:28). Sor urged performers to keep the right hand fingers curved as little as possible, and to displace the string down so that it moved at a 45-degree angle towards the soundboard.

3.5.3 The *apoyando* stroke

Sor is not very clear about how to play the *apoyando* stroke. He avoids resting the e finger on the soundboard as soon as the right hand can keep its position without the e finger's support. Once the e finger is not resting he states that the fingers should not be curled, but they should be held as perpendicular to the strings as possible (Jeffery 1997:56). This shows us that Sor did plant his hand for arpeggio playing, and that he may well have used the rest stroke for single-line passages.

In his sketch and explanation of *the manner of setting the string in vibration*, Sor refers to a rest stroke but does not name the type of stroke. Sor was more interested in the sound production than in finger movement (Ophee 1979:9).

Example 4: *The manner of setting the string in vibration* (Ophee 1979:9)



3.5.4 Sor and nails

Sor avoided playing with nails. He stated that the guitar is not manageable when using nails. Nails could produce very few gradations when it comes to sound quality. Sor complained that with nails *pianos* never 'sing' and *fortes* are never sufficiently full. He compared playing with nails to the sound of the harpsichord, and playing without nails to the pianoforte. He explained the sound of the harpsichord in such a way:

Pianos are always rattling and with the *fortes* the noise of the keys dominates over the sound of the note (Jeffery 1997:17).

Sor also had the following to say about Aguado's technique:

Mr Aguado has excellent qualities, to execute his employment of nails; he has attained good agility with them. Aguado's master played with nails and if he were to begin again he would play without using the nails (Jeffery 1997:17).

3.5.5 Imitating other instruments

Sor had much to say about imitating other instruments, but warned that imitation should only be a secondary effect as opposed to one's normal sound. To copy a horn player, Sor avoided playing open strings. Trumpet passages were imitated by playing the first string with force near the bridge and by placing the left hand finger on the fret. This creates a short, 'nasal' and jarring tone (Jeffery 1997:16). To imitate the oboe, he touched the string as near as possible to the neck of the guitar and kept the right hand fingers curved. This was the only instance where he saw it fit to use a little bit of nail.

Sor argued that one cannot always imitate the flute, as the guitar's range is not as high. To imitate an instrument one has to play at the same pitch. The player has to pay specific attention to the pitch at where the natural harmonic sounds. Sor preferred natural *harmonicos* (Spanish for flute-notes) over artificial harmonics, and used these in many of his compositions to imitate the flute. He specifically declared his aversion to artificial harmonics because of their weak sonority as well as the excessive expenditure of energy involved:

Apart from the dual task of having to calculate quite exact distances for both hands, I found in it the inconvenience of being forced to use the whole of the right hand to pluck a single note. I also found that each note that I wanted to produce cost me a movement not only of the wrist, but the entire arm, and that, not having a point of support, it was almost impossible to direct the finger with confidence to determine exactly half of each distance (Micheli 2003:28).

Sor described the harp as having a similar tone to the guitar. To imitate the harp, chords should be played with widely spaced intervals. The right hand should be placed halfway between the 12th fret and the bridge, and the first joint of the playing finger should be bent for a louder sound (Jeffery 1997:18).

Sor concluded the chapter on imitating other instruments by advising the player that all these sounds are effective if they are not used too frequently. These techniques are not meant for beginners and are exceptions to the fundamental right hand guitar technique:

All these techniques relate to quality of tone and are not set rules of what must be done, but what I have done, and for what reason (Jeffery 1997:18).

3.6 Dionisio Aguado's *Nuevo Método Para Guitarra* (1843)

All the essentials of modern right hand guitar technique can be found in Aguado's *Método* of 1843. Hand positions, types of strokes, the angle of the right hand fingers, arpeggio technique and special effects are all presented in terms which are directly relevant to the modern player (Jeffery 1994:xvi). Aguado's technique was very much the same as the technique we use today and was therefore very advanced for its time (Ophee 1979:10).

3.6.1 Right hand formation, positions and fingerings

The formation of the right hand should be as follows: the hand must be splayed open then closed without force. Holding this position, all the fingers except for *p* are placed on the third string.

Aguado remarked that the sound will be different when the string is plucked with the inside of the fleshy part of the finger or nail as opposed to when it is plucked with the middle of the fingertip or nail. When using nails, the right hand must be held at a right angle to the strings. Aguado established the general rule that no finger, with the exception of *p*, should strike the same string twice, in succession. An exception to this rule can be made when playing a special effect such as a staccato in a single-line melody (Jeffery 1979:80). These rules were established so that a particular sound could be produced by placing accents on certain notes, and to clarify the rhythmic structure of the piece. These rules also give a uniform tone colour to the melody.

Aguado emphasised that the correct way of plucking the strings is with vigour:

The string passes over the tip of the finger and then the over nail. The only support should come from the wrist, without any pronounced intervention from the arm. The support from the wrist allows for sufficient confidence so that the fingers of the right hand will not miss a movement, even though the hand constantly changes position. The two hands should work independently from each other; only then will the conditions be suitable to play the guitar well (Jeffery 1994:8).

Aguado also preferred to use the *m* finger rather than the *a* finger. The *m* finger is stronger than the *a* finger, and the *a* finger prevents other fingers from moving simultaneously and smoothly.

3.6.2 Right hand placement and the tripod

Aguado was the first pedagogue to abandon the technique where the *e* finger rested on the soundboard. He devised a stand in which the guitar was placed, called the tripod. The tripod allowed the guitar to resonate better because no body part, except the arm, touched the instrument. With the help of the tripod one does not need support from the *e* finger. The right hand gets automatic support from the forearm. Aguado stated that if the *e* finger rests on the soundboard it stops certain vibrations from the soundboard, and prevents the hand from being able to move rapidly back and forth:

In no way will one rest the little finger on the table, or any other finger, because the hand must remain free and nimble. All the fingers will be used for plucking the strings, including the little finger on rare occasions (Jeffery 1994:3).

3.6.3 The right hand thumb

Aguado argued that the *p* finger should be as highly developed as the other fingers. The *p* finger plays a leading role in virtuosic passages. The whole of Part One of Aguado's *Méthodo* is aimed at reducing energy expenditure:

Each time the thumb plays, one should bend the last joint in such a way that the rest of the thumb hardly moves. The training of the right hand thumb is highly important, for becoming used to moving no more than its last joint; it helps to ensure on its part that the hand does not move. The index and middle fingers must in turn play the same way. A secure and

energetic approach relies on the fact that the fingers should only move at the last joints (Jeffery 1979:30).

3.6.4 Strengthening of the a finger

It is not long after the initial technical exercises in his studies that Aguado included the a finger. He developed the a finger towards complete freedom of use, especially in the melody part. His general right hand technique was to avoid repeating fingers on the same string, but he included a few exercises with a group of four notes repeating the a finger. This is because the a finger is weaker than the other fingers. The performer therefore has to pay special attention to it, though not so much that the strings played by other fingers cease to be clearly heard (Micheli 2003:51).

Example 5: Study number 23 from the Aguado method (Jeffery 1994:138)



3.6.5 Aguado and the *apoyando* stroke

Aguado and his Italian contemporary, Federico Moretti, also discussed the *apoyando* stroke. Aguado did not call the rest stroke *apoyando* but he did explain how to play it:

The forefinger can also pluck the first and second strings when they have to be sounded together, for example, in intervals of a third. If the nails are used, the first string must be plucked sharply so that the fingers pass over the second string, sounding it, and then coming to rest on the third (Jeffery 1994:58).

It is possible that the *apoyando* was used long before the 19th Century, because some Renaissance pedagogues (and some even earlier), avoided resting the e finger on the soundboard. Once the hand is free it becomes possible to play the rest stroke.

In Lesson 50, Aguado insists that the right hand finger, after striking two strings, should come to rest on the third. Descending passages are also played with the rest stroke because each repeated finger is prepared when resting on the next string.

Example 6: Lesson 50 - using the *apoyando* stroke (Jeffery 1994:58)



3.6.6 Timbre changes and imitation

In Lesson 48 Aguado asserts that tone colour on the guitar is where its chief wealth lies. Different tone colours can be produced by plucking the string at various points. In his description of right hand guitar technique in the *Apéndice* to the *Nuevo Método Para Guitarra*, Aguado explains that the same string can produce different sound qualities when plucked one or more finger's distance from the bridge, over the sound-hole, and close to the neck.

Two brief chapters - *Wealth of the Guitar* and *Imitations* - contain more valuable details on right hand guitar technique. Aguado does not merely discuss natural harmonics made by the left hand. He describes how to play *octavados* (artificial harmonics) of the chromatic scale which Sor, Carulli and Giuliani neglected. Aguado was the first pedagogue to realise that *octavados* have a good quality when played correctly:

... and since in this case the fingers of the left hand are occupied with pressing down in the usual way, it is necessary that those fingers of the right hand fulfil two functions, one of stopping the harmonic, the other of striking it (Jeffery 1979:68).

Aguado was also the first pedagogue to explain how the *tambora* (drum effect) must be performed. He states that either the straightened *m* or *i* finger

or, even better, the *p* finger, must tap the strings with quick movements near the bridge.

Aguado also explains how the string can be dampened with the right hand. This can be done by either interrupting the vibration of the string with the same right hand finger or combining the stopping action with the left and right hand.

3.6.7 Playing with nails

The right hand can pluck the strings with the tip of the fingers only, or first with the tip of the finger then with the part of the nail that protrudes beyond the fingertip. Hence, the string slides immediately along the nail. When plucking without nails, the fingertip should be bent to grip the string. Alternatively, when using nails, the fingertip should be less bent, so that the string can slide over the nail. Aguado used nails on all his fingers except the *p* finger. After hearing his friend Fernando Sor, who played with no nails, Aguado trimmed his thumb nail. He mentioned that not playing with a thumb nail created pleasing and energetic sounds in the bass part. Aguado said that when the performer plays with nails, a 'sweet', harmonious, 'melancholy' and even 'majestic' sound that is unique to the guitar is created (Jeffery 1994:10).

Aguado stated that the nails should not be very long or hard. They should be cut in an oval shape so that they protrude slightly over the fingertips. If the nails are too long they do not allow for quick movements, because the string takes longer to pass over the nail, and plucking is clumsy. When short nails are used, performances are rapid and clear. Aguado made the exception that people with long fingers should not use nails. The longer the finger, the more leverage there is, and the more the force of action is augmented.

3.7 Conclusion

Carulli, Giuliani, Sor and Aguado were some of the great classical guitar pedagogues who were the first to focus on the finer details of right hand guitar technique. No other period saw as many novel ideas about right hand guitar technique as the Classical Period. Due to a shift to more complex music in general, and to changes of the instrument itself, these techniques became possible. Some of the aforementioned theories were picked up by the next generation, but many were not, and others were only recently brought back into vogue.

Sor and Aguado both explained how to play the *apoyando*, but neither referred to it as *apoyando*. Sor advised that the fingers should be held perpendicularly to the strings. If the fingers are perpendicular to the strings it is often impossible to clear the adjacent string, and is therefore impossible to play a *triando* stroke.

Aguado explains how to play the double *apoyando* in his *Nuevo Método Para Guitarra* (1843). He recommends that thirds on strings one and two are to be played with one finger, which should then come to rest on the third string. Aguado avoided resting the e finger on the soundboard. This makes it possible for the fingers to play *apoyando*. Aguado refers to the *apoyando* stroke when playing descending passages. He proposes that the repeated finger rest on the adjacent string before it plays again.

CHAPTER 4

RIGHT HAND TECHNIQUE FROM 1850 TO 1900

4.1 Introduction

There was a distinct decline in the guitar's popularity during the 1850's with the introduction of the pianoforte as a salon and concert hall instrument. Hector Berlioz (1803-1869), a guitarist himself, writes in his treatise, *Modern Instrumentation and Orchestration*:

Composers employ it (the guitar) little, either in church - theatrical – or concert music. The guitar's feeble amount of sonorousness, which does not admit of its being united with other instruments, or with many voices possessed but of ordinary brilliancy, is doubtless the cause of this (Wade 1998:88).

By the mid-1850's public interest in the guitar had almost evaporated everywhere except in Italy and Spain. The nature of the music at the time became more chromatic and harmonically experimental. The music written at the time was difficult to play on the guitar as opposed to on the piano.

4.2 Regondi the virtuoso

One of the few guitarists who achieved fame during this difficult period for the guitar was Giulio Regondi (1822-1872). He gave his first public performance at the age of five and by the time he was nine he had enraptured audiences in most of the major European cities (Mellers 1995:104). After extensive concert tours Regondi settled in London where he performed regularly, and was hailed as the 'Paganini of the guitar'. His premature death from cancer robbed the guitar of a prominent virtuoso (Wade 1980:129).

Regondi's compositions were not generally available until the 1980's, when Simon Wynberg published an edition of his complete works, commenting that he possessed one of the most groundbreaking techniques of his generation (Wade 1998:91). Regondi's music is on the same level as that of his contemporary, Chopin: harmonies change several times in a bar; rhythmic

patterns vary with several Chopinesque cadenzas. The exploitation of guitar-inspired devices such as *glissandos*, *tremolos*, arpeggios, sequential modulations and chains of diminished sevenths were a significant addition to the guitar's repertoire (Mellers 1995:104). Possibly the first full length *tremolo* piece, *Reverie*, was written and performed by Regondi.

The *tremolo* is a mandolin effect which requires a specific kind of preparation of the *p*, *i*, *m* and *a* fingers. It delivers a sensation of polyphony and stereophony. The listener is often fooled into believing that two instruments are being played simultaneously.

4.2.1 Regondi's right hand technique

The ten etudes written by Regondi will be analysed to attain some knowledge of his right hand technique. The etudes contain characteristics of 19th Century salon music and are woven into clever and inventive guitar compositions, which require considerable skill to perform (Mellers 1995:104).

Etudes 2, 3 and 7 focus on pedagogical intent. Extended arpeggios and rapid scale passages are employed. Etudes 4, 5 and 6 are concert etudes, of which 4 and 6 show Regondi's melodic side (Mellers 1995:104). All these etudes demonstrate that Regondi composed richly voiced chords with an expanding harmonic language. There are very few right hand indications in the etudes.

Etude No 2 requires extreme mobility of the thumb. The bass part often crosses strings and *p* is forced to play up to the third string. The basses are to be stopped frequently with the right hand. The right hand fingers have to be worked out very carefully because repetition of fingers can often occur. Regondi did not employ artificial harmonics, so the hand should stay in position.

In Etudes 3 and 5 complex arpeggio patterns and irregular string skipping between fingers *p*, *i* and *m* occur. The melody remains in the top voice. The voicing (a bass with two middle voices and a melody) complicates the right hand fingering and often causes the performer to repeat fingers. One of the

few right hand indications occurs in Bar 28 of Etude No 3, where Regondi requires the performer to play a right hand mordent using fingers *p*, *i* and *m*.

4.3 Guitar construction and its influence on sound production

During the mid-1800's, the Spanish guitar tradition was preserved by José Viñas (1823-1888) and Julián Arcas (1832–1882). Arcas, a Spanish virtuoso wrote roughly 50 works mostly in a Spanish folk idiom (Jordaan 2005:24). By the 1870's Arcas became interested in guitar construction, and co-operated with the guitar-luthier Antonio Torres (1817-1892) of Seville. Arcas is more important than Viñas in the sense that he was the first performer to introduce the public to the Torres guitar. He also introduced Francisco Tárrega (the so-called founder of the modern guitar school) to the Torres guitar.

4.3.1 The Torres Model

Why the guitar whose ancestry certainly antedates that of the violin should have to wait until the middle of the 19th Century to find its final form at the hands of an obscure carpenter with no hereditary background in instrument making is one of those mysteries that probably will never be solved (Bream 1999:1).

The shape and size of the guitar as we know it was standardised only in the mid-19th Century. Standard guitar-tuning became the norm from 1865 onwards (Summerfield 1996:32). Antonio de Torres standardised the way guitars were built, and with this standardisation came many changes in guitar technique and sound production. Torres standardised the guitar by increasing the length of the neck and size of the body, giving the guitar a specific structure and bracing (in a fan pattern). He standardised the overall portions, specifying types of wood, which raised the quality and augmented the tone.

Guitarists who played on this instrument proclaimed it as possessing an extraordinary tone, the whole secret of tone production was dependent on the top alone. These instruments have one trait in common, that is extreme softness of touch and easiness of action and a definite common tone quality – mellow yet robust, which once heard is never forgotten. (Bream 1999:3)

All these factors have an impact on right hand technique and sound production. As the size of the instrument increases, the strings are spaced wider and therefore the player has to spread his right hand fingers accordingly. Similarly, the performer has to change the position of his right arm when the body of the guitar is larger. Different attacks on the string can now be used because the quality of tone is better. A longer string length means that more sustain is possible. With a larger body more overtones are produced.

4.4 Controversy over the Tárrega technique

It is difficult to discern whether Francisco Tárrega (1852-1909) was the founder of the modern guitar school or not. It is said that he developed many novel concepts for technical improvements appropriate for playing the larger Torres guitar. He advocated specific right and left hand positioning because the new instrument allowed more timbres to be exploited, especially in the higher register. The Romantic music that Tárrega wrote required the performer to use different *timbres*, which in turn required an alteration of technique. Tárrega's teachings were not documented, but were passed on verbally from master to student (Wade 2001:97). Arguments about Tárrega's way of playing have been underway for more than a century.

4.4.1 Arguments for Tárrega as founder of the modern guitar school

Tárrega advised that the e finger should no longer be left on the soundboard and that the right hand should be held at a right-angle to the strings (Wade 1980:148). He advocated the right hand no-nail technique as did some his students decades after his death (Summerfield 1991:207).

Emilio Pujol (1886-1980), a student of Tárrega's, confirmed that his master's sound production and technique was unique and revolutionary for its time. He maintained that Sor and Tárrega were very different from each other. Sor used a little nail and Tárrega used only the fingertip. Tárrega attacked the string perpendicularly and Sor attacked it diagonally. Pujol argued that Tárrega was the first to employ the *apoyando* stroke. Pujol's opinion was that

nowhere in the methods of Sor and Aguado, or those of any of their contemporaries, is the *apoyando* stroke explained (Pujol 1930:49).

Julio Sagreras stated that the distinguishing features of the Tárrega school were: the method of attacking the string by the fingers of the right hand (the rest stroke), the position of the right hand, and the stressed or wider usage of the *a* finger (Hofmeester 1946:4).

4.4.2 Arguments against Tárrega as founder of the modern guitar school

The fact that Tárrega avoided nails is not completely true because Domingo Prat, a personal friend of Tárrega, argued that he *did* perform with nails when he was younger. Tárrega taught Pujol at a later stage in his life, from 1893 till his death in 1909. He was in an artistic and physical decline - suffering from arterial sclerosis that caused his nails to lose their sensitivity and become hard. He was therefore obliged to cut his nails off (Ophee 1981:156).

As mentioned in Chapter 3 it is now known that the *apoyando* stroke was not invented by Tárrega. The *apoyando* stroke was explained by Sor and Aguado and perhaps even by guitarists before them. It is possible, though, that Tárrega *named* it the *apoyando* stroke. Tárrega was also not the first to abandon the technique which leaves the *e* finger on the soundboard. Sor and Aguado also wrote clearly where to hold the hand to create certain timbres and to imitate other instruments (Ophee 1981:11) (see Chapter 3.5.5 on imitation of other instruments).

Andrés Segovia argued that the *apoyando* stroke was first used by flamenco guitarists (Bobri 1977:43). He confirmed that these musicians used it in rapid scale passages. These scale passages needed to be loud to sound over the strummed chords while accompanying dancers and singers. The thumb often played the supported stroke for melodic passages. Segovia also stated that when Emilio Pujol asked his master whether he invented the *apoyando* stroke, he said that Julián Arcas had used it prior in rapid scale passages (Bobri 1977:43).

It is evident that Tárrega used the *a* finger in many of his works to play the melody, but so did Aguado and Sor. Aguado (1825) also mentioned that the right hand fingers must be at right-angles to the strings when the string is plucked with the middle of the nail. Therefore he considered the right-angled hand position prior to Tárrega. This hand position changed to a more oblique position in the 20th Century when Segovia and other performers took to the stage (Ophee 1981:11).

4.5 Conclusion

Among the first Romantic performers and composers were Giulio Regondi and Julian Arcas. Francisco Tárrega soon became the most popular composer and performer, but owed many of his compositional ideas to Arcas, whom he admired. The Tárrega legacy lived on by word of mouth through his pupils and admirers.

The definitive characteristics of Romantic guitar music include: extended harmonies and more complex chord progressions, specific *timbre* changes, and a change in compositional forms. New guitar effects were developed, such as the *tremolo*, *glissandos* in both directions, percussive effects and the frequent use of the middle and upper registers of the guitar.

The application of these characteristics requires an advanced approach to sound production and right hand technique. The techniques and theories of Aguado were adopted by Regondi and Arcas to perform these guitar effects. The standardisation of guitar construction and the improvement of volume and tone make these effects easier to execute.

It is now clear that Tárrega followed the teachings of Sor and Aguado, but extended the use of certain elements from these teachings, such as the *a* finger melody. The concept of the modern guitar school is then derived from multiple factors: the new Torres guitar, the teachings of Sor and Aguado, and compositions by composers such as Arcas and Regondi. The fact remains that Tárrega's followers might just have overstated their maestro's pedagogical contributions.

There is no doubt that Tárrega was a formidable arranger and composer. He was one of the guitar's foremost Romantics. Sor and Giuliani composed sonatas, variations and fantasias, whereas Tárrega's compositions convey picturesque images depicting places, moods or miniature sketches of family members or students in typical Romantic style (Wade 2001:99).

CHAPTER 5

GUITAR TECHNIQUE IN THE EARLY 20th CENTURY

5.1 Introduction

The beginning of the 20th Century ushered in a new era for the classical guitar. With the advancements made by Torres, as well as the performances and compositions by Tárrega, the guitar was firmly established as a popular instrument in salon concerts (Purcell 1989:ii). Two of Tárrega's pupils, Miguel Llobet (1878-1938) and Emilio Pujol (1886-1980) influenced the guitar's increase in popularity in the early 20th Century.

5.2 Miguel Llobet and the Tárrega technique

Llobet is an important figure in the history of the guitar because he was one of the first guitarists to make the world aware of Tárrega's teachings, arrangements and compositions. He was the first guitarist to play concerts on three continents - Europe, the Americas and the USA. He made the public aware of new composers such as Villa-Lobos, Ponce and de Falla. He was also the first guitarist to make electric recordings of the classical guitar (Purcell 1989:ii).

It is known that Llobet's studies with Tárrega ended prior to 1902, the year that Tárrega switched from playing with nails to playing with the fingertips. Hence, Llobet followed the school of Aguado and used his nails when attacking the string. Llobet's style and technique were therefore similar to that of an early Tárrega. Llobet argued that his master's genius was derived from the two masters before him, Sor and Aguado, but even they would have been the first to recognize Tárrega's superiority in the degree of perfection which he brought to his technique and sound production (Purcell 1989:ii).

One of the major musical attributions which Tárrega taught Llobet was the concept of exploring sound and colour (Purcell 1989:iv). Llobet specified distinct right hand placements in his editions of 19th Century compositions by

Sor, Carcassi, and Tárrega. Sor and Aguado had already indicated hand placements in their methods. It can only therefore be perceived that Tárrega and Llobet perfected these placements.

5.3 Emilio Pujol and the Tárrega technique

Emilio Pujol, another student of Tárrega's, wrote considerably more about guitar technique and sound production than Llobet did. Pujol studied with Tárrega from 1893 along with Llobet at the Municipal Conservatory of Music in Barcelona. Where Llobet is considered to have learned and used the earlier techniques offered by Tárrega, Pujol adopted Tárrega's later teachings.

5.3.1 Pujol's *Dilemma of timbre on the guitar* (1930)

Pujol's book (*Dilemma of timbre on the guitar*) deals with the aesthetics of sound production. In it he explains why guitar performers should play without nails.

Timbre is the characteristic element of every sound; and just as colour to an object, scent to a flower, form to the body, so is timbre to sound (Pujol 1930:38).

Pujol stated that it is not practical for the same set of fingers to use two different techniques; therefore one has to choose between using nails or using the fingertips, hence the dilemma.

According to Pujol, the guitar reached its height in popularity in the 17th Century. Thomas Mace's *The Music Monument* said that the nail cannot draw so sweet a sound as the nimble end of the flesh. He confessed that in a consort it might do well. Pujol believed that Sor reigned superior over Aguado because playing with the fingertips better expresses the classic spirit of the sonata, fantasy and the minuet.

Pujol argued that the majority of guitarists in London, Copenhagen, Berlin, Vienna and Moscow played with their fingertips, but that elsewhere guitarists played with their nails (Pujol 1930:47). Even in Spain there were cities that disapproved of the method used by other cities. In Catalonia, guitarists

preferred to play with the fingertips, while in Castile they played with nails. This explains the difference in technique between Sor and Aguado, affirming Pujol's point: guitarists like Aguado, Giuliani and Carulli preferred to play with nails because it was tradition for them.

The fact that Aguado's method was so widespread affected the adoption of the nail technique. Arcas and Tárrega (up to 1902), adopted the stance in favour of nails. Pujol stated that Tárrega, in his youth, did not realise the possibility of producing a better tone and that he had a period of bad taste at the beginning of his career - Tárrega's programmes included virtuosic music written for other instruments, and few guitaristic pieces.

After contemplating the question of tone, Tárrega stopped performing in public for a while. Tárrega worked hard to conquer the difficulty of playing without nails. Pujol argued that Tárrega did not change his technique because he was influenced by someone else or because he was imitating another guitarist. He did this because of his inherent longing for perfection. Pujol affirmed that when Tárrega performed without nails a certain 'purism' was reflected in his music and tone. With the no-nail method, Tárrega discovered new timbres and subtleties in his execution (Pujol 1930:50).

5.3.2 Pujol's view of sound production

The question of sound to a guitarist is as important as an article of faith to a moralist. Sound reveals the performer's personality (Pujol 1930:39).

Pujol stated that each guitarist will sound different to another and that one should strive for the best sonority. The sound of a note depends on how the string is attacked, the spot where it is attacked, and the string's diameter, elasticity and tension.

The nail has a hard surface and varies in thickness. It gives the string a penetrating brilliance of timbre: metallic but restricted in amplitude. The sound that is created when playing with nails is like: 'a small sharp arrow piercing our

sensibility while the fingertip consists of a softer surface area with greater thickness delivering a louder, fuller, sweeter and purer sound' (Pujol 1930:53). The writer has categorised Pujol's view of sound production under the following subsections.

5.3.2.1 A scientific point of view

The difference in sound that is produced by the nails and by the fingertips is characterised by the higher harmonics accompanying the fundamental note. Pujol argued that a smooth, subtle, soft, full and pure sound is created when playing with the fingertips. When the string is struck with the nail it vibrates at an angle, creating higher vibrating harmonics. This produces a metallic sound. When the string is played without nails the string vibrates in a regular shape which creates fewer higher harmonics, producing a less brilliant, but sweeter and fuller sound (Ophee 1983:49).

5.3.2.2 An aesthetic point of view

Pujol believed that playing without the nails gives the sound a more homogenous blend; it unifies timbres better and gives a sound of inner composure and emotion (Ophee 1983:50). Playing with the fingernails elicits more contrast and nuances of from each string, but does not so much unify the timbres as dissociate them (Ophee 1983:50).

5.3.2.3 A mechanical point of view

Pujol stated that when a player uses his nails it makes the movement of the left hand easier because a clearer and faster sound is produced which can easily be dampened. Using the nails makes colour changes easier and harmonies more audible. Fast runs, arpeggios and legato passages can be executed easily and the *rasgueado* is brilliant and showy. He stated that all these are just a bag of tricks which should be used moderately, or the player might become disillusioned.

When playing with the flesh, one has to use more force and greater precision in the left hand to stop unwanted notes from sounding. Yet, volume and uniformity is better. Chords can be played to maximum intensity and volume.

The *tremolo* is no longer metallic. Pizzicatos are clear and acute on all the strings and the notes of the scale are equal and regular. This way of attacking the string does not show grand effects, but the artist can still find all the necessary elements of expression (Pujol 1930:57).

Pujol argued that the performer is free to choose between these two procedures according to his own individual aim or criteria. Each style embodies a distinct mentality. The one style is spectacular and forces an exterior personality and the other is intimate, sincere and inspired by the spirit of art. Pujol said that what matters in art is the spirit alone, and that the guitar will allow each artist to realise his own work with sincerity (Pujol 1930:58).

5.3.3 Pujol's *Escuela Razonada* (1952)

Emilio Pujol's *Escuela Razonada* (guitar school), 1952, is based on the technical principles of Francisco Tárrega. The *Escuela Razonada* is therefore a secondary source of Tárrega's technique which he employed from 1902 onwards. Pujol followed his master's instructions by writing exact right hand fingerings and use of *timbres* for all his exercises; he left few alternatives. Pujol did not use the terms *apoyando* or *tirando*. He described the *apoyando* stroke as plucking and resting the finger on the next string, and *tirando* as plucking without resting the finger on the next string.

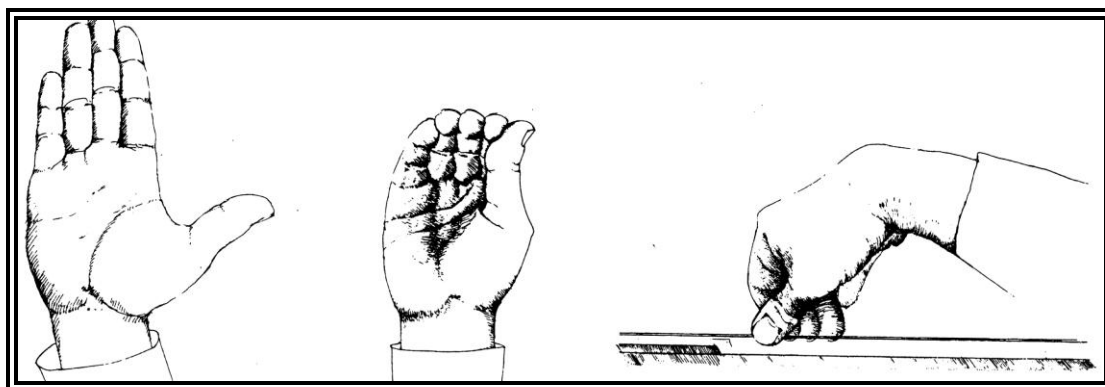
From the first volume on, Pujol copied complete chapters from the *Nuevo Método* of Aguado, repeatedly referring his readers to that book (Ophee 1981:154). There are a few instances in the book where Tárrega's name is mentioned, but usually these are instances where Pujol refers to the memory of his deceased master without crediting him with any specific tenets of guitar pedagogy (Ophee 1981:154). It appears that the work is based on the principles of Tárrega's technique only in a broader sense. From a strict technical and pedagogical point of view, the work is an expansion of Aguado's technique (Ophee 1983:155).

5.3.3.1 Right hand formation and position

The right hand position determines the quality, volume, and ease of movement. The forearm should be properly supported and the wrist must hang in an arched position. The wrist should be moved slightly towards the sound-hole. This will give the hand a position where the knuckles are parallel to the strings (Ophee 1983:79).

Pujol explains how to shape the hand before playing. Firstly, the hand should be open in such a way that the fingers are touching each other. Secondly, the *i*, *m* and *a* fingers must bend and correspond with the tip of *p*, with the *i* finger touching the thumb. Thirdly, the hand is then turned and the wrist is bent. The fingertips are placed on the top string between a quarter and a fifth of the way along the string from the bridge. The thumb should then be parallel to the frets, pointing across the strings, and should remain in light contact with the *i* finger along the side of its front joint.

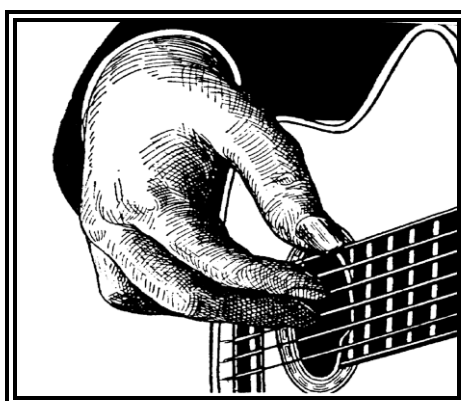
Example 7: Formation of the right hand (Ophee 1983:80)



This hand position allows the strings to be struck perpendicularly. This angle of the hand prolongs the vibration of the string. It also allows all the fingers to move in the same way, because they are placed equidistant from the strings. When the string is struck, the wrist should stay four centimetres above the soundboard and the hand should not move more than is necessary.

Pujol believes that the right hand fingers should form a line parallel to the strings and should be kept straight. The fingertips should be curved and flexible when touching the string. The last joint of *p* should touch the string and be kept parallel to the *i* finger. This hand position should remain as natural as possible and should feel comfortable and at rest (Ophee 1983:56).

Example 8: Position of the right hand (Ophee 1983:55)



5.3.3.2 Action of the right hand fingers

The action of the fingers determines the rhythm, expression, nuances and sonorities. The entire arm should be at complete rest; any rigidity or contraction will impede the freedom of movement of the fingers. Any constraint will affect the stability of the hand, as well as dull the sensitivity and independence of the fingers (Ophee 1983:56).

The action of plucking falls into four phases. Firstly, the finger is placed into contact with the string. Secondly, force is placed in the tip of the finger and the string is then moved out of its position by the movement of the last joint of the fingertip. Thirdly, the pressure of the movement is continued until the string slides back under the fingertip and then begins to vibrate. Lastly, the finger comes to rest on the next string, acting as a second support for the hand.

The action of the finger can differ in the fourth phase. In this case the finger should bend at the last joint after it has touched the string, missing the next

string. The finger should not be allowed to bend back towards the string after the string has been plucked.

The non-supported (free) stroke is used when a finger has to play on the adjacent string after the thumb has played. The finger cannot rest on the string as it will interrupt the vibration of the string. In such a case the two strings are plucked as in a chord (see 5.3.3.4), without the finger coming to rest on the next string.

Other effects oblige the hand to move from its position. In these cases the elbow and wrist will move to allow the fingers to keep its natural position. The striking action and movement come from the fingers. Only the *p*, *i*, *m* and *a* fingers are used for playing. The *e* finger is only used for *rasgueado* passages and for support in *pizzicato* playing. Maximum intensity of a note can be performed from the tip of the finger without the help of the hand or arm.

When playing with *i* and *m*, stiffness in the hand must be avoided. The knuckles of the hand should bend without causing the hand to lose its balance. In passing from one string to another the hand must follow the movements of the fingers. The wrist must follow the hand downwards when playing the high strings and upwards when playing the lower strings. The distance between the wrist and the string should always be the same.

Notes should be played *apoyando* except when a note precedes another on an adjacent string, as this would stop the note from sounding out its full duration. Repeated notes on the same string should also be played with the supported stroke to gain better balance. It is also recommended that the performer gains maximum equality in sound between the *apoyando* and the *tirando* strokes (Ophee 1983:56).

Pujol argues that the *a* finger is important in pieces with a melody in the top voice. In these instances the *a* finger should always play *apoyando*. The *apoyando* stroke should also be used for inner voices with special interest (Ophee 1983:67). Pujol uses all the combinations of fingers, assigning the

apoyando stroke to each of them. He also states that many of the exercises should be performed with only the *tirando* stroke. The duration, intensity and velocity will require the hand to change the type of stroke in certain passages.

Pujol maintains that any finger can play any string as long as the basic hand position is kept. A fundamental principle is that no finger should be repeated; to do so would be like taking two consecutive steps forward with the same foot.

5.3.3.3 Plucking with the thumb

Pujol believes that the first joint of the thumb (from the knuckle) plays no part in its movement. The second joint of the thumb flexes to strike the string. After the second joint has caused the string to vibrate, the last joint of *p* should form a small cross with the end of *i*. In quick passages the thumb will not touch the *i* finger (Ophee 1983:58).

The movement of the thumb must be independent of the other fingers or else the hand will contract. With the hand in position the thumb is moved from its position parallel to the *i* finger until the end joint is placed on string six. The bass string should be plucked downward, towards string one. The thumb moves outwards away from string five so as not to touch it. The hand must follow the thumb naturally without the wrist ever touching any part of the guitar (Ophee 1983:89).

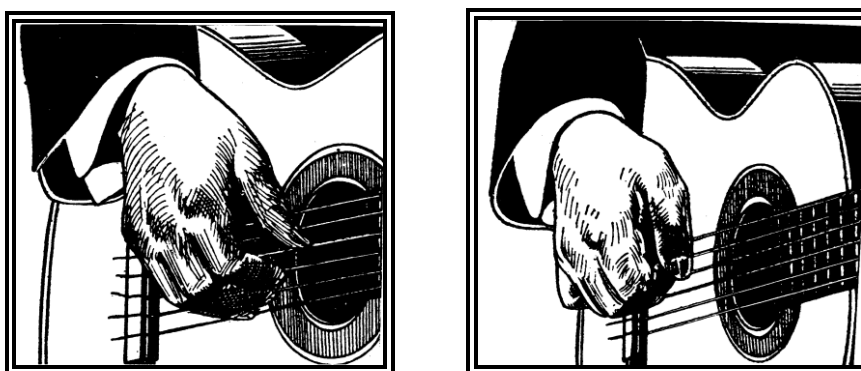
In passages where the thumb is used more frequently it should bend less at the end joint. The more frequently the thumb plucks, the smaller the movements should become and the less force should be used in the last joint. The movement of the thumb must always be independent from the movement of the other fingers (Ophee 1983:81).

5.3.3.4 Playing chords

A different action of the fingers takes place when chords are played. The fingers need to pluck without coming to rest on adjacent strings. If the strings which ought to be sounding are touched, they will not produce a sound.

Firstly, the fingers are placed near the strings which are going to be played. Secondly, the fingers then pluck in an oblique direction, bending their end joints towards the interior of the hand without touching the adjacent strings.

Example: 9: Action of the fingers when playing chords (Ophee 1983:101)



Lack of support can cause the hand to contract or cause imbalance (Ophee 1983:101). The notes should be struck simultaneously without causing jerks or tensing the hand. The fingers must be curved and only the first joints of the fingers must pull in an oblique direction.

If the strings sound against the fingerboard it means that the performer has plucked it outwards. If the strings are plucked in an oblique direction, no matter how vigorously, they will always sound out correctly. The volume of the chord depends on how large a surface area of the flesh is applied to the string. Pujol argues that the more nail is used the softer the sound will be and that the greatest difference between playing with nails and fingertips can be heard when playing chords (Ophee 1983:101).

When three-note chords are played the thumb flexes at its first and third joints. The thumb and the other two fingers should pluck with force, concentrating their strength into their end joints. The rest of the hand should not be affected by its movement. All three fingers should produce the same amount of clarity and volume (Ophee 1983:106).

5.3.3.5 Arpeggios

A three-note arpeggio should be considered as a horizontal chord; instead of playing the notes simultaneously they should be played successively. The ascending three notes of the arpeggio should be played separately with a *tirando* stroke because the notes will then be prolonged.

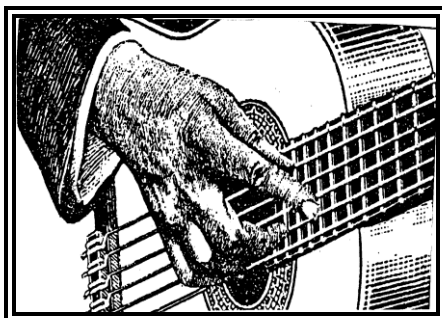
With the descending arpeggio the plucking action is different. The *apoyando* stroke should be used because it does not affect the string's vibrations. There is no reason not to use the *apoyando* stroke with a descending arpeggio then, as it is more natural, secure and comfortable for the hand (Ophee 1983:111).

A four note arpeggio should be played as a scale in slow and loud passages. It could also be played as an ascending arpeggio in rapid passages. It is played as a scale to acquire strength and security, and as an arpeggio to attain speed. The *a* finger does not come to rest on the adjacent string when ascending. The *a* finger plays the *apoyando* stroke in slow passages. In descending passages all fingers, including the *a* finger, play the *apoyando* stroke (Ophee 1983:146).

The six-note arpeggio consists of two parts, one ascending part and one descending part. In slow and loud passages all the notes should be played with the *apoyando* stroke. In faster passages the first three notes should be played with the *tirando* stroke and the descending arpeggio should be played using the *apoyando* stroke. In very rapid passages only the *a* finger plays the *apoyando* stroke (Ophee 1983:148). The right hand should never contract and the fingers must remain flexible, so that the joints can move freely.

5.3.3.6 Playing octave harmonics

The right hand fingers have to perform two actions simultaneously. They have to touch the string lightly an octave higher than the fretted note, and they have to pluck the harmonic. The *i* finger is extended so that the inside part of the tip-joint touches the string an octave higher than the fretted note. At the moment of contact with the *i* finger the *a* finger plucks a *tirando* stroke in its normal position.

Example 10: Playing artificial harmonics (Ophee 1983:117)

Harmonics can also be performed by plucking the note with the *p* finger. The *p* finger should be bent at the last joint (towards the palm) when playing the note, and the *i* finger still extends to make contact at the precise point. The only time that the thumb cannot pluck the string is when there is a bass voice while octave harmonics are simultaneously being played. In such an instance, the *a* finger is used. The string is struck with the last joint of the thumb and moves towards the palm so as to not obstruct the *a* finger.

5.4. Andrés Segovia (1893–1987)

I was both my pupil and teacher, and I am learning still. It is better to be a pupil of an art at 90 than a master at 14 (Clinton 1978:95).

The guitar was finally seen as a concert instrument because of the contributions of Andrés Segovia (1893-1987). The influence of Segovia's technique and sound production, and his opinion on the guitar itself, changed the future of the classical guitar. Segovia made it possible for guitarists to have a professional career (Clinton 1978:40). He was the first to make the audience shift their focus regarding the classical guitar from composer to performer, much as Franz Liszt did with the piano.

5.4.1 Segovia's early sound and technique

Segovia made his concert debut in 1909. His career extended until 1987. In a concert in Madrid he provoked an opposing reaction from Tárrega's supporters, one of whom remarked: 'worst of all he plucks the strings with his

nails' (Wade 1980:151). This also appeared to happen in Valencia where Tárrega aficionados did not approve of Segovia's flesh-and-nail technique. However, there were others who approved of Segovia's sound in his early recitals. Domingo Pratt had the following to say:

His decision, security, sound and posse confirmed that this is the artist that the guitar needs (Clinton 1977:9).

Segovia's early performance style and technique revealed some of Tárrega's principles combined with his own. Many of Tárrega's compositions were included in his programmes. Segovia was indirectly influenced by Tárrega's teachings through Llobet. Segovia was 22 when he was first referred to the Tárrega technique by consulting Llobet, who was already an acclaimed concert recitalist (Purcell 1989:ii). Later on in Segovia's career he had the following to say about Tárrega:

I'm glad that I never knew Tárrega; because if I had known him, I might not have been what I am today (Clinton 1978:10).

Segovia argued that Tárrega played without nails because he did not play much in public concerts. He therefore did not need the strength of the nail to fill a large hall with a clear sound. Tárrega played in smaller and more intimate places. Segovia stated that Tárrega renounced the real nature of the guitar, which is in the richness of its timbres. From Segovia's perspective, Tárrega reduced the guitar to a monotonous instrument. Yet, he agreed that Tárrega was the first to put the guitar on its feet as a concert instrument.

Segovia believed that Tárrega's followers were mediocre, with the exception of Llobet. But Segovia was not too fond of Llobet's sound either, referring to it as a rasping, metallic sound lacking in roundness (Wade 1980:151). In another interview, Segovia had the following to say:

Llobet was my friend, I liked him. He was the best among all of Tárrega's students, a better musician with better technique than the rest. He was the only intelligent student of Tárrega's because he played with nails. His sound was not good but he had a great expressive sympathy (Clinton 1978:20).

Segovia disagreed completely with Pujol's views on guitar technique and sound production. He would rather have referred his students to the Aguado method. He despised Pujol's right hand method, especially with regards to the way in which Pujol bent the thumb to play bass notes. Segovia stated:

The so-called Tárrega method and his pupils' ideas of right hand technique are absolutely stupid; one reduces the volume of the guitar and the differences in colour and timbre when using only the fingertips (Clinton 1978:20).

Segovia won the argument against Pujol of whether to play with or without nails by force of example, thereby ensuring that he had technical influence on the next generation of recitalists (Wade 1998:115).

Guitarists and pedagogues argue that Segovia's technique and interpretation was more suited for the gut-string guitar, because all his earlier recordings sound better. The gut-strings did not produce a louder sound but a 'more beautiful sound', according to John Duarte.

John Williams argued that Segovia's sound was compromised with nylon strings because the gut strings gave him a period-sound fit to his style of playing. Williams argued that today's interpretation is more academic than what it was in the 1930's. He said that Segovia's sound was ideal on the gut-string guitar and that most guitarists were inspired by his sound:

Whatever byways guitarists travel, Segovia has already made the highway (Clinton 1978:69).

Williams stated that the Segovia technique should be duly considered, but that it is more important to develop one's own unique sound (Clinton 1978:69). Segovia dedicated his whole life to raising the guitar to the level of other concert instruments, but in doing so he also developed a unique style and a specific interpretation of playing.

Julian Bream argued that Segovia's technique on his earlier recordings was first-class and that he had absolute control over every sound and note. Segovia became accustomed to interpreting all music romantically, especially later on in his life. Segovia's Baroque interpretation was incorrect according to modern performance practice, but fitted into that period where style was not as important as what it is today (Clinton 1978:69). Bream saw Segovia play on nylon strings but liked the older recordings (when he used gut strings) more:

The sound had an aristocratic feel to it as the instrument was very light with high tension strings and a very high action on the fret board, this made the guitar resonate in a very specific way which was to become Segovia's sound. Segovia also knew each character of each note and knew how to attain the character he was looking for from his guitar. Whatever sound Segovia made he did it with conviction and that marks a good musical personality (Clinton 1978:49).

5.4.2 Segovia and nylon strings

Before the 1940's guitarists used gut treble strings. These treble strings would last a week at most, because they began to unwind and buzz when used regularly. The gut strings also gave intonation problems and were expensive. The basses were made out of metal-wound silk strings (Wade 1998:132).

Albert Augustine, a guitar maker of Danish origin, began experiments in the 1940's with the 'ny/lon' compound (a combination of New York and London). Augustine met Segovia in 1946 and they started out using different thicknesses of fishing line and tennis racket strings. The nylon string was copyrighted in 1947. This new string helped the guitar attain greater popularity because it was inexpensive and easy to tune (Wade 1998:132).

Segovia was therefore one of the first to try the new nylon strings. This was around the time that Segovia's career reached its peak, when he played for larger audiences in big halls with no amplification. The instrument's sound and its potential changed with the advancement of this new material. The higher-tension nylon strings did not work on older instruments. The older instruments

had balance and intonation problems with the new nylon strings (Huber 1991:20).

Guitar construction therefore changed to adapt to nylon strings. Segovia's guitar needed a bigger sound for the larger concert halls. José Ramirez III built Segovia his new guitar. It was built for the use of nylon strings and also for Segovia's playing technique. The neck became longer, the tensions in the strings became higher and the cedar top provided the guitar with a powerful tone. Segovia and Ramirez set an international standard for the guitar with stable nylon strings; giving the guitar a powerful, even tone (Huber 1991:22). As with the Torres guitar almost a century ago, the new Ramirez guitar with its nylon strings altered right hand technique and sound production.

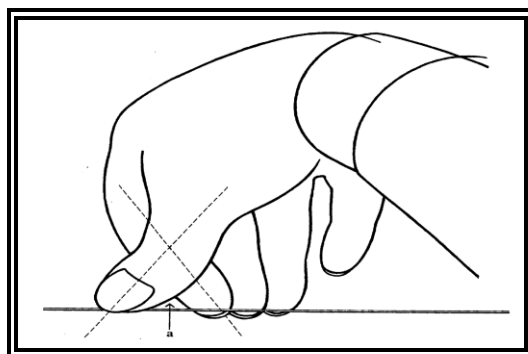
5.4.3 Segovia's right hand position

Segovia stated that the classic hand position was developed in order to attain beauty in tone and relaxation while playing. If the upper arm and forearm are correctly placed, the hand will hang automatically in a position ideal for playing. The wrist should be slightly bent and the fingers must be at a near right angle (slightly oblique) to the strings, with the knuckles lying parallel to the strings (Bobri 1977:39).

The hand should be completely relaxed with no muscular tension. It should remain steady and movement should come from the wrist alone without disturbing the position of the arm. The right hand should be held with the wrist arched and should be three to four inches from the soundboard. This gives an angle of about 80 degrees between the fingers and the strings.

The tip- and middle-joint of each finger should almost be vertical in relation to the strings; this angle gives the stroke clarity and force (Bobri 1977:39). The *p* finger forms a cross with the *i* finger, with the open space forming a triangle. The *i*, *m* and *a* fingers lean at a slight angle away from *p*. This hand position allows the fingers to move easily between *apoyando* and *tirando* without moving the hand too much, provided that the nails are kept relatively short.

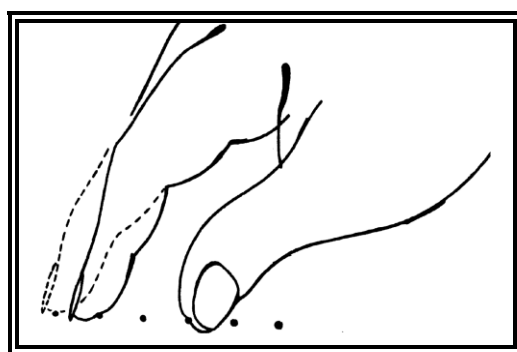
Example 11: Segovia's hand position (Bobri 1977:41).



5.4.4 The *apoyando* and *tirando* strokes

Segovia maintained that the *apoyando* stroke allows the performer to produce a bigger sound. The *apoyando* stroke increases the range of timbre, using more of the resources that the guitar has to offer (Bobri 1977:44). According to Segovia the *apoyando* changes only the direction from which the string is struck. When the *apoyando* is played the hand moves back towards the bass and the fingers push the strings slightly downwards.

Example 12: The finger action of the *apoyando* stroke (Bobri 1977:42)

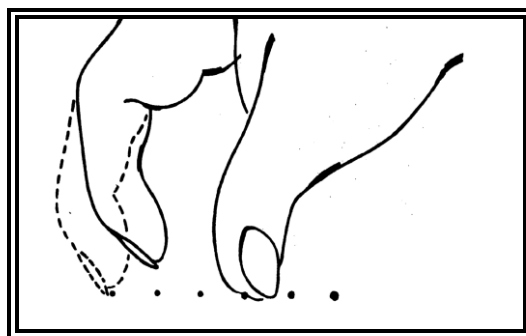


Segovia's unique sound in slow passages was made possible by the *sliding* or *gliding apoyando* stroke. As the finger strikes the string it slides along it towards the fingerboard. It leaves the string at a point almost an inch away from where it struck initially, giving the effect of a broader fingertip and hence a fuller sound. The mechanical action is like that of ironing a shirt and smoothing its profile (Clinton 1978:63).

Duncan referred to this type of stroke as ‘the big note’. The sound is produced by changing the angle that the nail strikes the string, normally towards the neck. The nail brushes the string which emphasises a single note. Segovia used this device frequently to create his warm, liquid sound (Duncan 1977:28).

With the *tirando* stroke, the fingers are curved a little more. The fingertip bends at the first and second joint and moves in an arc towards the palm of the hand (Bobri 1977:39).

Example 13: The finger action of the *tirando* stroke (Bobri 1977:39)



Segovia played economically when he mixed the *tirando* and *apoyando* strokes. He more or less maintained the same hand position, and pushed the string downward towards the soundboard when playing the *apoyando*. It is a misconception that the *apoyando* is loud and the *tirando* soft. Segovia often played *apoyando pianissimo* and *tirando fortissimo*.

Julian Bream pointed out that Segovia had a great deal of relaxed rigidity in his right hand. In other words, he used the dead weight of his wrist to achieve maximum sonority with minimal movement. Bream suggested that his right hand fingers moved economically, and that everything that looks good and is economical will be right.

5.4.5 The importance of nails

Segovia's sound came partially from his broad fingertips and partially from his broad and straight nails. His nails were fairly flat but were not weak. His nails were kept quite short so as not to leave too much space between the flesh and end of the nail (Clinton 1978:63).

The nail is formed in such a way that it is longer at the centre of the finger, and becomes shorter on the sides. This is why the fingers should be held at an angle, so that the first point of contact will be the side of the finger and then the nail. If the string is struck with the centre of the nail it will produce a sharp and metallic sound because of the longer distance the string moves from the flesh to the nail. This metallic sound should rather be used for contrasting *timbres*, fast arpeggios or *tremolo* passages (Bobri 1977:49).

Segovia used the nail only, or combined the fingertip and the nail to create his sound. Segovia argued that the nails should slightly protrude over the fingertip when the palm is facing the player. The nails should also follow the natural contour of the fingertip, and tips polished with the finest abrasive paper or leather is the secret to producing a good tone.

For the *tirando* stroke he used nail only, and for the *apoyando* stroke he used both flesh and nail in one stroke to produce a fuller sound. One should alternate between the nail, and the flesh-and-nail sound carefully, because both are required. One needs very long nails to play with no flesh, but by doing so one throws half the range of sound away. The flesh-and-nail sound has always been a strong aspect of the guitar and needs to be eminent (Bobri 1977:49).

5.4.6 The right hand thumb

If the thumb is not sufficiently developed to move independently from the hand and from the other fingers, it will cause the hand to move backwards and forwards, causing instability and interfering with the action of the other fingers. Segovia's thumb nail faced towards the head of the guitar, away from the other fingers. His thumb never played behind the other right hand fingers, it

was bent at the first joint from the palm and never at the tip. The outside edge of the thumbnail was used most often (Bobri 1977:51).

The central part of the nail was only used to emphasise the melody or tone colour. While the fingers played, the thumb followed the hand gliding over the strings lightly and was not anchored on one specific string. The elevation of the wrist constantly changed when the hand moved up or down the strings, and so altered the angle from which the fingers stroked the string (Bobri 1977:52).

Alice Artzt said that Segovia played chords or even just two notes with the thumb, to produce a louder sound (Clinton 1978:48). Segovia was especially fond of rolling, or arpeggiating, chords. He used this technique because it was a very common piano technique when he started performing. It also happened to be natural to play arpeggiated chords considering the higher wrist position that he used.

5.4.7 Segovia's sound production

Charles Duncan argued that the increase in the guitar's popularity was directly related to Segovia's control over his tone production. He did not want his guitar to sound strong, but far-reaching. Duncan noted that Segovia eliminated almost all nail scratching from his right hand playing.

John Duarte explained Segovia's tone production in the following manner:

Tone production is an expression of his (Segovia's) love for the guitar, which is one of his prime purposes after playing the correct notes. Segovia's fingers are neither thin nor fat. A person with bony fingers will never be able to produce the Segovia sound, it is pure mechanics. If you pluck a string with a thin object, you will get a thin sound and a broad object gives a softer sound (Clinton 1978:63)

Pete Moffatt wrote that Segovia often employed a sharper tone colour when playing more contrapuntal music and that he separated the voices clearly with transcriptions of harpsichord music.

Clinton stated that Segovia's sound remained the same until the age of 82. His runs were clean, and his changes in tone colour were unmistakable: from metallic to suave. He often used the thumb to contrast with the fingers in order to create a full mellow tone.

5.5 Conclusion

Two theoretical schools developed in the early 20th Century. Some scholars followed the early Tárrega and Aguado technique and some scholars employed the latter Tárrega technique. The two schools differed in opinion about right hand technique and sound production.

Pujol had very specific opinions about the guitar, its tone production and technique, which are not necessarily relevant today. His *Escuela Razonada* was one of the first complete guitar methods published after Aguado's *Nuevo Método Para Guitarra*. It had a large following at its time. Pujol's concept of sound production and right hand technique is associated with gut strings and a type of guitar which had a different sound from what is used today. The guitar was then used in small and intimate salon concerts and did not need to project to large audiences in concert halls.

Pujol preferred playing with no nails and adopted a perpendicular hand position. Segovia used flesh and nails and rotated the hand slightly to the left. Pujol recommended that the *p* finger should bend at the first joint, while Segovia played with a straight thumb. Pujol had a large following in the 1920's and 1930's which was soon upstaged by Segovia's popularity. Pujol's Guitar School was present from the early to mid-20th Century, but was later seen as more applicable to the gut-string guitar.

Segovia was introduced by Llobet to the earlier teachings of Tárrega. The earlier teachings of Tárrega were based on Aguado's principles and so Segovia followed the Aguado School. Segovia's concept of guitar performance was to popularise the guitar as a solo concert instrument. New developments in guitar construction by Ramirez, as well as nylon strings and

Segovia's advancements in sound production were key characteristics which made the guitar a popular solo instrument.

Segovia set the bar for classical guitar technique and tone production. He popularised the instrument and made his way of playing the standard for many performers. He developed new right hand techniques and concepts of tone production for performances in large concert halls. Segovia changed the mindset of the public from seeing the guitar as a salon instrument to seeing it as a concert instrument.

CHAPTER 6

REVOLUTIONARY THEORIES ABOUT RIGHT HAND GUITAR TECHNIQUE AND SOUND PRODUCTION FROM 1970 TO 1990

6.1 Introduction

Segovia's technique and tone has had an immense influence on guitarists, pedagogues and theorists. Many of his contemporaries based their techniques on his style of playing. There were a number of these pedagogues who extended on his theories and took his ideas to a more detailed level. These theorists will be discussed in Chapter 6. Only novel concepts will be dealt with as Segovia's method of playing has already been discussed in Chapter 5.

6.2 New theories by Hector Quine

Technique is essentially control: control of tone, volume, rhythm and tempo, always directed by musical intelligence (Quine 1990:1).

Quine's *Introduction to the guitar* (1971) and *Guitar technique* (1990) are logical analysis of modern guitar-playing practice. According to Quine (1971:2), by modern standards a nail-only technique is expected from the performer. One can use one's fingertips, but the tone is not as prominent as when the nails are used. Nails sound out a clearer attack, a louder tone and a wider range of colour.

Quine (1971:4) argues that the flesh-and-nail technique produces the worst result of both techniques, and the best of neither. When the flesh first strikes the string, the string stops vibrating, and then starts vibrating again when the nail strikes it. It is therefore redundant to strike the string with the flesh first, because one hears only the sound produced when the nail strikes. The flesh-and-nail technique causes a scraping sound and breaks speed. It is also not helpful for good articulation (Quine 1971:5).

The nails should protrude a one and a half millimetre over the fingertip and should follow the curve of the fingertip. There should be no edges or corners sticking out. The thumb nail should be a little shorter than the *i*, *m* and *a* and should follow the contour of the fingertip. The edges of each nail should be as smooth as possible to avoid a scratchy tone.

6.2.1 Tone production – physiological aspects of right hand finger action

6.2.1.1 The *apoyando* stroke

Quine (1971:4) explains that the *apoyando* stroke is the cornerstone of all modern right hand technique. It is important to strike the string inwards towards the soundboard, as this produces a rounded sound. Quine states that movement should only come from the finger's biggest and strongest joints: the knuckles. The second and last joints of the right hand fingers should be slightly curved and relaxed. The curvatures of the last two joints need to be slightly modified when switching between *tirando* and *apoyando*. The fingers must move in a hammer-like motion. The advantage of this motion is that only one movement is needed to execute maximum impact. There is more speed and fluidity when the movement is based on one joint of the finger.

This type of stroke produces a louder and fuller sound than plucking. Plucking may also cause the string to slap against the fingerboard (Quine 1990:18). The back-lift of the finger before it strikes the string should also be kept at a short distance. The finger should move towards the palm of the hand after it has struck, and not at a right-angle to the string. A right-angle movement would be physically difficult and tonally weak.

The fingers should pass each other about halfway through the stroke and should always alternate. They should maintain a smooth and continuous momentum. As soon as one finger strikes the string, the adjacent finger releases the pressure of the string that it is resting on. Quine refers to this action as a transfer of weight. This is crucial for the development of finger co-ordination (Quine 1990:18).

6.2.1.2 The *tirando* stroke

The finger action of the *tirando* stroke is similar to that of the *apoyando*. The nail strikes the string towards the soundboard, after which it passes by the next string with minimal clearance. The fingertip is slightly deflected in order to clear the next string. A string should never be plucked upwards. The adjacent string is cleared by lifting the fingertip slightly after the initial string is struck (Quine 1971:5).

The *tirando* stroke should be strengthened so that the sound of it matches that of the *apoyando*. Quine argues that the *tirando* stroke is difficult to execute with the *a* finger. An undeveloped *a* finger should play a light *apoyando*, which sounds similar to the *tirando* stroke (Quine 1971:5).

6.2.1.3 Crossing strings

When crossing strings, the arm travels in a curve over the side of the guitar from its resting point. Quine recommends that the strings should be crossed using *i* and *m* in ascending passages, and *m* and *i* in descending passages. It is very important to keep the same hand position. Movement should come from the arm. However, this movement may cause a slightly sharper sound (when playing an ascending passage) because the arm moves towards the bridge. The fingers should eventually learn how to compensate for the change in tone colour by rotating slightly towards the left in an ascending passage (Quine 1990:23).

6.2.1.4 Action of the thumb

The thumb should always be straight. The thumb extends outwards from the hand and it should strike the string with the tip of the nail (Quine 1990:30). It moves straight down without bending at the joint.

6.2.1.5 The *tremolo* technique

Quine maintains that the *tremolo* effect (see 4.2) is more dependent on perfect regularity between the *p*, *i*, *m* and *a* fingers than on sheer speed. The most common mistake when playing the *tremolo* is when the string is flicked in rapid succession (Quine 1971:45). The fingers need to be controlled (as

with scales and arpeggios). Playing with rhythmic irregularity between the *p* finger and the *i* finger is another mistake common to the *tremolo* technique.

6.2.1.6 Playing chords

It is important for the thumb to play towards the *i* finger (Quine 1971:47). The thumb should also play softer than the rest of the fingers. The *a* finger has a primary role in playing chords as it often plays the melody. Quine recommends a slight contraction in the *e* finger if the *a* finger is struggling to reach, or if the *a* has a weak sound (Quine 1971:47).

Quine argues that guitarists have a tendency to overuse the spread (or arpeggiated) chord. If the spread chord is overused, its effect is diminished. It is a useful (but not essential) tool of musical expression (Quine 1971:48).

6.2.2 Tone production – aural aspects

Quine believes that, if his physiological recommendations are taken into consideration, the performer's sound production will improve. He continues by discussing three aspects that would create a clearer tone. The first aspect is that the performer should take special care to avoid non-musical sounds caused by right hand defects and poor coordination between the hands (Quine 1990:25).

The second aspect of good tone production is a clear attack. A clean note will make the music more rhythmical; it will also give the note more projection and longer duration (Quine 1990:26). Careful attention needs to be paid to how the string is struck. The player has to take care which point and angle of the nail is used. He needs to strike each note with confidence. Confidence is fundamental to a secure technique (Quine 1990:26).

The third aspect of good tone production is avoiding a thin or metallic sound. A player's basic tone needs to be full, round and clear (Quine 1990:27). There should be an audible difference between a full and normal sound, the *tasto* sound, and the sharper *ponticello* sound. Changing the *timbre* should be done frequently, as the listener will easily get bored if only one sound colour is

used. The final aspect of a well-balanced sound is body or depth of tone. Hereby, Quine refers to the *apoyando* stroke which is played perpendicular to the soundboard (Quine 1990:28).

Quine states that the side- or brush-stroke, employed by Segovia (see 5.4.4), is more a mannerism than a technical device and should be avoided altogether. The side-stroke's movement originates from the hand or sometimes the whole arm. The side-stroke moves the arm out of position, reduces speed, and is technically unreliable (Quine 1990:33).

6.3 Duarte's *basis of classical guitar technique* and sound production

John Duarte maintains that even the best performers have flaws in their technique, but their talent allows them to hide these discrepancies. Duarte feels that no guitarist should try and copy another, and that each player should use his own characteristic features (good or bad) to his advantage. Each individual's hand position and finger action is relative to their finger flexibility. Factors that influence a player's technique are: the length of the fingers, the form of the fingertips, the hardness and texture of the tips, and the flexibility and shape of the nails (Duarte 1974:8).

6.3.1 Right hand position and finger action

Duarte argues that the gripping position (as if one is holding a cylindrical object) is common to the hands of every individual. This natural grip forms the basis of Duarte's hand position. When the fingers are in the grip position, they are compact, strong and form a smooth curvature natural to the hand. Relaxation in this gripping position is very important. Duarte says that a good guitarist makes right hand action look easy, because it *is* easier to play when tension in the hand is reduced (Duarte 1974:8).

The wrist should only be slightly arched, as a high arch causes discomfort. Duarte states that if the wrist is not arched, the *i*, *m* and *a* fingers tend to curl in towards the palm. Curled fingers cause weak volume and tone. If the wrist is slightly arched, the fingers can move freely with greater relaxation. If all the fingers, except the thumb, are placed correctly on the first string, the *i* finger will

slope to the left, the *m* finger slopes less, and the *a* finger will be perpendicular to the strings.

Duarte (1974:15) states that if the hand is placed at a right-angle to the strings, the tone will be thin and hard. He uses a perpendicular placement as a starting point to find one's own placement of the wrist. The wrist is then slightly rotated, either towards the bridge (when the right side of the nails is used) or towards the neck (when the left side of the nails is used). The rotation of the wrist creates a softer and rounder sound, but if the wrist is turned too sharply the tone will be too soft. The player should use a wrist placement which sounds best and is most natural to him. The palm should face more towards the soundboard than to the right elbow (Duarte 1974:16).

The *p* finger always remains in front of the other fingers. This particular thumb placement prevents it from colliding with the other fingers. A longer thumb causes the other fingers to be more perpendicular to the strings. This position also forms a smaller triangle between the *p* and *i* fingers at the end of a stroke. If the thumb is short and inflexible, the other fingers should be inclined further, and the wrist should be more arched (Duarte 1974:17).

Duarte (1974:16) suggests that only the fingers move, and no other part of the hand. All three segments of the finger move, but the main movement needs to come from the knuckle. The fingers therefore push down firmly through the string. Each stroke needs to start as close to the string as possible - optimum technique results from economical finger movement. The deflection of the string after it has been struck determines the volume it will produce.

Duarte's 'stability through contact' technique implies that the fingers may rest on the strings which are not being played. The *p* finger may rest lightly on the basses as the trebles are played, or vice-versa. This technique dampens unwanted sounds and creates a stable point of contact for the fingers (Duarte 1974:36).

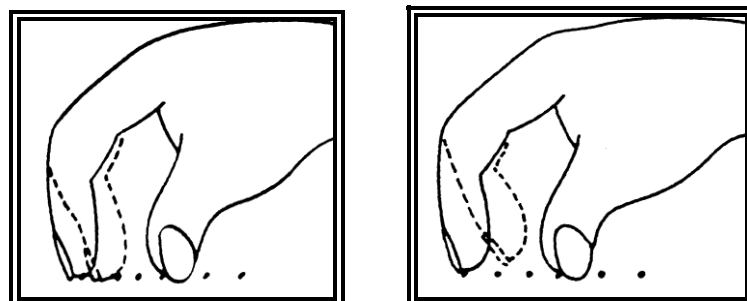
6.3.2 The *apoyando* and *tirando* strokes

The *apoyando* stroke is the closest one can get the string to vibrate on a parallel plane. The tip of the finger should not be flexed more than what is necessary once the string has been struck. A fingertip that bends causes a delayed movement of the string, which in turn affects the velocity of the stroke.

The objective of the *tirando* stroke is not to finish the stroke with the tip placed in the palm, but rather to increase the tension in the tip-joint before and after it has been struck. The tip needs to be pulled up slightly after the stroke; it ends in a position close to the string, ready for the next attack. Duarte explains the *tirando* as a frustrated *apoyando*; '...one that fails to rest against the next string' (Duarte 1974:17).

The hand position (of the *apoyando* stroke) should look almost the same as what was traditionally taught for the *tirando* stroke. The knuckles and fingers should not be moved forward for the *tirando* stroke, and the fingers should not be straightened for the *apoyando* stroke (Duarte 1974:18). The right hand remains in the grip position, and the only difference in action between the two strokes occurs in the fingertips.

Example 14: The *apoyando* and *tirando* strokes are played from the same position (Duarte 1974: 17)



6.3.3 Tone production

Much of the attraction of the guitar lies in the beauty of its sound; indeed one is not truly a guitarist if one does not produce the best tone one can (Duarte 1974:18).

Duarte is inclined towards a clear and warm sound. He defines the ideal nail as both strong and pliant, with a slight arch across its width. A hard, unyielding nail produces a dull tone, and a thin nail produces a thin sound (Duarte 1974:19). The tone of a performer's sound is also affected by the shape and texture of the fingertip. A nail attached close to the skin will yield less under the strings. Volume and tone will be lost if the nail is slightly detached from the skin (Duarte 1974:20).

Nails should be filed short to minimise leverage. The fingertip will help support the nail and give the stroke a fuller sound. A longer nail may slow down one's speed as the string needs to travel over a longer distance. The string should strike the nail at a firm and flat point. The nail should be broad and round to prevent a sharp sound (Duarte 1974:19).

Duarte disagrees with Quine about the flesh-and-nail method (see 6.2). He believes that the strike action happens so quickly that the string does not lose all the sound the flesh has created. The flesh sound is still heard as the nail strikes and this 'residual memory' is what gives the note a rounded sound (Duarte 1974:20). Duarte, however points out that one should not only use the flesh-and-nail technique, but a combination of all three methods of striking the string. He suggests that the nail-only technique should be used for the *tirando* stroke.

The thumbnail should be filed in a specific way for the flesh-only technique. The thumbnail sound can also be attained by lifting the thumb in a more upright position, or lowering it for the flesh-stroke. Duarte (1974:21) says it is important to remember not to change the position of the hand when changing the type of stroke.

Duarte disagrees with Quine, saying that the string needs to vibrate parallel to the soundboard, not vertically. He believes the string should not vibrate in an up-and-down motion. If the string is struck downwards it might rattle on the fretboard. However, the strings do need a bit of up-and-down motion so that the body of the guitar can vibrate, but this has to be minimal. Duarte (1974:31) also mentions the *gliding apoyando* stroke and explains it as a smoothing of the string's profile, producing a rounded sound.

6.4 John Taylor's facts about sound production

John Taylor (1978:5) claims that the guitar has limited pitches and dynamics. He states that the guitar is easily drowned when combined with the sound of other instruments, and that it has little sustain. Yet, people are captivated by its sound. An attractive feature may be that the guitar is uniquely sensitive to each individual's touch.

Taylor writes that there is a general confusion of how to set the string in motion. This confusion arises because there are many solutions to a problem that is not well understood (Taylor 1978:5). The closer one gets to understanding exactly what goes on between the nails and the strings; the more one will be able to control the sound. The performer should also know how the vibrations are passed from the strings to the body, and how to produce the desired sound. Knowing this will give the player a head-start in producing the sound he is looking for (Taylor 1978:6).

According to Taylor, sound production is only one aspect of technique. Technique is everything from the idea of the music to the sound that is finally produced, but it moves into the background when it comes to performing (Taylor 1978:6). Taylor argues that anything yielding good results must have a rational explanation, and that one way of creating sound is not necessarily superior to another.

Taylor confirms that most guitarists would like to create a sound that builds on their range of fullness and warmth. He defines a good sound as strong and clear, in both body and brilliance (Taylor 1978:7).

6.4.1 Sound production when using nails

The nail should act as a ramp for the string. The string's initial acceleration should be smooth; therefore the nail needs a smooth surface. If the 'ramp' is not smooth, the string will produce an abrupt, hard-edged sound (Taylor 1978:53). The initial displacement of the string is downward, towards the soundboard. The string is then released from a plane below the adjacent string. Taylor assures that a well-shaped nail will be able to perform this double function.

According to Taylor, the action that occurs between the nail and the string is as follows: the left side of the nail engages the string, the string then moves downwards with the nail, and slides away from its initial point of contact up the ramp of the nail. The ramp then becomes progressively less steep and the string continues to accelerate, moving downwards and off the nail.

Taylor finds that the most important phase of sound production is when the string slides up the ramp of the nail. This action should not be interrupted. The nail acts as a ramp with two dimensions, it has length and depth. Each individual's shape and texture of the nail, his hand position and finger action will work for that individual only. Therefore each performer should experiment and find what works best for him (Taylor 1978:53).

If the knuckles are kept parallel to the strings the nail does not form a ramp. The nail will be unable to slide off the string and will hook the string. The knuckles should slant toward the left. This slightly inclined hand position gives the sound warmth. A slight rotation of the hand increases the ramp's length without changing its depth. A longer and gentler ride - on a nail with a clear ramp that inclines gently and levels out progressively - will give a sound with plenty of body (Taylor 1978:57).

If the ramp of the nail is too long then the string is held back, and the higher partials are muffled. A longer ramp should suppress just enough higher partials for the sound to be round and warm, but still clear. If the string is struck parallel to the soundboard, the lower partials are suppressed and a

thin, sharp sound is heard. A sound rich in partials over a wide frequency range should be produced (Taylor 1978:57).

6.4.2 The different types of strokes

The first type of stroke that Taylor discusses is the *shallow apoyando* stroke. This stroke is used for rapid passages. Here the string hits the nail half way up the ramp. This stroke produces a softer sound because a smaller ramp is used.

The longer ramp of the nail should be used as often as possible. With this second type of *apoyando* stroke, the *long apoyando* stroke, the nail glides over the string instead of pushing through. The combination of flesh and nail produces a sound with volume and fullness.

The third type of *apoyando* stroke is the *gliding apoyando*. Taylor suggests that it should be used for slow or melodic passages. The performer needs to rotate the wrist more with the *gliding apoyando*. The angle at which the wrist rotates depends on the length of the nail ramp; the steeper the ramp, the less the wrist needs to rotate. The *gliding apoyando* should only be used for effect.

Taylor argues that the *tirando* stroke creates tension in the fingers. The tension is derived from the resistance to rest the finger on the adjacent string. The *tirando* is therefore less relaxed than any of the *apoyando* strokes (Taylor 1978:48).

The position of the wrist has an effect on the ramp of the nail. A high wrist will give the nail a steep slope, and the strings will strike a larger surface area of the nail. This will create a strong and forced sound. A high wrist position creates a bright treble sound with crisp and strong basses. A low wrist position creates a soft and round treble sound with light basses (Taylor 1978:51).

With a flat wrist position the nails need to be shorter and the tips of the fingers should bend slightly, or the sound will be too sharp. The slope of the nail is less steep when a flat wrist position is used. The flat wrist position creates a softer sound that lacks clarity. To prevent a weak and unclear sound, the nail should be longer and the slope steeper, as with the high wrist position (Taylor 1978:51).

6.4.4 Taylor's suggestions on how to shape the nails

Taylor confirms that each nail needs to be filed differently because the nails lie at different angles and positions on the strings. The *a* finger strikes the string perpendicular to the string whilst the *i* and *m* fingers strike the string at more oblique angles (Taylor 1978:59). Each nail should be filed separately so that the same sound is produced from each of the fingers. If *i*, *m* and *a* produce unbalanced sounds, the musical phrases will be irregular and the *tremolo* uneven. The shape of each nail depends on the hand position and finger action that is used. The player's ear should be the final judge in determining the shape and length of the nails (Taylor 1978:60).

The slope of the nail depends on the individual's preference. The side slant depends on the angle at which the nail strikes the strings. Filing the surface below the nail causes the tip to weaken, which produces a thinner sound (Taylor 1978:61).

The string should leave the nail before it curves downwards. The hooked edge of the nail has no part in striking the string, only the straight part of the ramp is used. It is impossible to create a steep ramp from a short nail.

The texture of the nail plays a role in sound production. A soft nail should have a shorter ramp with a gentler slope, or it might bend backwards. A harder nail will need some flexibility to give a rounder sound. The initial clicking sound of the string hitting the nail is more evident with harder nails. Harder nails should be shaped so that the string strikes the fingertip before the nail. The fingertip acts as a cushion at the moment of impact. It is very important for the harder nail to have a smooth ramp because all the

imperfections are heard more clearly. No matter what the texture of the nail is, it should have a firm left side to push the string down and a more flexible part where the string leaves the nail.

The thumbnail should be shaped to suit the natural angle at which it strikes the string. The string hits close to the centre of the thumb nail, and then slides down the nail towards the left side. The thumbnail should be filed in a rounded shape to prevent a rasping or scraping sound. The bottom left corner should be filed off so that it does not hook the string.

6.5 Abel Carlevaro's free stroke method

Abel Carlevaro defines technique as docility, not velocity. The larger muscles of the arm, forearm and wrist need to accommodate the fingers. The larger muscles should support the fingers to prevent the smaller muscles from becoming fatigued. They should always remain relaxed, as to accommodate the smaller muscles. Carlevaro argues that technique is the result of muscle memory acquired over a long period of time (Hodel 1985:10).

Carlevaro had a different concept of right hand- and arm placement. The right arm is a contact point for stability, and has no fixed placing. Movement comes from the whole arm, but not the shoulder. The wrist should always be rotated to the left (Carlevaro 1978:3).

According to Carlevaro there are mainly three right hand placements. The first is where the knuckles are placed over the first string, the second is where the knuckles are placed over the sixth string, and the last where there is no contact with any point of the guitar by the arm. This last right hand placement is used for harmonics, percussive effects or extreme dynamics (Carlevaro 1978:13).

6.5.1 The right hand thumb

Carlevaro pointed out that the thumb should never play towards the e finger, and that it needs to be completely independent of the other fingers. The thumb should strike from a close distance. The movement of the thumb needs to come from the base of the palm and not the joints of the fingers.

It was Carlevaro's opinion that the *p* finger should never rest on the next string after it has played, and therefore should never play a rest stroke. The thumb *tirando* is difficult to execute because a great amount of muscle movement is needed to stop it from resting on the adjacent string. The *toque double* (double touch) is when the *p* finger plays two adjacent strings simultaneously. The *toque double* is made possible by hitting the string with the flesh part first and the second string with the nail (Carlevaro 1978:38).

6.5.2 The role of the *i*, *m* and *a* fingers

When playing a passage or chord the player must know which notes need to be accentuated. Accentuation is achieved by stiffening the joints of the fingers. The finger could also be straightened or it could protrude more than the other fingers. When this is done, the fixated finger's note will be louder than the other notes (Carlevaro 1978:49). The fixation of fingers could also be executed by contracting the specific finger more than the others. This fixation is achieved by immediately stopping and relaxing the finger after it has played the note, or by relaxing the non-fixated fingers (Carlevaro 1978:49).

6.5.3 Carlevaro's five *toques* (touches)

Carlevaro explains that one or more notes can be played in five different ways with the right hand fingers. These five *toques* are arranged in order of intensity. The five *toques* are aimed at replacing the traditional *apoyando* stroke. Carlevaro believes that the *apoyando* stroke had a negative effect, that the *apoyando* stroke was used because the player did not know how to stop the finger (Hodel 1985:11).

The first *toque* that Carlevaro discusses is when no joints in the fingers are fixated. This is referred to as the *free touch*. This touch is executed by a very slight stroke that plays chords or arpeggios softly (Carlevaro 1978:51).

The second *toque* is played with greater intensity in the fingers. The first joint of the finger (from the knuckle) should be stiffened. Preparation from the whole hand and larger muscle systems are required to perform this stroke. Carlevaro does not compare the second *toque* to the traditional *apoyando* stroke. He believes that the concept is different from the traditional *apoyando*, that the second *toque* has two actions: striking and stopping almost simultaneously (Hodel 1985:11).

The third *toque* is executed, from the knuckle, by stiffening the whole finger. All the joints in the fingers are fixated.

With the fourth *toque*, the main movement comes from the wrist. With this type of stroke the whole hand (or even the arm) could end up moving. The fourth *toque* is used in melodic passages or for a rounder sound. The movement is similar to Segovia's brush-stroke, but the fourth *toque* is not played *apoyando* (Carlevaro 1978:52).

The fifth *toque* is used for *timbre* effect. The angle at which the fingers strike the string changes with the fifth *toque*. The change in the angle of the hand is made before the fingers strike the string. It is not merely a change of hand position, but also a stiffening of the fingers. The fifth *toque* cannot be played strongly. It must be done between *piano* and *mezzo forte* (Hodel 1985:11).

6.5.4 A new approach to pizzicato

Another revolutionary idea by Carlevaro was his approach to playing pizzicato. Carlevaro's pizzicato is played near the sound-hole and not the bridge. The palm dampens the strings after the note is struck with the thumb. The pizzicato-note is then heard clearly. The thumbnail can also play the note if it needs to be loud. Carlevaro (1978:40) calls the technique of muting the string before it is struck (the traditional pizzicato) *sordino*.

6.6 Conclusion

From the mid 20th Century on, most pedagogues and theorists adopted the nail-only or flesh-and-nail technique. These theorists and pedagogues refined the Segovia technique and provided logical explanations as to how he created such a full tone. Nails produce a louder sound and make it easier to change between a sharper and a rounder tone. A nail-only attack releases the higher partials which make the sound clearer. Some theorists stated that a nail-only attack should be used for the *tirando*, and a flesh-and-nail attack for the *apoyando*. These detailed studies (mentioned above) have set a higher standard of playing and have created new possibilities of tone production.

Quine was the first theorist to analyse the exact stages of finger movement. One of Quine's main contributions was that he emphasised the downward displacement of the string. Quine recommended a nail-only attack for both the *tirando* and *apoyando*.

There are different points of view concerning right hand formation and whether or not to use the fingertip in conjunction with the nail. Quine advises that the *apoyando* should be used most often while Carlvvaro prefers the free stroke. This proves that there is more than just the Segovia School of right hand technique to follow, which allows guitarists to experiment with new sounds and technical possibilities. The flesh-only attack is often used by beginner guitarists as nails often produce an unbalanced sound.

Duarte asserted that the string should vibrate in a parallel plane to the soundboard. Duarte and Taylor advised that the flesh part of the finger should strike the string first, then the nail, as this prevents a metallic sound.

Taylor was the first to state that the nail should be filed at inclined angles, instead of the traditional rounded shape. The idea of the three different degrees in which the string moves up the ramp of the nail can also be accredited to Taylor. Taylor divided the *apoyando* into three different strokes (depending on the amount of nail-ramp used) namely: the *shallow apoyando*, the *longer apoyando* and the *gliding apoyando* (the wrist rotates to the right).

Taylor combined the ideas of Duarte and Quine to come to his own conclusion about tone production and right hand technique.

Carlevaro came up with a completely new idea of how to create a required sound by fixating certain joints of the fingers. He avoided the *apoyando* completely, and focused on which finger joint to fixate using only the *tirando* stroke. Carlevaro was also the first to theorise that the larger muscles should facilitate the smaller ones, which made future theorists think differently about right hand technique.

CHAPTER 7

A MODERN APPROACH TO RIGHT HAND GUITAR TECHNIQUE AND SOUND PRODUCTION

7.1 Lee Ryan's natural right hand playing

Lee Ryan aims to develop a relaxed, natural and comfortable position for the guitarist's right hand. When shaping the right hand, the player should avoid all extreme positions as they usually cause muscle cramps, aching tendons, lack of control and poor tone quality (Ryan 1991:67).

An interesting new theory by Ryan is that of stacking the fingers before playing. The fingers need to be positioned on adjacent strings, touching side-by-side at the fingertip. This dynamically relaxed position allows the fingers to be stronger in their movement than if they are apart. The stacked position allows the fingers to be prepared for the next stroke. The fingers act as a single unit which makes playing chords easier and gives the performer more control over musical expression (Ryan 1991:65).

7.1.1 The dynamically relaxed playing approach

Ryan views the spaces between the notes as equally important to the notes themselves. The spaces between notes provide time for the performer to relax. Relaxation between notes should last a fraction of a second. The player needs to time the moment of playing and relaxing accurately (Ryan 1991:80). The balance between relaxing and playing is achieved by playing in perfect rhythm.

One can apply the dynamically relaxed approach to right hand technique by finding a midpoint between tension and relaxation in the fingers. The fingers should remain naturally curved before striking, and when they strike there should be just enough tension - not too much nor too little - to play the note correctly. Ryan (1991:84) refers to the correct amount of tension in the fingers as *firm elasticity*; somewhere between rigidity and looseness.

Ryan says that the most common error in finger tension is when the middle joint is stiff and the tip joint relaxed. The lack of tension causes the tip joint to bend as soon as it strikes the string. This results in poor control and tone. It is important for the performer to find the perfect balance between the two extremes. Tension in the fingertips will vary according to the expressive quality in the music.

7.1.2 Sequential planting of the right hand fingers

Planting (or placing) the fingers on the appropriate strings before they are sounded develops control over tone, technique and expression (Ryan 1991:86). This is called sequential planting. Sequential planting allows one to play with confidence and to maintain a constant tone. When learning this technique, one has to plant the fingers consciously and carefully. Eventually the fingers will perform it naturally and automatically.

The right hand fingers should be planted on precise grooves of each fingertip. Grooves are formed between the flesh and nail. Fingers *m* and *a* will form a diagonal groove while *i* will be more parallel to the nail. *P* will have a groove slightly slanted in relation to the nail (Ryan 1991:87). The fingers should be planted where the resistance of the string is minimal, and where the tone is best.

The fingers cannot always be planted in *legato* passages. Ryan then refers to the play-relax technique. One should find a short moment to plant and relax the fingers, provided that it does not stop the strings from sounding (Ryan 1991:87). Sequential planting is especially helpful with the *tremolo* technique. This increases the speed and security of the four alternating fingers (Ryan 1991:97).

7.1.3 The *play-relax apoyando* stroke

Ryan categorises the *apoyando* stroke into two types: the supported stroke, which is used for fast scale passages, and the snap stroke which is used to emphasise particular notes. The difference between the two is that the

supported stroke rests on the adjacent string, while the snap stroke bounces off it (Ryan 1991:88).

The fingers need to be planted for the snap stroke. The stroke happens very quickly and is followed immediately by a release of tension. The finger tension needs to change quickly from relaxed to stiff for the snap stroke to be effective. The fingers should be tense only in the attack of the string, and then tension is released as soon as the string is struck. This is done in almost one action, hence the name *play-relax* technique.

The main movement of the *snap stroke* is executed from the knuckle. As soon as the relaxed finger strikes the adjacent string it moves back into its natural position (Ryan 1991:89). A slight twitch in the finger shows that the tension has been released. Tension in the fingers is minimal, and the hand and fingers feel relaxed. The power of the stroke is generated by the initial impulse of the finger.

The snap stroke can be used in pieces to bring out a treble melody played over accompaniment. It can also be used to phrase a line of music, for rhythmic accents, as well as peak notes in arpeggios or single-line melodies which require a fuller tone (Ryan 1991:97).

The rest stroke should be used for significant notes, because they sound accentuated. If the rest stroke is used constantly it will cause the sound to be monotonous. The traditional *apoyando* stroke is mainly used so that one can play fast, vigorous scales where security and accuracy are important (Ryan 1991:97). The wrist is lowered with the *apoyando*, which changes the hand position slightly.

7.1.4 The *play-relax tirando* stroke

The *tirando* stroke is performed similarly to the snap stroke (Ryan 1991:92). The fingers should be planted in the same groove as with the snap stroke. A pulling action will cause tension in the tendons at the back of the hand and might cause the string to be hooked by the nail (Ryan 1991:93). Tension is

created in the finger before it strikes the string, and should be released as soon as the string is struck.

The finger should be kept slightly curved and firm. It moves slightly down and backward, pushing the string (similar to the snap stroke). The difference between the snap stroke and the *tirando* stroke is that the finger moves over the adjacent string with the *tirando*. The finger will revert back automatically into its playing position, ready for the next stroke (Ryan 1991:93).

The *tirando* stroke should be the most common (Ryan 1991:97). It is easier to play faster because it allows for a light sound. The *tirando* should be the dominant technique in fast pieces.

Ryan concludes his arguments by stating that there are lighter and heavier variants of the *apoyando*, snap and *tirando* strokes, according to the needs of the music (Ryan 1991:97). A light *apoyando* can be used in fast passages because the stroke provides security. A heavier *tirando* can be used to accent a melodic line that cannot otherwise be emphasised by the traditional *apoyando* stroke. The snap stroke should be used frequently in melodic passages and accompaniment.

7.2 Charles Duncan's novel ideas

According to Charles Duncan the most common dysfunctional tension in right hand technique is caused by: bending the thumb at the knuckle joint, keeping the fingers splayed (which causes the nails to hook the string), collapsing the knuckles and bending the wrist too far forward and to the right (Duncan 1991:35).

7.2.1 Duncan's refinements to right hand technique

Duncan defines a good *tirando* stroke as a push into the string with very slight recoil to the rear. A higher wrist position encourages the thumb to dampen unwanted bass notes and to support the movement of the other fingers.

The thumb stroke should be aimed down and to the right. With rapid thumb strokes, the thumb should move in a circular movement or in an outward slice (Duncan 1991:45). One can change tone colour by altering the thumb position slightly. This is done by striking the string with the middle part or the sharper edge of the nail.

7.2.2 Achieving touch-security and velocity in the right hand

Duncan divides the right hand stroke into three phases. The finger is prepared, the stroke is executed and the finger reverts back to its original position. According to Duncan, a tone created from a release of energy will always sound better than a tone created from an expenditure of energy (Duncan 1991:48).

The recovery after a stroke should be a simple reflex movement, as small as possible. The recovery factor has a large impact on the performer's speed limitation. The more exaggerated the recovery, the more uncontrolled the playing will be. The closer the recovery stage overlaps with the preparation impulse, the faster and clearer the stroke will be (Duncan 1991:48).

The preparatory and recovery stages become almost one motion at high speeds. Finger preparation becomes increasingly important for the coordination of the two hands at high speeds. Conscious control of the stroke decreases and reflexes take over when playing at fast tempos (Duncan 1991:70).

The most secure strokes are achieved by: executing the stroke from a prepared position, applying enough force at the beginning of the stroke, precise movements of the fingers (so that the string is struck at the same point on the nail every time), and making small and economical movements (Duncan 1991:48).

Duncan believes that greater speed, accuracy and refinement of the stroke is achieved by deliberately articulating when practising scales. When changing strings, the right hand must change position slightly. With string changes the

preparation of the stroke should be considered carefully. The forearm and upper arm should contract slightly when playing from string one to six (Duncan 1991:73). The elbow moves backwards when playing a descending scale and forwards when playing an ascending scale. The forearm should rest lightly to be able to slide backwards and forwards. The *i* and *m* fingers are the strongest pair to play scales. The *a* finger should be used in conjunction with *i* and *m* to improve overall balance in the fingers (Duncan 1991:74).

Duncan states that it is necessary to lighten the touch and shorten the stroke to progress to virtuosic speeds (Duncan 1991:76). At these speeds, tone comes second to economy of movement. Duncan believes that when one plays softly, the energy expenditure is less and the speed will increase. Lowering the wrist, curling the fingers, and firming the fingertips may also help one to attain faster finger movement.

7.2.3 Right hand expressive devices

The first expressive device mentioned by Duncan is the 'energetic chord' played at cadences. Proper stress can be given to a chord by the hand's movement downward and to the right. The energy that is created forces the hand into a fist and to recoil back into a playing position (Duncan 1991:98). The chord should be dampened by placing the right hand wrist near the bridge on all the strings.

A repeated sequence of 'gentle chords' can be executed by a bobbing motion of the wrist. The bobbing action lessens the strings' resistance and balances the plucking action, making the chords sound lighter (Duncan 1991:100). The wrist could be rotated towards the neck of the guitar in instances when the sound needs to be prolonged. This action draws the sound from the guitar and projects it better.

7.2.4 Tone refinements

The initial contact of the nail is what determines the *timbre* and character of the tone. Duncan refers to this initial contact as the *onset transient*. The onset transient is determined by the shape and finish of the fingernails. The nail has

a contact and release point. The ideal contact point of the nail should have a shallow inward curve (Duncan 1991:51). Duncan maintains that this curve will offer a gentle and even resistance from the point of contact to the point of release.

The nail will be rounder with a higher fingertip arch and straighter with a flat fingertip arch. In both cases the peak of the nail should be shaped according to the tip of the finger arch (Duncan 1991:54). If the nail is shaped relative to its natural arch the stroke will be played with security, producing a deep, clear tone with several nuances. The nails engage the strings at different angles, and should therefore vary in length. The *a* nail should be the longest, followed by the *m*, with the *i* being the shortest. The *p* nail should be twice the length of the *a* nail.

Duncan states that the tonal character of each string is different. The angle of each nail needs to change when playing from string one to six. The angle changes from a perpendicular angle on string six to a 30 degree angle on string one. The 30 degree angle of the nail produces good tone on string one, but will cause a scratched tone on string six (Duncan 1991:107). The change in angle of the nail is achieved by rotating the wrist horizontally and not vertically. The rotation of the wrist should occur from the fourth string on, changing slightly with each string up to string one. There should be a rotation to a perpendicular position when ascending from string one to string six.

7.3 Anthony Glise's two right hand schools

Anthony Glise divides the right hand technique into two basic schools, the *Closed Hand School* and *Open Hand School*. He maintains that every school of right hand technique can be categorized under one of these two schools (Glise 1997:26). The strokes (of the two schools) are played from two different hand positions; hence, different muscles are used to initiate it. The sound depends on the angle with which the nail strikes the string.

7.3.1 The *Closed Hand School*

The *Closed Hand School* originates from flamenco playing and is prominent in the Segovia School. It is used by French Schools at present, and many players from this tradition also prefer to strike the string with the right side of the nail. When the *tirando* is used, the hand moves slightly forward. When playing *apoyando* the hand moves backwards, so that a perpendicular angle between the nail and the string is created. The shift in hand position makes it easier for the fingers to rest on the adjacent string with the *apoyando*, and easier to miss the adjacent string with the *tirando* (Glise 1997:27).

The *tirando* sounds different from the *apoyando* due to the shift in hand position. The *apoyando* is used for rapid scale passages and louder notes, while the *tirando* is used for everything else. The movement of the fingers is initiated from the middle joint of the finger with the *tirando* and from the knuckle with the *apoyando*. Guitarists from the *Closed Hand School* prefer to use longer nails, as longer nails make it easier to reach the string when the hand is drawn back for the *apoyando* stroke (Glise 1997:27).

7.3.2 The *Open Hand School*

The open hand position originates from the 19th Century performance practice of Aguado and Sor (Glise 1997:30). The *Open Hand School* of playing requires the use of shorter nails. As a result, there is a much more subtle change in hand position between *apoyando* and *tirando* (Glise 1997:29). A slight straightening of the fingers occurs when *apoyando* is played. The fingers also need to be a little more curled when playing *tirando*, than in the closed hand position.

A uniform hand position for *tirando* and *apoyando* allows the two strokes to sound similar. The *Open Hand School* eliminates a great deal of excessive movement in the hand, and is preferred by many professionals (Glise 1997:29). The movement for both strokes is initiated from the knuckle.

7.3.3 Glise's recommendations for nail shapes

An angled shape nail has a larger surface area and is more suitable for the player who plays with a tilted wrist position (mostly to the left) (Glise 1997:34). The angled shape is also more suited to players with softer nails, as the pressure from the string is slightly displaced along the larger surface area. Glise maintains the greater the fingertip arch, the flatter the nail should be, as there then is enough surface area to produce a strong tone.

Another unique idea from Glise is that of repeating a right hand finger in very fast scales. Errors occur if the fingers keep alternating, and may cause uncomfortable string crossings. In such cases, a right hand finger may be repeated, mostly with a descending scale passage (Glise 1997:128).

7.4 Byzantine's technique and its influence on sound production

7.4.1 Flexing the fingertip

Julian Byzantine believes that a right hand fingertip that flexes in certain situations may facilitate technique and sound production (Byzantine 2002:21). The flex of a fingertip can be used when a note needs to be accentuated in fast passages. When the player is using the *tirando* stroke and needs to accentuate a note in the passage, there will not be enough time to change the hand position to *apoyando*. In these instances, the tip could be flexed to accentuate the appropriate note. Flexing the fingertip allows the string to vibrate in a more vertical plane, releasing more of the lower particles. This creates a deeper tone (Byzantine 2002:22).

7.4.2 Right hand velocity and strength

Byzantine's view of developing right hand velocity is unique. He advises the player to practise scales using only one right hand finger. Performing scales in this manner develops a firm attack with precise plucking action, and the ability to apply and release force rapidly (Byzantine 2002:21). Dividing the scale into different rhythmic groupings also develops right hand velocity.

Byzantine emphasises that arpeggios are very helpful for developing right hand power and endurance. According to Byzantine, *rasgueado* is the finest way to develop strength as well as independence and coordination of the right hand fingers. The *rasgueado* exercises the extensor muscles, which are much weaker than the flexors (Byzantine 2002:108). Each finger's extensor should be practised individually using the *rasgueado* technique. This is done by flicking the one finger forward while the others remain planted on the strings.

7.5 Urshalmi: How to overcome technical blockages

Urshalmi defines technical blockage as: no improvement in technical or musical level, instability in a certain piece of music, cramps in the palms, hands and forearms or any other factor which might obstruct free movement of the joints (Urshalmi 2006:14). These blockages prevent the player from achieving the best possible technique and tone.

7.5.1 Technical blockages and negative factors in right hand technique

Freedom of joint movement and relaxing the necessary muscles are regarded by Urshalmi as the most important aspect of playing the guitar. He agrees that it is sometimes necessary to apply high muscular tension to loud and fast passages, but one needs to release that tension at some point, or reduced functionality could result in both hands (Urshalmi 2006:19).

Simultaneous contraction of opposite muscle groups may also cause poor coordination, reduced speed and fatigued hands. Bad habits such as this may cause unsuccessful technical formation over time. Another cause of technical blockage is when the neck of the guitar is held too low. This creates tension in the right arm and elbow. When the right hand fingers are spread, tension is created and it is impossible for the fingers to relax (Urshalmi 2006:36).

A bouncing wrist is a common error when playing chords. It limits one's playing speed and causes stiffness in the arm and forearm (Urshalmi 2006:102). A bouncing wrist creates rhythmic and dynamic imbalance between the notes of the chord. Rhythmic and dynamic imbalance could also be caused by the stroke moving in the wrong direction. If the tone is thin and

soft the guitarist would compensate by plucking the strings outwards in an aggressive manner (to attain a louder sound), which causes a harsh tone (Urshalmi 2006:102).

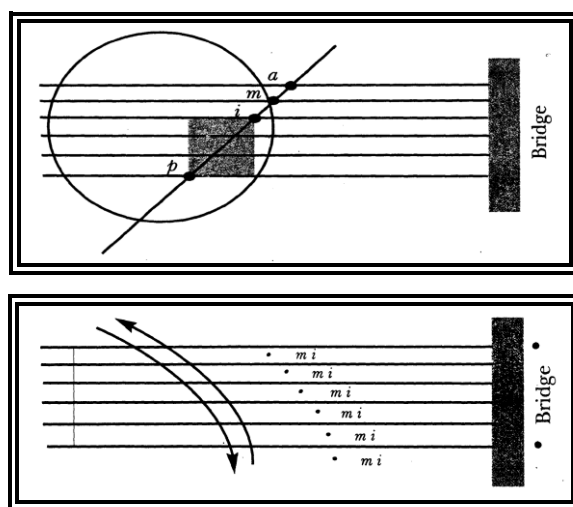
7.5.2 Procedures to overcome technical blockages

Urshalmi advises that the *e* finger be in constant contact with the *a* finger. This prevents the *e* finger from becoming rigid. If the *e* finger is rigid it impedes the functions of the other fingers, causing lack of equilibrium, reduced coordination and reduced speed in the fingers. If the *a* and *e* fingers remain attached to each other a lot of tension can be avoided in the right hand (Urshalmi 2006:36).

Attaching the *e* finger to the *a* finger maintains concentrated energy and prevents tension and rigidity in the fingers with the *tirando* stroke, especially in fast and long passages (Urshalmi 2006:89). Urshalmi recommends that an elastic band be used to keep the fingers attached. The faster the *tirando* stroke, the shorter the strokes should become.

Urshalmi believes that the fingernails should form a diagonal line across the strings. This diagonal line prepares the fingers to play an even sound on all the strings. The fingers should move in an oblique direction from string one and end perpendicularly to the soundboard on string six. The diagonal movement of the fingers prevents string scratches on the basses (Urshalmi 2006:82). It also ensures that the fingers remain above their respective strings. Large movements of any of the fingers may cause instability in the hand and loss of accuracy.

Example 15: Diagonal placement and movement of the fingers (Urshalmi 2006:82)



Urshalmi suggests that the quality of the *apoyando* stroke depends on the surface area of nail, and the amount of pressure it uses to strike the string. The more pressure and surface area is applied, the more the soundboard will vibrate. He finds it important to project basses by using a rest stroke with the thumb, especially in homophonic or contrapuntal music. The thumb *apoyando* should, however, not always be used in arpeggios, especially not with the *tremolo* technique.

Urshalmi regards the *i* finger as being both rhythmically and dynamically the least balanced and therefore special attention needs to be given to the development of it (Urshalmi 2006:94). The *i* finger should be slightly more curved than *m* or *a* to maintain an equal sound in all the fingers when playing chords. An instinctive characteristic of the fingers is to play in the order *a*, *m* and *i* (as one would drum on a table). This instinctive characteristic may cause unevenness in the *tremolo* technique, as the fingers tend to be rushed (Urshalmi 2006:99).

7.6 Conclusion

Modern theorists have adapted an in-depth analysis of how to attain speed and how to control sound production and technique. Dysfunctional tension and technical blockages have been discussed here in detail. Each stroke is analysed further and is divided into sections (the preparatory-, execution- and recovery stages). The precise actions of the fingers when travelling from string one to six have been discussed and explained.

Julian Byzantine explains how a (traditionally thought of) incorrect technique - such as repeating a finger - can help to develop speed and create a better tone.

Glise categorizes right hand guitar technique into two definite schools, which helps one to understand why certain players perform the way they do. The *Open* and *Closed Hand Schools* are classifications of different approaches to right hand technique. The *Closed Hand School* follows the principles of Segovia which recommends the use of longer nails, a change in hand position when playing *apoyando*, and moving the fingers from the knuckles and middle joints. The *Open Hand School* makes use of shorter nails, the *apoyando* and *tirando* are played from the same position, finger movement originates from the knuckles, and the wrist is raised slightly.

Urshalmi's main contribution is how to prevent technical blockages and how to overcome them. He was also the first to suggest that the e finger could be the cause of rhythmic irregularities and unevenness in right hand technique.

CHAPTER 8

CONCLUSION: A SUMMARY OF THE DEVELOPMENT OF RIGHT HAND GUITAR TECHNIQUE AND SOUND PRODUCTION

8.1 Introduction

Chapter 8 summarises the key factors in the development of right hand guitar technique and sound production. Each period has a short summary in point form, followed by answers to the research questions posed in Chapter 1.

8.2 Summary of Findings

8.2.1 Summary of the right hand principals from the Renaissance and the Baroque period:

The most common right hand principles of the *vihuela* and four-course guitar were:

- The *e* finger was kept on the soundboard, and the right hand was placed midway between the rosette and the bridge.
- Fingers *p* and *i* alternated to play most passages.
- Right hand fingernails were avoided.
- Four-course guitar music relied mainly on strumming.

The most common right hand principles of the five-course Baroque guitar were:

- Two distinct right hand styles existed, the *rasgueado* and *redobles*.
- *Rasgueado* was either arpeggiated or strummed percussively.
- When playing *rasgueado*, the right hand was held near the neck and played with the *i* or *p* fingers.
- Unwanted strings were dampened with the right hand palm or thumb.

- The *e* finger was generally not planted to allow the hand to move freely between the *rasgueado* and *redobles* techniques.
- The *e* finger could be planted, but moved according to the required timbre.
- *Redobles* was played by either the *i* and *m* fingers, or the *p* and *i* fingers.
- Ornamentations had specific finger indications.
- Nails were generally avoided, but were used when playing in an ensemble.
- Ascending arpeggios were played with *p*, *i*, and *m* fingers, and descending arpeggios were often played with only the *i* finger.

8.2.2 Summary of the right hand methods of Sor and Aguado:

The core ideas of right hand guitar technique by **Fernando Sor** were:

- Sor frequently planted the *e* finger.
- He avoided the *a* finger as much as possible, using only *p*, *i* and *m*.
- Sor played with the flesh part of his fingers.
- He stated that one should hold the fingers perpendicular to the soundboard, suggesting an *apoyando* stroke.
- Sor stated that the movement of the right hand fingers should be down and at a 45 degree angle towards the soundboard.
- Sor made a clear distinction between *sul tasto* and *ponticello* when imitating other instruments.
- He avoided artificial harmonics and preferred natural harmonics.

The main principles of **Aguado's** right hand technique were:

- He held his right hand fingers at right angles to the strings.
- He kept the energy expenditure of his right hand fingers to a minimum.
- Aguado avoided resting the *e* finger on the soundboard.
- He placed his right hand at varying distances between the bridge and neck.
- He used nails on all the fingers except the *p* finger.
- Aguado suggested that the string be struck first with the flesh then with the nail.

- He explained how to play the *apoyando* stroke but did not name it.
- Aguado often used the *a* finger and strengthened it through various exercises.
- He was the first pedagogue to explain how to use effects such as *tamboras* and *octavados* (artificial harmonics).
- He explained how to damp a note with a right hand finger.

8.2.3 Summary of the contributions from 1850-1900:

- The *tremolo* technique was used to a greater extent.
- More complex harmonies and rhythms required a better right hand technique.
- Guitar construction improved the sound of the guitar and demanded new ways of sound production and technique.
- **Regondi** and his contemporaries composed the first Romantic music for the guitar which explored new aspects of sound production and technique.
- **Tárrega** used the rest stroke more frequently.
- Tárrega composed many works with an *a* finger melody.
- Tárrega's technique was related to Sor and Aguado's techniques, but he extended the use of certain elements.

8.2.4 Summary of contributions from the early 20th Century:

- **Llobet** specified right hand placements and tone colour in his compositions.
- He followed the earlier teachings of Tárrega and Aguado.
- He showed the Tárrega technique to Segovia.
- **Pujol** adopted the later teachings of Tárrega and did not use nails.
- He was the first guitarist to write extensively about tone production and right hand technique.
- He founded one of the few guitar schools, a century after Aguado.
- He adopted a perpendicular hand position and started the action of thumb movement from its first joint.

Segovia's novel right hand techniques were:

- Segovia's tone production popularised the classical guitar as a concert instrument.
- Frequent use of arpeggios instead of block chords.
- A fuller and rounder tone created by using the flesh-and-nail attack which varied with a sharp sound played at a position closer to the bridge (with a perpendicular hand position).
- A projecting and louder sound required to play in larger concert halls.
- Segovia followed the Aguado School and incorporated some of his own techniques.
- Segovia popularised the brush- or side-stroke, and used the *apoyando* stroke more frequently.
- Segovia was the first to popularise nylon strings and the first to make it the standard medium for treble strings.

8.2.5 Summary of the right hand techniques from 1970-1990:

- **Quine** used a nail-only attack on the string.
- He placed emphasis on the downward displacement of the string in order to activate the lower partials.
- He advised that the *apoyando* stroke should be used more frequently (but not with *p*) and that there should be a slighter difference in action and sound between *apoyando* and *tirando* strokes.
- By using a gripping action, **Duarte** formed a basic, but effective analogy for holding the right hand.
- Duarte preferred a slightly rotated wrist position rather than the more conventional perpendicular position.
- Duarte said that the right hand fingers should maintain a stable position by remaining in contact with the strings.
- Duarte opposed the notion of allowing the string to vibrate in a horizontal plane.

- Duarte disagreed with Quine by stating that nail-and-flesh should be used with the *apoyando*, nail-only with the *tirando*, and that the player should be ready at any time to play the *p* flesh-stroke.
- He maintained that each nail should be shaped independently, and should follow the contour of the fingertip.
- **Taylor** saw the nail as a ramp for the string to travel on.
- This ramp should have the correct depth and length with no edges, for the string to travel smoothly along the nail.
- Taylor used one of the first scientific explanations to define tone production.
- He divided the *apoyando* into three strokes: the *shallow apoyando*, the *longer apoyando* and the *gliding apoyando*.
- Taylor agreed with Quine, saying that the *apoyando* stroke should be used more often than the *tirando*.
- **Carlevaro** discarded the concept of *apoyando* and divided the *tirando* into orders of touch intensity.
- He related sound production and technique to fixated joints, rather than the direction of string displacement.
- According to Carlevaro the larger muscle groups have to assist the smaller muscle groups.
- He developed a new approach to playing pizzicato.

8.2.6 Summary of contributing modern techniques:

- **Duncan** was the first to discuss dysfunctional tension in depth.
- He divides the stroke into three stages: preparation, execution and recovery.
- The preparation of the stroke contributes to touch security and stability in the hand.
- The distance of the finger's recoil and the time taken to prepare for the next stroke has a large impact on the performer's speed.

- A player's speed can be increased by short, light strokes with minimal energy expenditure.
- A slight rotation to a more perpendicular direction of the wrist takes place when playing from string one to string six.
- Duncan advocates specific nail shapes to differently-formed fingertips.
- He explains in detail the novel concept of expressive devices.

- **Glise** divides all right hand action into two schools.
- The *Closed Hand School* was derived from a combination of the flamenco technique and the Segovia School.
- The hand position changes slightly between *apoyando* and *tirando*.
- Here, longer nails are preferred by its members.
- With the *tirando* stroke, the movement comes from the middle joint, and with the *apoyando* stroke the movement comes from the knuckle.
- The *Open Hand School* uses shorter nails and all the movement comes from the knuckles.
- *Apoyando* and *tirando* are played from the same hand position and create a similar sound.
- The manner in which the nails are filed depends on the arch of the player's wrist.

- **Byzantine** contradicts many theorists by stating that the fingertip could be flexed for accentuations and for releasing lower particles.
- To increase one's speed, a player can practise a scale with only one finger, or develop the extensor muscles by practising *rasgueados*.

- **Urshalmi** discusses technical blockages that prevent optimal technique and sound production.
- A novel idea is to attach the *e* finger to the *a* finger, which prevents stiffness in the fingers.
- Urshalmi advocates a diagonal hand placement with the fingers moving in an arc from string one to six.
- He places specific attention on the *i* finger as it is the least rhythmical and underdeveloped finger.

8.3 Conclusions

It is now clear that right hand guitar technique has undergone many changes. These changes followed according to the demands in the music itself, as well as structural changes the instrument underwent. Some of the techniques were abandoned and then reinstated by later pedagogues (*i* and *m* runs and frequent changes between *timbres*). There has always been a strive for perfection and clarity in sound production. This fact is clearly evident if one had to compare recordings made in the 1950's to modern-day recordings. There is far less 'musical noise' (string buzzes and nail clicks) evident in modern performers' playing technique. This strive for precision is one of the main reasons why certain techniques (such as playing with the fingertips, playing on gut strings and resting fingers unnecessarily on the soundboard) have gone out of fashion. It has become standard practise to avoid all extra noise, play more accurately and clearer than before. These aspects of sound production are evident in the modern theories discussed in Chapters 6 and 7.

Clear distinctions arise between techniques used in the past and what is used currently. From the mid-19th Century performers of the guitar adopted the approach where no right hand fingers are left on the soundboard. Some of the older *rasgueado* patterns are still used, but guitarists rely much less on this technique as music after the 17th Century demanded more contrapuntal lines. Some of the older techniques (such as the *dedillo* stroke) are now avoided when playing music from the Renaissance. Performers apply their own technique to these distinctive ornaments. Yet, some older techniques (the predominant use of the *p*, *i*, and *m* fingers instead of *i*, *m* and *a* in the music of Sor) could be advantages to any performer.

If one had to make a conclusion about right hand guitar technique and sound production, it would seem that modern-day performers seem to apply a refined, relaxed and personal approach (based on individual physical characteristics) to the right hand. Prominent modern-day performers do not necessarily use one specific pedagogue's method, but combine the different aspects to fit to his own needs and characteristics.

Many of the right hand techniques mentioned by the writer are obvious to the informed reader; yet, some interesting facts came to the forefront in the study. The fact that Tárrega was neither the creator of the modern school of right hand technique nor the first Romantic composer, and the fact that Sor and Aguado discussed the *apoyando* first might come as new and relevant information to any reader. The *apoyando* may now be safely used in a historically informed performance in the music of Sor and Aguado.

8.4 Discussion of problems

The writer has summarised the changes that right hand guitar technique has undergone in the previous section. However, it is somewhat difficult to compare it to that which current performers use. Each performer has a unique style of playing, with differently formed finger shapes and nail textures that require different approaches to right hand technique. Each player produces a unique sound and adapts his technique and style of playing to his physical characteristics. Therefore, the writer would have to analyse each performer's exact physical characteristics before conclusions could be drawn about their technique. Some performers avoid the *apoyando* stroke completely and others rely mainly on it. Some prefer playing with long nails that are rounded and others with short and flat nails. This is exactly where the beauty of the guitar lies; it is uniquely sensitive to each individual's touch.

Not comparing prominent performers' technique in the summary does not necessarily make the study less valid. The reader could still use the summary to find new right hand techniques that might work for him and explain why one performer might sound different to the next (even on the same instrument). If the reader had to analyse a specific performer's technique he'd be sure to find some (if not all) aspects of the performer's technique or sound production in the Summary of Findings.

The writer feels that he has included most of the prominent names (of the sources available to him) that developed right hand guitar technique. There are a few names that have been left out, simply to avoid repetition of revolutionary ideas on the subject.

8.5 Summary of contributions

The writer believes that the study contributes to new knowledge in the field of guitar technique and sound production. Any reader interested in further developing his right hand technique, improving volume and tone, with a variety of *timbre* and aiming at a clear understanding of good sound production will find many solutions to their problems in this study. This study will help the reader analyse and understand his own right hand technique and sound production better. The study could also be used to save time and effort; the reader would not have to spend excess time reading all the individual sources from each style period, but could simply refer to the summaries made at the end of each chapter or in the summary of findings section.

The study does not aim to give an accurate account of general guitar history, but acts as a summary of the main events that helped shaped right hand technique and sound production. The study could also be used as a reference to how the music of each era was played, and give the reader a better understanding of how to play stylistically correct.

8.6 Suggestions for further research

Further research can be done in the field of sound production by using this study as reference. Further research could be aimed at juxtaposing the summary of findings from this study to techniques used by prominent modern performers. The follow-up researcher will have to analyse each performer separately, because each have their own physical characteristics. Different methods (such as recordings and audio visuals) could be used to compare the findings in this study to that which modern day performers use.

Another subject matter that could be researched in the field of right hand technique is that of cross-string ornamentation. This subject matter will add knowledge to the field of modern right hand techniques that are applied especially to older style periods.

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