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An Analysis of Guitar Technique:

Practical Right Hand Technique Application for the Modern Guitar Player

Robert Papacica

Prof. David Schroeder

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With the invention of the electric guitar arriving relatively later than that of most jazz instruments, there is a limited number of seminal pedagogical texts for the modern guitarists. Most instruments draw from classical pedagogy, however there is little cross genre practice among guitar players. In order to create a widely encompassing framework for practice, one must dissect the techniques of multiple players and techniques across most genres where guitar is used. One particularly useful area of study is the "right hand" of the guitar player. A comprehensive analysis of this aspect of technique requires the study of fingerpicking, flat picking, and combined techniques using both the fingers and the pick. Through the study and interview of notable guitar players who specialize in each of these styles, a basis for right hand guitar pedagogy can be compiled for the modern guitar player to use in their practice arsenal. Special attention will be given to jazz, bluegrass, classical, and funk/fusion guitar players and the techniques often employed in these diverse genres, however other genres where guitar is a point of focus will also be taken into consideration as they fall under the umbrella of cross genre right hand guitar study.

TABLE OF CONTENTS

Pages

Chapters

1. Introduction
2. Source Material
3. Application
4. No Pick
    1. Classical influenced finger style
    2. Wes Montgomery/John Abercrombie Thumb Style
5. Basic Picking Technique
    1. Downstroke Technique
    2. Alternate Picking
6. Hybrid Picking and Advanced Techniques
    1. Economy Picking
    2. Hybrid Picking
    3. Symmetric Picking
7. Recapitulation and Conclusion
8. Works Cited

CHAPTER 1

INTRODUCTION

Although the guitar has found a home in many musical genres, there is some ambiguity in the mastery and practice of certain techniques, especially with regard to the right or picking hand of the guitar player. This ambiguity has lead to a wide variety of right hand technique interpretations that many masters have developed on the instrument. This unique approach allows each guitar player to have a unique voice on the instrument after years of individualized practice. However, how does a developing guitar player go about mastering some of these techniques during their own practice?

At the outset of the typical guitar player's development, many teachers and professors point to recordings as a place to start learning the vocabulary of whatever music they wish to become proficient in. This, however, does not shed light on some of the nuanced techniques that many guitar players apply to their playing across all genres. There are certain existing texts that partially cover certain areas of right hand technique, such as part two of Miles Okazaki's "Fundamentals of Guitar" (Okazaki 2015) which will be referenced throughout this paper. In Ted Greene's "Chord Chemistry," (Greene 1971) Ted lists his five right hand techniques which include "the flat pick, the thumb pick and fingers… the flat pick and fingers… the fingers and thumb with no pick… the thumb only." Although he doesn't go into much detail about his list, these five categories will serve as the general types of techniques explored in this text.

One might wonder, what about the left hand technique and its interaction with the right picking hand. This brings up the excellent point of the relationship between the two. It's crucial for the left hand to serve the right hand and vice versa. This synergy will somewhat be explored

throughout the body of this work, however, it is understood that the student will devote time and individualized practice to the left hand in addition to the exercises and approaches yet to be delineated. Pat Martino described the right had as the “drop out” and the left hand as the “graduate” in an interview with Guitar Player magazine. (Guitar Player 2007) I wholeheartedly agree in a live playing situation, however, the practice of analyzing ergonomics and economy of motion in relation to both hands would serve as a better approach in the practice room when developing a personal vocabulary and approach. This topic will be touched on, but the main scope of this text is to explore the various tonal and musical possibilities and outcomes of various right hand techniques and the various methods in which one might practice and apply them to a variety of musical settings.

RELEVANCE OF STUDY

This research and study is done in large part for the development of the moderate guitar player and can be referenced at any level of proficiency. Hopefully, by the end of this text, one will gain a broad understanding of the capabilities of the picking hand and the diverse range of timbres as well as achieving an unlocked sense of fluency on the guitar. In addition to the individual guitar player, this study may also be of use to educators and those writing and arranging for guitar. Notation for guitar can often be confusing, hopefully this will as shed light on what can be expected of a guitar player to read and how to accurately and effectively notate it for the player.

RESEARCH QUESTIONS

The research questions addressed to form the basis of this study include:

What are the fundamental right hand techniques and their relevant applications in a musical context?

What are the benefits and disadvantages of certain techniques?

How does one practice and master the aforementioned techniques in a realistic, applicable way?

These questions have led to a method of organization involving an assessment of the technique in question and a practical approach to the practice and mastery of the aforementioned technique. The goal in mind being first the understanding and then the implementation of these techniques.

CHAPTER 2

SOURCE MATERIAL

In order to illustrate and expound on the various techniques to be explored throughout this text, it is of the utmost importance to establish a set of reference materials that will be of use to the reader. These materials will serve as supplemental reference points to the overall study, and will include a wide range of varying types of media to better serve the text from an aural and visual standpoint.

Because this area of study is somewhat under explored, there will not be an abundance of guitar based method books examined. Nevertheless, there are a few method books that deal with the picking hand at length beyond the absolute basic fundamentals of pick holding and hand positioning. Among these texts is Miles Okazaki's "Fundamentals of Guitar" which explores the advanced possibilities of the right picking hand. This text is admittedly an advanced study that goes for beyond the fundamentals of right hand technique. Some might even call this approach somewhat experimental in nature, however it has much merit in expanding the understanding the capabilities of the picking and the potential for development and practice.

Among the more notable and fundamental methodologies somewhat explored for this study includes Jimmy Bruno's "The Art of Picking" (Bruno 2004) and Frank Gambale's sweep picking approach. These two notable sources are among the few that have dedicated and extended length of time to picking in the jazz and jazz/fusion context. They provide a great basis of study, which this text will reference and hopefully expand on.

In addition to specific method books, interviews from notable magazines and news outlets will also be explored. Due to the limited nature of the study of the picking hand, there is much to

be discovered in interviews with guitar virtuosos regarding their individualized picking style. The breadth of these interviews is so vast, many of these excerpts will be included in the text for reference in order to shed light on the organ of such techniques and the their subsequent execution.

At times visual aides do not fully encapsulate the nuances of many performative musical attributes, therefore a selection of listening examples will serve of great use to the reader. It is not enough to merely understand the mechanized process of right hand picking, hearing the subtlety of techniques such as harp harmonics and sweep picking will greatly serve anyone attempting to execute these techniques. The listening examples will cover a wide range of styles and techniques. The downstroke oriented picking of Grant Green and Russel Malone shall be explored as well as the alternate picking styles of Pat Martino and George Benson. More advanced examples will also be explored such as the advanced hybrid picking style of Wayne Krantz and Tim Miller as well as the advanced picking styles of the late Lenny Breau and George Van Epps. In addition to a jazz centric picking approach, it will also serve this study to explore some advanced picking styles of the bluegrass and fingerstyle jazz guitar genres as well as some basic classical guitar examples as well. These other genres provide a wide array of technical awareness for the guitar player and further pedagogical awareness in regard to the possibilities of the picking hand.

Finally, another crucial aspect of this study will be a small collection of self conducted interviews with prominent guitar players of today. These interviews will be extremely useful in developing a modern understanding of these picking techniques and will serve as a useful resource in creating a new practical practice application for them as well. These topics will be

discussed with notable guitar players such as Bruce Forman, Adam Rogers, Julian Lage, and Wayne Krantz.

This material has been collected and referenced in order to give the reader a broad sense of the history of the guitar up to the point of this study. It is of great importance to understand the timeline of the developments made by previous masters in order to form a relevant modern approach for guitar. Another note on application, throughout countless interviews, articles, and texts, I and many musicians have come to the conclusion that there is no substitute for playing music to improve. The techniques described in this text are designed as solutions to problems developed on the road of creating an individualized vocabulary where one set of skills no longer fulfill the musical requirements of the guitar player. It would be highly recommended to familiarize oneself with the basic right hand techniques before delving into the more advanced and nuanced ones. A great example of this is a personal experience of my own. In a lesson with the great John Hart, we were playing a rhythm changes tune together and I was soloing and feeling particularly tired of my own playing. After we finished I expressed this feeling to John where he suggested I try soloing only using downstrokes, a technique I was familiar with but never greatly studied. After not being able to play my usual vocabulary on the guitar, I was forced into a position where I had to play something new. It was quite embarrassing to be stopped dead in my tracks by a technique as simple as downstroke picking, however it proved to be extremely enlightening in terms of a newfound awareness of the possibilities that a fluent right hand could contribute to my own personal approach to the instrument. This concept then led to my continuation of study and fascination of study with more advanced and unique picking

styles such as economy picking and hybrid picking which unlock a new set of rhythmic possibilities that can be applied to musical situations.

CHAPTER 4

FINGERPICKING

Perhaps the most fundamental approach to playing finger style guitar comes from classical music, and more specifically Spanish classical music and Flamenco. This system gives guitar players of all genres the framework to understand the nomenclature and application of right hand technique without a pick. It is critical to understand the system for notating and referencing the right hand as it will be mentioned throughout the chapter and in various musical examples. There are a set of initials for the fingers of the right hand that are simply the Spanish words for these digits. The thumb is often represented by the letter *p* for *pulgar,* the index finger is *i* for *indice,* the middle finger is *m* for *media,* and the ring finger is notated as *a* for *anular.* (Parkening) Although there is not a wide variety of crossover between other genres of guitar and classical guitar due to the dependence on the pick, it is important to note that there are some players that have studied both and use classical finger style technique or some combination of it with modern picking techniques in their playing.

TECHNIQUE

The subtlety behind using the right hand in a classical context is of the utmost importance. There are two main types of finger stroke: the free stroke and the rest stroke. The free stroke is when the thumb or fingers strike a string and avoid hitting any adjacent strings. The rest stroke is achieved when the finger or thumb strikes a string and then comes to rest on an adjacent string. The “active joints” are the joints where the fingers bend to strike the strings, and they differ slightly from one stroke to the other. The thumb’s “active joint” remains more or less the same during the free stroke and the rest stroke. On the other hand, the “active joint” of the rest stroke

is the knuckle closest to the hand with minimal movement of the other joints while the “active joint” of the free stroke is the second knuckle closest to the hand and may include more motion in the subsequent knuckles. These “active joints” could also be referred to as fulcrums. This points are where the leverage and power to strike the string are generated from. Logic would conclude that the rest stroke would be a more powerful stroke that produce a somewhat fuller sound while the free stroke, while still powerful, lacks some of the strong articulation of the rest stroke.

Fig. 1 Rest Stroke

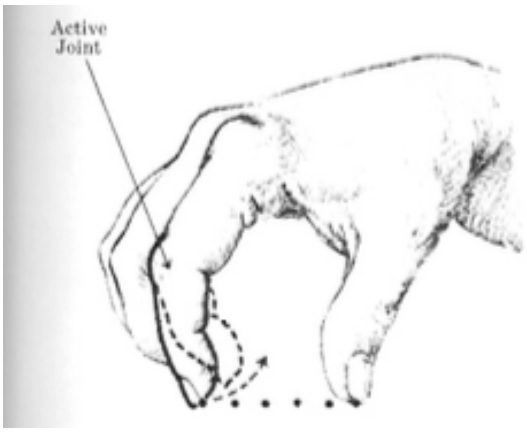

Fig. 2 Free stroke

PRACTICE

There are countless exercises and pieces that apply these techniques in an effective way for guitar players of all levels. Among these are the famous “Segovia Scales” which are usually played with a rest stroke or “apoyando.” Many teachers cite these scales as being very important for left hand development, but Segovia highlights the different ways to practice the same left hand fingerings while changing the right hand *pima* fingerings.

A great piece that highlights the use of the free stroke and especially the tremolo free stroke is “Recuerdos de la Alhambra.” This piece employs a quick succession of *a m i* free strokes in the right hand to create a tremolo effect throughout the piece.

Finally, another excellent place to explore is the music of Bach for guitar. Although Bach never wrote specifically for guitar, many of his lute suites have been adapted for guitar and feature a robust combination of techniques to be practiced with the right hand. The benefit of studying of the lute suites adapted for guitar is that the right and left hand fingerings are often clearly notated and designated specifically for guitar and not lute. As one becomes more comfortable in this style, there are also cello suites and violin partitas that have been adapted for guitar. Nevertheless, the prior study of the lute suites would familiarize the guitar player with a practical way to approach playing these unadapted suites in a manner that conserves motion on the instrument and produces the ideal tone and sound for the piece.

APPLICATION

Applying the “classical” right hand style can seem daunting at first, however there are many common sense applications for this techniques in a variety of musical styles. Additionally, there are countless player who switch between a pick and their fingers. Analyzing how they apply the two techniques can shed some light on different ways to do so in one’s own practice and playing style.

Prior to delving into the application of this technique, it is important to highlight the issue of transitioning from one technique to the other. Switching from a conventional picking style to not using a pick can present a host of challenges. Among them is what to do with the pick when it is not in use. Many player will abandon the pick from their right hand altogether and chose to place

it on a music stand, on their knee, or even between their teeth. This approach provides the utmost right hand freedom with the least amount of interference from holding the pick. One example of players that choose this technique is Adam Rogers, who can often be seen holding the pick between his teeth while he switches to a classically influenced right hand finger picking style. On the other hand, some player have developed the technique of holding the pick between their *i* and *m* fingers so that it is out of the way but still close at hand if a quick transition from one style to the other is needed. This technique presents some drawback and benefits. Speed of transition being one of the more positive attributes, while lack of complete freedom of the pick being somewhat of a disadvantage. This might lead to difficult fingerpicked passages being slightly more difficult to execute without dropping the pick from the right hand.

The practical uses for this technique in a playing situation might include switching from soloing to comping. While taking a single note solo may be easier to execute with a pick, however comping in a pianistic style where certain chords are “rolled” or certain parts of a chord are played before others would be easier to execute with complete freedom of the right hand.

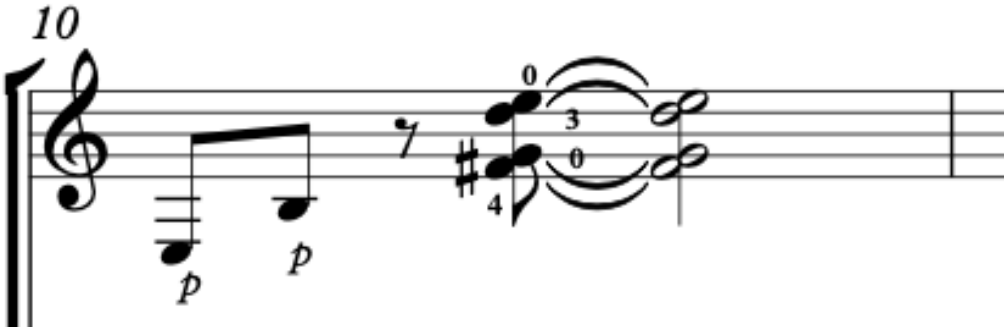

Fig. 3 Separation of Bass and Chord

Furthermore, intervalic ideas where strings are skipped, and particularly fourth intervals, are easily executed when each finger is delegated to a string. Another solution to this scenario may also be achieved using a technique called sweep picking that will be further discussed later in the text.

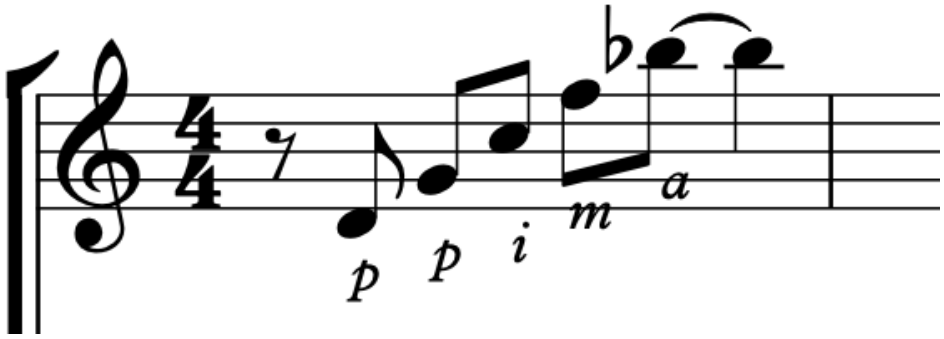

Fig. 4 Rolled Chord

It is important to note that although true classical technique does not include the use of the pinky or fourth finger of the right. Nevertheless there are instances of guitar players using this finger to achieve different tones and textures as well as an increased amount of note independence within chords. One such player was the famous George Van Epps who famously said “I use a classic right hand, but with the added fourth finger, which isn't considered good form for classical guitar. I feel the more, the better. If I had seven fingers, I'd use them all. It's a basic classical technique, except I don't use as many rest strokes because I'm usually playing a harmonic structure that has every string vibrating.” (On Jazz Picking) This approach was especially useful for Van Epps when playing dense chords using almost all of the available strings on the guitar.

Overall, it is clear that there are many uses for incorporating basic classical technique into multiple contexts of playing wether it be in the context of taking a solo or accompanying a

soloist with chords. Although the technique has some pitfalls, it is up to the player to decide in which context using this technique would be most appropriate. In order to accomplish this, knowledge of the aforementioned technique is critical, as well as knowledge of the techniques to be discussed.

THUMBPICKING

Perhaps one of the most iconic right techniques developed for jazz guitar is the thumb picking technique made famous by Wes Montgomery and also employed by John Abercrombie. This technique greatly changed the tone and attack of the notes produced by the guitar player. Previous bebop guitarists were accustomed to using a pick which would sometimes produce a sharp attack that could be perceived as thin. The use of the thumb softened the attack slightly and added a level of warmth to the note, which is why Montgomery would later achieve great success on the records where he was featured with string orchestra. His warm sound along with the lush sound of the orchestra became extremely popular in the jazz idiom and beyond.

There are many stories about the origin of this technique, however one sticks out in history. It is reported that Wes was practicing at hime with an amp and his neighbors complained, so in order to keep practicing he switched to using his thumb to dampen the sound. Little did he know that this simple act would introduce a completely new and original approach to the jazz guitar idiom. (Digging Wes Thumb)

TECHNIQUE

Although seldom employed in a modern jazz guitar context, the thumb picking style of Wes Montgomery shaped an era of jazz guitar and one could even argue jazz music in general. The technique involves using the flesh of the thumb to strike the string. This slowed down the attack

of the guitar player since “alternate picking” was somewhat limited using this technique. One could equate a downstroke with the thumb to a downstroke with a pick. Later in the text, we will discuss the uses of the all downstroke picking technique and its articulative implications. Many similarities can be drawn from these two techniques. The main difference is that the thumb technique is sometimes used in conjunction with hammer ons and slides to help facilitate faster lines while the downstroke picking technique is intended to be used for its precise articulation.

One crucially important aspect of this finger style technique that separates it from the classical style right hand technique is the “grounding” of the right hand. In classical style fingerpicking the right hand hovers over the guitar to allow the ease of use for all the fingers to strike the strings whenever needed. The arm is grounded to the body of the guitar between the forearm and elbow at the corner of the guitar where the top meets the sides. The thumb picking technique is often grounded to guitar by the pinky finger or a combination of the left over digits that are not used to strike the strings. This grounding gives the guitar player increased stability from the previously mentioned technique and results in a more grounded and groove oriented rhythmic approach at times.

There are three main categories of guitar playing that Wes Montgomery defined using his thumb technique: single notes, octaves, and chords. Single notes are simply enough executed with the thumb striking that individual string. Octaves are slightly more complicated to execute using the thumb picking technique due to the involvement of the left hand. Due to the fact that octaves are displaced on the guitar by at least of string, the issue of unwanted string attack arises. In order to combat this, guitar players like Wes Montgomery developed an approach where the left hand was used to mute the string that was not meant to be played. This would be achieved by

using the flesh of the first finger of the left hand to slightly dampen the open string, in effect muting it and achieving the sound of only two strings being struck rather that three.

Similar to playing octaves with the thumb technique, there are instances when playing full chords where certain strings will be skipped and ideally muted by the left hand yet again. In this circumstance the thumb starts to behave even more like a pick where all the strings are struck in one rapid and continuous downstroke motion creating one full sound even though certain strikes are physically being struck before others.

The use of the thumb provides a full and warm attack in comparison to the pick, however there are times when executing faster lines requires some adjust and cannot be completed with only using thumb downstrokes. Occasionally it is required to "ghost" some notes in the left hand to achieve the effect of playing them without completely articulating them in the right hand. This technique is also employed by various instruments in the jazz idiom when a player wants to execute an idea but wants to avoid over emphasizing certain notes in a phrase. In practice, the player is actually de emphasizing these notes to create a more congruous and idiomatic rhythmic effect.

Finally, there as another approach to playing up tempo vocabulary with the thumb picking technique which includes using a combination of some upstrokes and hammer ons and/or pull offs. The greatly unaccented nature of the thumb "upstrokes" requires the player to discern an appropriate time to employ this approach. Perhaps during an unaccented upbeat where the note is desired to be played with slightly less emphasis than the rest of the phrase. Additionally techniques such as hammer ons and pull offs widely used in Blues and Rock music may also be

applied in the left hand in conjunction with the right hand thumb technique to create lines that flow evenly at brighter tempos. (Digging Wes Thumb)

PRACTICE

Seeing as there are so many different ways to use the thumb picking strategy in one's playing, it is reasonable to conclude there are also a plethora of ways to develop and practice this technique on one's own. In addition to regimented practice, it also important to note that Wes himself stated in an interview later in his career that he didn't practice. At first glance this might sound astounding, however Wes was playing in clubs five nights a week for an average of six hours a night. This large amount of time spent with the instrument can be linked to the development of his technique and skill. This time spent playing on the bandstand contributed to Wes's soulful and bluesy approach based largely in rhythmic sophistication and well crafted melodies.

One simple approach to developing this thumb picking style is to execute basic scale exercises such as chromatic, major, and melodic minor scale exercises with the new technique. The most technically challenging part of applying this technique to these basic exercises is switching back and forth between strings. The example below highlights this awkward string skipping in the first bar, however with practice string skipping will become second nature using this technique.

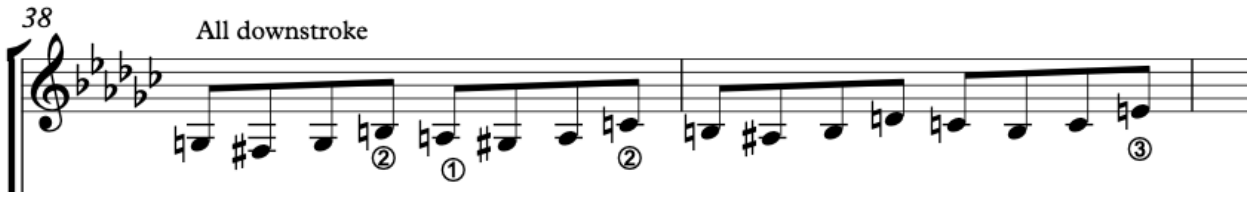

Fig. 5 Downstroke scale exercise

Another effective way to develop this style is to take existing vocabulary and attempt it with the thumb picking style. Taking this approach to the next level would be to take these same bits of vocabulary and playing them in octaves and implanting the thumb picking technique. In addition to solo vocabulary, common melodies of tunes from the jazz cannon should also be explored with this technique.

Finally, there is no substitute for transcription and analysis. Taking an excerpt from one of the masters and dissecting their approach to soloing, accompaniment, or melody would also be critical in developing this technique and a vocabulary that musically aligns itself with thumb picking versus using a physical pick. There is a reason why Wes's ideas worked so well with the right hand technique he employed. A critical part of this study is understanding when it is appropriate to use one technique or another, and transcription is a vital part of understanding when one technique is more practical to apply than another.

APPLICATION

The implementation of this technique is a nuanced topic of discussion. Notably because issues of tone and sound production come into play when appropriately using this technique which some could argue is very subjective. Due to the more muted and warm sound of the thumb picking style, it makes logical sense that this technique would blend well when playing a harmony or counter-line with a darker instrument like the flugelhorn or the alto flute. Conversely, utilizing the same technique while using octaves would bring a melody out in an ensemble despite the warm and muted attack of the thumb. Thinking like an arranger is an approach to effectively applying this technique. How can I make this next passage sound more interesting? Does this melody blend well with the band? and is this not strong enough because of

the employed picking technique? These are all great questions to ask while discerning when it is best to use one technique over the other.

Despite the warm and rounded attack of this style, guitar masters like Wes Montgomery and John Abercrombie were often bandleaders and played the lead melody in many of the ensembles they were involved with. One may underestimate the power of this technique because of its lack of attack, however the strength and fulness of the notes often makes up for this lack of initial clarity. Furthermore, one common application of using the thumb is in the organ trio style. The warmth of the thumb technique blends exceptionally well with the timbre of the organ. Additionally, organ trio music is somewhat more dependent on grove based forms and styles. Therefore using the thumb is a great middle ground between using the fingers of the right hand in the classical style and using a pick. The thumb style allows the guitarist to comp in an unobtrusive way while also creating snare like rhythmic hits and backgrounds for the soloist. Using a pick is another option in this scenario, however the bright attack of the pick creates a huge timbral shift that does not blend well with the slightly softer attack of an organ soloist. A great choice in the accompanying role of the organ trio is to use the thumb technique when appropriate, especially when thinking rhythmically and keeping elements of appropriate blend in mind.

CHAPTER 5

BASIC PICKING TECHNIQUE

DOWNSTROKE

The use of downstroke picking in jazz and blues is one of the most foundational techniques of guitar playing, but it is also one that is often overlooked. Many guitar players don't use all downstroke style picking, however some rely on the technique for its clear articulative style more than others. Perhaps the most prominent downstroke based guitar player is Russell Malone as well as the great Grant Green, although Green also refined a technique in the jazz guitar idiom called sweep picking that will be discussed later. The most influential guitar player of this style is arguably Charlie Christian. The great Barney Kessel once said that "Charlie played probably 95% downstrokes, and held a very stiff, big triangular pick very tightly between his thumb and first finger."(Leading Tones: Players Who Changed the Way we Sound) This information is very interesting since Christian died in 1942, and unlike some of the other guitar players discussed in this text, there is little to no video evidence of him playing. Many people credit Christian for his all downstroke picking style, however it is important to note that although he was a pioneer of this technique, he studied with the great Eddie Durham who met with Christian while he was on the road in Oklahoma City. Durham described what exchanges they had by saying Christian "wanted to know technical things like how to hold a pick. So I showed him how to hold it, and I taught him to pick the way I do - all downstrokes." (The Magic Christian) Durham would go on to make a name for himself as a great arranger, while Christian took the techniques that Durham pioneered and create a genre defining sound that influenced countless guitar players from early bebop into the modern era.

TECHNIQUE

The downstroke technique is very simple in nature. The pick is held normally held between the thumb and the first finger while the rest of the fingers can either stay curled into the hand and out of the way of the strings or outstretched in some manner. Some players let their outstretched fingers hang freely or others, like Christian, would anchor "his 2nd, 3rd, and 4th fingers on the pick guard." (Leading Tones) This anchoring technique is one of personal preference as mentioned in the thumb picking technique section of this text. The trend continues on throughout the picking techniques as there is not one clear way to hold the pick depending on which technique one employs. There are players that anchor and those that do not anchor across all techniques. For example, of the players that use this technique, Russell Malone does not anchor while Christian does.

Beyond a single note approach, the downstroke technique can be used to play chords and octaves in a similar fashion to the thumb picking technique. The use of the downstroke technique for playing chords is very similar to the thumb technique, however the outcome is a slightly brighter timbre. This technique really allows the guitar player to stick out in front of a group and play chords that are more of a focal point in a musical situation, however with the advent of amplifiers and P.A. systems for live concerts, there are many guitar players who use the downstroke technique for comping as well.

A useful part of this technique is the ability to quickly play the top note of the chord once more after striking the entire chord. In a solo guitar situation this technique is very useful when the melody of a tune is the top note of the chord and is played more than once in succession. Often times, re-articulating the entire chord would not serve the song in question, and re-

articulating the individual note is the best option to a create a smooth balance between harmony and melody.

In yet another similar fashion to thumb picking, the downstroke picking technique can often result in some drawbacks for the player wishing to execute speedier passages. Players that were greatly influenced by the blues but came after players like Charlie Christian adopted the downstroke technique but developed new techniques to keep with the challenging tempos of the Bebop Era as it progressed and become more and more virtuosic. One such player was the great Grant Green who helped shape a new downstroke based technique called sweep picking. This technique allowed the guitar player to play arpeggios on the adjacent strings in quick succession all using one downstroke. Wes Montgomery also was a pioneer of this technique but used his thumb instead of a pick to achieve a similar effect. Green would use the technique in his rendition of the tune "It Ain't Necessarily So" where he famously doesn't play the actual melody to the head. Green uses a minor nine arpeggio in the measures before the minor chords in the excerpt below. He uses a hammer on for the first two notes of the arpeggio that lay on the same string and continues his down pick for the rest of the arpeggio on the following strings. This effect creates a smooth and fast attack that mimics a horn player like slur rather than harshly articulating every part of the arpeggio.

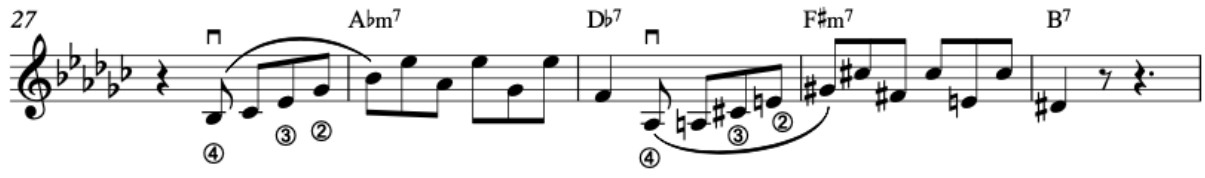

Fig. 6 "It Ain't Necessarily So" - Grant Green

Overall, the down pick technique creates a very articulated jazz style that creates very defined articulation. This effect may desired in some more groove oriented blues situation or simply to make a melody speak clearly with each note being clearly articulate. On the other hand, there are times when perhaps other techniques may be employed, or perhaps the cousin of the downstroke technique - the sweep pick.

PRACTICE

Developing this technique should be a cornerstone foundational practice for any guitar player. One should begin with simple scale exercises and apply the downstroke technique at slow tempos, progressively increasing the tempos over time. The enclosure exercise mentioned in the previous chapter would be a great place to start along with chromatic scales and major scales. The famous box exercise can be used to practice this technique along with the next technique in this chapter as well. The exercise utilize all the notes between frets five and eight on all six strings of the guitar. The exercise starts in one corner of the fretboard "grid" and expands out to the opposite end of the fretboard. It may be attempted using the downstroke technique and later the alternate piking technique as well.

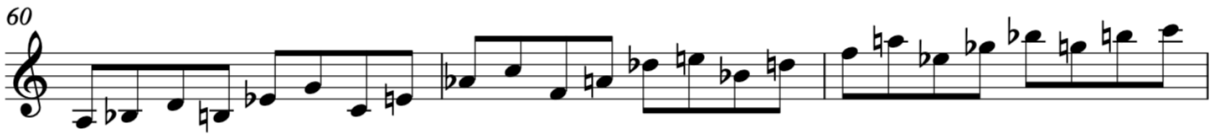

Fig. 7

In addition to scale exercises, transcription is also a great tool to develop this improvisatory technique. Finding solos of famous players who employ this technique and transcribing them is a great way to find vocabulary that works exceptionally well with this material. Below is an

excerpt of a live performance of the first few bars of Russell Malone's solo on "There Will Never be Another You." In this excerpt, and most of the rest of the solo for that matter, Russell uses predominantly downstrokes to create a very articulated and strong time feel which creates a strong sense of time that the accompanying Billy Taylor trio can musically connect with.

Although most transcription can be done aurally and without any video reference, one might find analyzing picking technique with a live video to be very informative as one can see exactly how the guitar player is choosing to articulate and pick the phrases they are playing. One might find a list of material in the appendix for those wishing to find material to further analyze for personal development of each picking style.

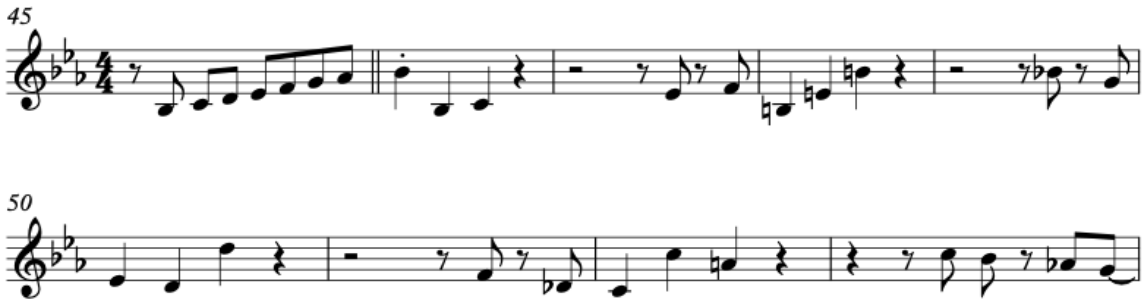

Fig. 8

Lastly, although it is not a very common technique, it would be remiss to not mention the technique of using all upstrokes in this chapter. Many players use this as a practice tool to develop pick agility and as a counter practice tool for the downstroke technique. It can be applied to one's practice in the same way as the downstroke technique but it creates a lighter and unaccented time feel rather than a strong downbeat oriented one. One player who sometimes uses this upbeat picking technique is Pat Metheny especially when playing repeated notes. He

often favors upstrokes in their instance perhaps because they are so overly articulated, the up beat provides a slightly softer attack while still playing each note clearly.

APPLICATION

Due to the downbeat oriented nature of this style, this technique is not the greatest approach when trying to achieve the most legato phrasing. This "drawback" may also be perceived as a positive attribute in that it is a great technique to employ when trying to blend with instruments that articulate notes in a strong manner. One such application would be blending with trombone which is a great textural sound. Although trombones use their slides to change pitch, they often single tongue many of the notes they play, therefore this technique is great to use in the context of playing in an ensemble with a trombone player or blending with a trombone section in a big band.

Another great use for this technique is when playing a blues oriented or strongly phrased solo. It particularly is useful when attempting to play a repeating idea or repeating double stops. These types of ideas often need to be clearly articulated and in time to be executed well due to their repeating nature. Here is an example of an all downstroke double stop oriented blues phrase that would idiomatically be played in a strong articulated manner.

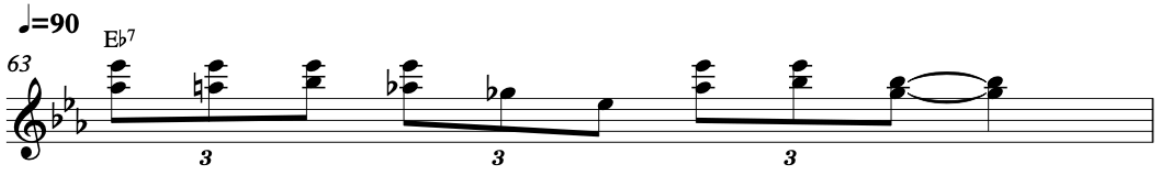

Fig. 9

This technique should not be limited to simply blues phrases or double stop phrases, it is also very useful in climactic solo situations from styles such as rock to fusion to modern jazz.

ALTERNATE PICKING

Perhaps the most common picking practice of them all is alternate picking. It is found and heard across all genres of guitar playing from jazz to blues to bluegrass to rock to r and b and funk. The agile nature of this technique makes it a common sense approach to a variety of musical styles and situations. Almost all guitar players of the modern era use this technique at least to some extent in their playing, or have studied it at length at one time or another in their development.

Due to the strong articulative nature of this picking style, many bluegrass musicians use this technique in their soloing and melody playing. While most jazz guitar players refer to the constant up and down picking as alternate picking there are various other names for it throughout the different genres of guitar playing. Bluegrass musicians refer to it as cross picking or simply flat picking as the term in that genres has become almost synonymous with alternate picking. Country musicians and older publication on the topic may also refer to the technique as “back and forth” picking. This description describes the style as what it looks like from the guitar player perspective and does not tie the technique to the Eurocentric violin up bow and down bow reference as many of the other techniques do. The term is also common amongst early blues musicians, nevertheless most modern guitarists will know the term alternate picking by that title although knowledge of the history of said nomenclature may be of use when continuing on more individualized research for this topic.

Other than bluegrass players, some of the greatest players to include this style of playing in their arsenal are Mike Stern and Pat Martino. Stern coming from a fusion background and Martino coming from more of a straight ahead background. Both players find this staccato style of alternate picking a perfect fit for their fast and strongly articulated playing style. Although both of these players prefer this staccato style, neither was very conscious in their decision to use a strict alternate picking, and in practice, they sometimes stray from a strict alternate picking approach and include some elements of downstroke technique and the to be discussed economy picking technique.

TECHNIQUE

The technique is simple in nature - one up pick followed by a down pick regardless of skipping strings. Although the basic premise may seem relatively simple there are different schools of thought on how to analyze and incorporate alternate picking into one's vocabulary.

In Andy Ellis's article, Crosspicking Seminar: Flatpick your way to Shimmering Harmony and Bell-Like Sustain, (Ellis 2004) he describes the two main schools of thought regarding cross picking or flatpicking as follows.

"There are several schools of thought on how best to navigate cross picking's wicked string jumps. One school adheres to strict alternate picking - even if you're forced to hop over a string to make the reverse stroke. The advantage of this pendulum like technique is that it eliminates hesitation. You hand always knows which way to move… a second flat picking recipe works like this: downstrokes automatically call for downstrokes, upbeats get upstrokes. In this scenario, a series of quarter notes would all receive downstrokes, while a heavily syncopated line would contain mostly upstrokes. Because it's tied to rhythmic pulse, this scheme yields beautiful

dynamics. Again there's no hesitation once you internalize the formula."(Crosspicking Seminar: Flatpick)

After much study of guitar players along the spectrum of jazz music and beyond, one could conclude that the more applicable approach for jazz guitar players might be a variation of the latter technique. This view of alternate picking includes elements of the down picking technique as well as elements of the typical up and down conventional alternate picking approach. Because most music, especially jazz, is very nuanced in its phrasing and articulation, it is easy to conclude that guitar players would employ a combination of strong downstrokes when appropriate and a strict alternate picking during faster passages. This technique is stretching the boundaries of traditional alternate picking, while not quite evolving into more advanced picking techniques such as economy or flow picking just yet.

To clearly understand the varieties of alternate picking it is important to firmly grasp the foundation of the technique, which is strict alternating down and up strokes. In classical music, musicians are always taught to economize motion, which makes strict alternate picking somewhat counterintuitive. While sacrificing some level of effort, strict alternate picking provides very clear articulation for eighth note passages with some added convenience when compared to downstroke picking. This clear articulation, however, comes at the cost of legato phrasing. If one adheres to strict alternate picking, they give up some of the benefits of very legato saxophone like phrasing.

PRACTICE

As previously mentioned, and a good practice for any picking technique, it is advised to go through scale exercise using this new picking technique. The aforementioned box exercise is also

a great place to start when exploring alternate picking. The box is very useful to work on this technique because it includes many adjacent string jumps throughout the exercise. As written below, a string alternate picking approach will result in some tricky string jumps that will help engrain this technique into the player's muscle memory to the point where it becomes second nature.

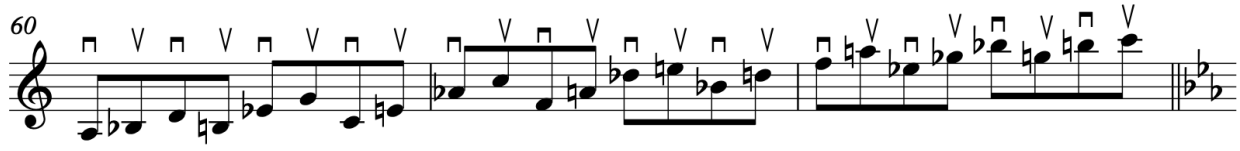

Fig. 10

In addition to scale exercises, Bach's violin partitas and cello suites are particularly challenging yet effective in developing the alternate picking style. Because these pieces are written for linear instruments that are bowed, there are many string jumps throughout the music. This presents a unique challenge for the guitar player to develop fluidity with the technique. Although it may make more sense in performance to use a different approach, playing the pieces using string alternate picking is a great way to develop the technique. Included below is an

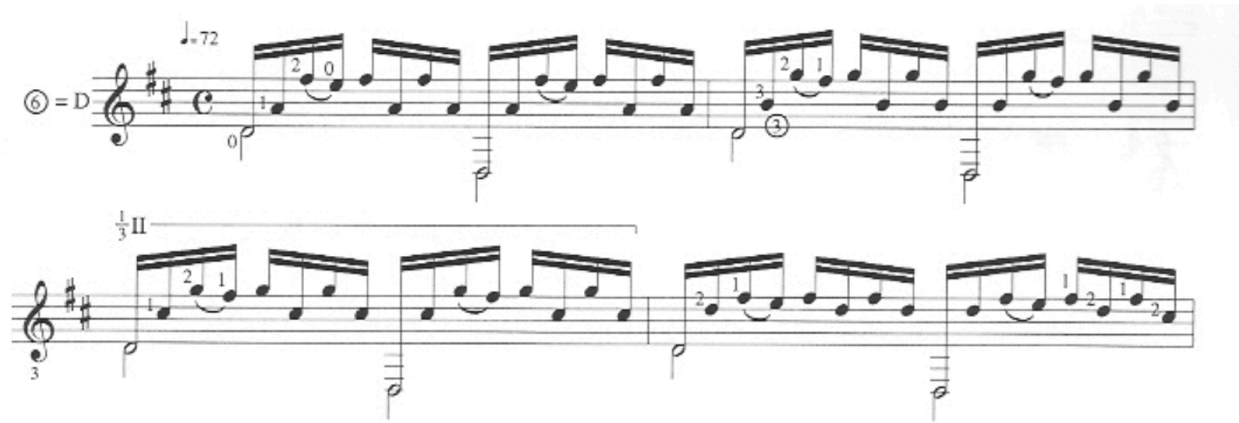

Fig. 11

excerpt of Bach's Prelude from the First Cello Suite. This entire piece is a great way to develop alternate picking fluidity.

As is common with any aspect of musical development is transcription. Analyzing lines of guitar players that employ alternate picking is crucial in developing a personal language for using the technique. Players such as Pat Martino, George Benson, Pat Metheny, and Mike Stern are great places to start when developing the concept. Mike Stern is especially great to focus in on because he uses strict alternate picking on most of his uptempo playing with very few hammer ons and pull offs. A great tune to play with this technique is Mike Stern's own composition, "Chromazone," as notated below.

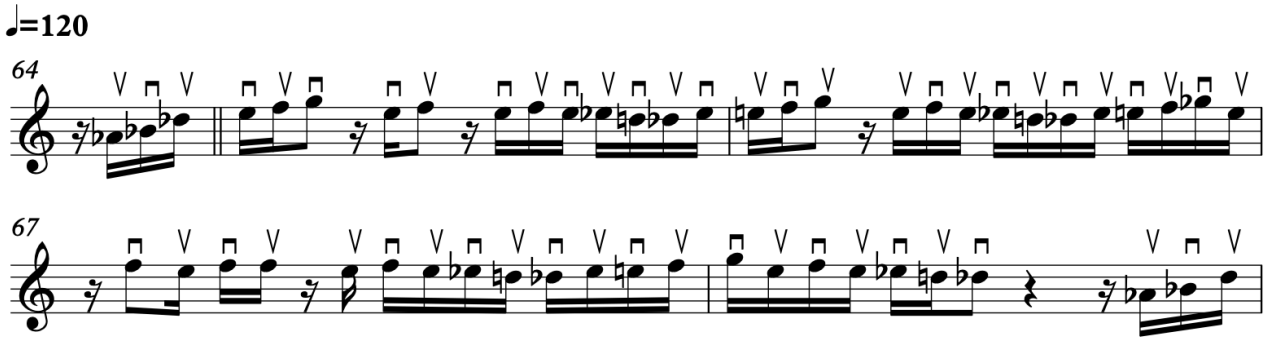

Fig. 12

Finally, another somewhat unexpected way to approach cross picking is to examine some of the masters of bluegrass guitar flat picking. Norman Blake, Molly Tuttle, Tony Rice, and Chris Eldridge are a few masters of this style. These guitarist's playing consists of almost all bluegrass crosspicking which results in a extremely even and well articulated attack. Below is an excerpt of "Whiskey Before Breakfast," a classic bluegrass song almost always executed with the alternate picking approach save a few hammer ons and pull offs here and there.

APPLICATION

This technique can be applied to a variety of musical situations, but is somewhat limited in its application to chord playing. Although alternate picking does not create enough unbalance when playing swift passages of single notes, the up and down pattern is greatly magnified when playing chords or comping. The resulting effect is greatly accented downstrokes and greatly unaccented upstrokes. This effect might be desirable in some cases. Jim Hall can be heard using both up strokes and downstrokes when comping on the tune “My Funny Valentine” recorded on the album Undercurrent. This effect can be employed when a very active rhythmic form of comping is desired. In a more subdued comping situation, one would prefer using a downstroke approach for comping, or perhaps even a fingerpicked approach for comping. The latter approach is often adopted by guitarists such as Adam Rogers and Pat Martino who can be seen abandoning their picks after playing up tempo solos, to then comp in a finger style technique.

In a large ensemble setting, this technique can be very useful when doubling or blending with the brass section, including the trumpets. Oftentimes, arrangers will write stepwise linear passages for trumpet players and often double the lead in the guitar part. This technique is very useful in some situations when the passage is meant to be articulated in a strong fashion, while also being played at too brisk of a tempo to utilize an all downstroke technique as mentioned previously when playing with the trombone section.

In the context of playing a guitar solo with an ensemble or a small group, this is an excellent technique to utilize. The strong articulative nature mixed with the ability to play in an agile manner at fast tempos makes this technique an obvious choice for some guitar players. Although this technique allows the guitar player to increase their agility and fluidity in the instrument, it

also limits the ability to play as legato as possible. If a soloist desires to play a double time run in the style of saxophone great Charlie Parker, perhaps the next technique might be the most obvious choice for the improviser.

CHAPTER 6

ADVANCED PICKING TECHNIQUES

HYBRID PICKING

One of the most advanced yet most useful picking technique might be hybrid picking. This technique has become somewhat more popular in recent years, resulting in a variety of published material on the subject, yet little delineation of how to effectively apply it to one's own playing. In the 2020 issue of Guitar Player, Patrick Brennan succinctly describes hybrid picking and briefly discusses its uses throughout guitar oriented music.

> "If we combine these two approaches, however, we create a third and highly useful technique known as hybrid picking. Hybrid picking combines both flatpicking and fingerstyle in a way that exploits the advantages of both techniques, and, when mastered, it can make you a far more versatile guitarist than those who strictly flatpick or fingerpick exclusively. Hybrid picking is a staple of nearly all styles of guitar playing. You can see it being utilized by jazz greats, heavy metal shredders and country "chicken pickers" alike." (Hybrid Picking: Combining Flatpicking and Fingerpicking)

Among the aforementioned guitar players who utilize this technique, a few stick out in the jazz genre. The players that utilize this technique include Bruce Forman, Wayne Krantz, and Tim Miller among others. These three players all utilize this technique for its flexibility when playing single notes and chords, however each player takes liberties with the technique to create a unique voice and approach to the hybrid picking style.

In addition to these jazz greats, blues guitarist Stevie Ray Vaughan and country master Danny Gatton were also avid hybrid pickers. Gatton's approach to the technique was slightly different because of the musical demands of the music he was executing, however he still gripped "a flatpick between his right-hand thumb and index finger, he'd alternate conventional picking with various pick-and-finger styles: alternating-bass Travis patterns, banjo-style rolls, rippling arpeggios, and cascading open-string runs."(Hardest Working Hands) Despite the stylistic differences between these two approaches, it may be of some benefit to guitar players to analyze either style in order to discover and explore a wide array of tonal and technical possibilities.

TECHNIQUE

The basic premise of hybrid picking is using the pick in harmony with the remaining fingers of the right hand, in effect, creating a combination of the classical style fingerpicking technique and the alternate picking technique. Brennan clearly articulates that "hybrid picking requires you to hold the pick between your thumb and index finger so that you can use your middle and ring fingers, as well as your pinkie, to pluck the higher strings independently of the pick. Once your pick is properly situated, drape your remaining pick-hand fingers just above the strings in a relaxed, hook-like arch, with the fingertips aimed down at the strings and ready to pluck them, just as you would do when fingerpicking." (Hybrid Picking: Combining)

One important technical distinction to make between hybrid picking and classical style fingerpicking is the use of the pinky finger. When classical picking, it is extremely rare to use the pinky finger of the right hand, however due to the unavailability of the index finger, the pinky finger is often used to increase the usability of this technique in regard to playing as many strings

with the remaining strings as possible. The notation for the pinky in this case is sometimes the letter *c*. This is in addition to the existing classical Spanish system of *p, i, m ,* and *a* for the rest of the right hand.

One consideration to take into account when using this technique is pick size. Because some guitar players use a medium sized or large pick in normal picking situations, referring to actual size and not thickness, one may consider auditioning a smaller sized pick in this new role. The reason for this is that there are less finger to grasp the pick with in the right hand. Usually guitarists that rely on slightly larger sized picks use the index and middle finger, if not more fingers of the right hand to achieve a stable grip. Due to the loss of the fingers for pick gripping, a smaller pick might be the solution because a "small pick print … will stay relatively out of the way, leaving your other fingers plenty of room to get into the mix for various plucking patterns." (Path to Finger Freedom)

There are a few varieties involving this technique that span playing lines as well as playing chords. Usually the pick moves in a downstroke regardless of playing single lines or chords, and the *m, a,* and *c* fingers pluck the string up toward the palm of the hand. This mimics the classical technique where the thumb moves in toward the palm and the *i, m,* and *a* fingers move up towards the palm as well creating the feeling of a closing hand for the guitar player. When playing chords, there is no way to ground the hand with the remaining fingers therefore they remain floating above the strings. Even though it is possible to ground the hand when playing single note lines when predominantly using the pick and *i* finger, few players choose to ground their picking hand anyway.

PRACTICE

There are countless exercises to develop this technique, and one of the main proponents of hybrid picking is Tim Miller. His music features the use of hybrid picking techniques to achieve large intervalic melodies that accompany dense harmonies. In addition to being a world class jazz guitar player, he is also a great educator. His teaching often includes the mention of hybrid picking for which he has a plethora of exercises that are very helpful in developing this style. One such exercise involves the use of the pick and *i* finger to play a simple major scale in fourths. The exercise can also be used to play intervals larger than a fourth as well, however Miller advises against using the technique for playing scales in thirds or smaller intervals and states alternate picking might be a better alternative in those cases.

The exercise includes playing the first part of the interval with a downpick and then playing the next note which a fourth away on the next string with an upstroke. This creates an extremely fluid articulation that would sound choppy with alternate picking and undefined with sweep picking. The exercise is notated below with picking and fingerings clearly marked. The same picking and fingering scheme and exercise can be used to play fifths, sixths, sevenths, etc.

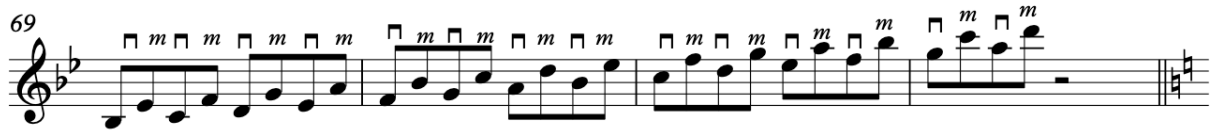

Fig. 13

Additionally, this same style can be used to play chords in a unique way, where a string needs to be skipped. This is also possible using downstroke picking, however the left hand must mute the open string by using the nearest finger to dampen the string by barely applying

pressure. Although possible, this technique creates a small interruption in picking the muted note which may result in unpleasant harmonics and sounds at times. To combat this, one might practice using spread diatonic triads with the pick, *m,* and *a* fingers in the key of C major.

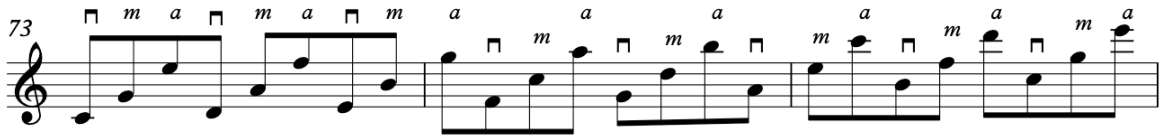

Fig. 14

Miller is also famous for using many unique interval based arpeggios. These arpeggios are harmonic but also follow a string picking scheme and strict string placement scheme. These arpeggios are commonly referred to as "2-1" arpeggios because there are two notes played on one string and one note and the next. This patter repeats for all six strings. Below is a representation of the same arpeggio in a descending and ascending order using a combination of pick, *m,* pull offs and hammer ons to achieve a smooth and legato effect for a series of difficult intervals.

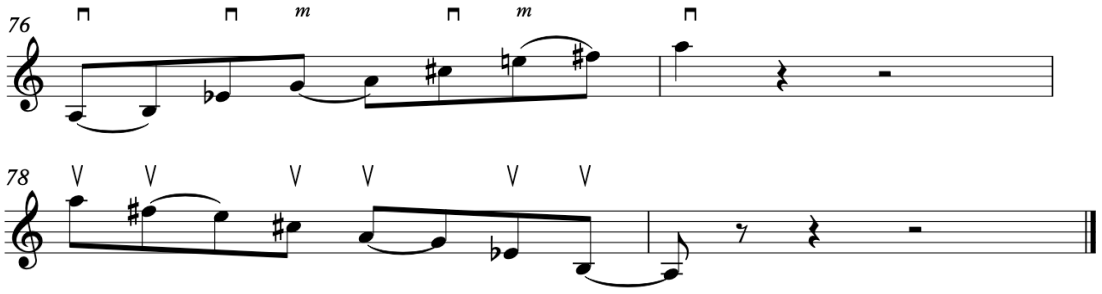

Fig. 15

APPLICATION

As seen in the exercises, this technique is very applicable to a variety of musical situations from soloing to comping to ensemble playing. The use of hybrid picking is extremely effective in playing intervallic ideas. The great Jim Hall was a master of playing intervallic ideas, and can be heard doing so on many great recordings such as “You’d Be So Nice to Come Home To” on his record, *Concierto*. Although Hall utilized intervallic playing, he was not known to hybrid pick. Modern jazz guitar players who were greatly influenced by Hall, adopted his intervallic style but were met with challenging tempos and music of the modern era. The use of hybrid picking became extremely common among modern jazz guitar players to achieve the intervallic harmonic concept at faster tempos.

In addition to single notes, hybrid picking can also be used as a phrasing and articulation solution for the guitar player in a large ensemble or big band setting. Many modern writers such as Maria Schneider will include complex chord structure to be played in close proximity to single note material. This challenge prevents the guitar player from switching back and forth from using a pick and taking a fingerstyle approach. This leaves a few options: play in the classical fingerpicked style or attempt to play everything with a pick. The best option might be using the hybrid picking style. This style is also commonly used when the guitar part is doubling a chordal vamp in the piano part. The blend of hybrid picked guitar and piano is a very desirable sound for many modern arrangers.

Finally, playing arpeggiated chords in a solo or comping is an obvious opportunity to utilize hybrid picking as seen in the previously mentioned exercises. A variety of chords can arpeggiated when comping, or played as a single chord using hybrid picking instead of classical

fingerpicking or downstroke picking. This combination of pick and fingers gives an interesting tonal blend that may be very desirable in some situations. The use of the “2-1” arpeggios is also a great way to include hybrid picking in a solo setting.

CONCLUSION AND RECAPITULATION

The purpose of this study is to highlight the different right hand techniques for playing guitar in a jazz style while also analyzing the use of these techniques in adjacent genres. Although there are countless books that focus on harmony and left hand technique, there is little written about the right hand and how useful it is in different solo and ensemble settings. In order to become a truly exceptional guitarist, it is necessary to study all aspects of the instrument in order to be as diverse and dynamic as possible in the jazz genre as well as other styles.

The paper explores at length a variety of styles and multiple subtopics regarding their execution and application. These topics and subtopics can be seen below in a concise table which explores the topics very briefly.

	Classical Fingerstye	Thumbpicking	Downstroke Picking	Alternate Picking	Hybrid Picking
Technique	- Utilizes the *p, i, m,* and *a* fingers - Strings are struck with the nail and flesh of the finger	- The thumb is used to strike the strings - The remaining fingers ground the right hand	- Strings are picked with all downstrokes - Remaining fingers may be used to ground hand	- Strings are picked up and down consecutively - Can also be picked alternately based on upbeats and downbeats	- Strings are picked with pick and *m, a,* and *c* fingers
Practice	- Arpeggiated chord exercises - Bach and classical guitar pieces	- Study of Wes Montgomery's vocabulary - Scale exercises with the thumb	- Scale exercises with all downstrokes - Box Exercise - Russell Malone, Grant Green, and Charlie Christian solos	- Scale exercises with alternate picking - Bach using alternate picking - Pat Martino and Mike Stern solos	- Intervallic scale exercises - Arpeggiated chord exercises - Bach with hybrid picking
Application	- Comping - Blend with piano part in ensemble setting	- Organ trio - Blend with darker instruments like alto flute and flugelhorn	- Organ trio - Blend with trombone in ensemble setting	- Soloing at fast tempos - Blend with Brass in ensemble setting	- Intervallic solos - Blend with piano part in ensemble setting

Fig. 16

Once the modern guitar player examines these aspects of picking through the use of this text, they will have a deeper understanding of the importance and implications of knowing these techniques. Although a simple text could never replace hours of practice and study, this paper may shed light on how to take these techniques and develop them at a basic level. Furthermore, the paper also informs the reader on how to take the existing material and further develop it in their personal practice. It also informs the reader about the historical context of these techniques in order for the player to have the tools to explore other players that use the techniques, which gives the guitar player yet another avenue for independent exploration.

On a personal note, as a young guitar player, I often found discovering new material to learn difficult, especially when it came to information about picking. Many musicians often give young players the same advice: transcribe. While this type of study is invaluable, I found that the various techniques that are used to play guitar are difficult to learn with transcription alone. This is due to the fact that the techniques are difficult to hear, and would be easier to discern if there was some type of video recording of exactly how the guitar player was executing their ideas. Hopefully this text allows the guitar to player to develop a deeper understanding of the various right hand techniques in order to further develop the independently and be able to discern when they are utilized on recordings.

Finally, understanding the application of these techniques may be invaluable. Very few guitar players have mastered all these techniques, including some of the modern masters who focus on developing a few at a high level. The guitar player who achieves proficiency in all these techniques and understands in which musical situations they are applicable will achieve a high level of nuance which will make them an ideal candidate for a variety of different studio and live performance situations.

WORKS CITED

Written Materials

Widders-Ellis, Andy, and Jim Ferguson. "LENNY BREAU." *Guitar Player*, vol. 26, no. 1, Jan. 1992, p. 39+. *Gale General OneFile*, link.gale.com/apps/doc/A603641948/ITOF?u=nysl_me_newyorku&sid=ITOF&xid=6aa4649c. Accessed 17 Jan. 2021.

Widders-Ellis, Andy, and Jason Hill. “Crosspicking Seminar: Flatpick Your Way to Shimmering Harmony and Bell-Like sustain.” *Frets*, Fall 2004 , p. 58-61.

Breau, Lenny. "'Piano' picking." *Guitar Player*, vol. 32, no. 1, Jan. 1998, p. 134+. *Gale General OneFile*, link.gale.com/apps/doc/A20040942/ITOF?u=nysl_me_newyorku&sid=ITOF&xid=5e78c5cc. Accessed 17 Jan. 2021.

Atkins, Chet. "Flex your picking fingers." *Guitar Player*, vol. 50, no. 8, Aug. 2016, p. 108. *Gale General OneFile*, link.gale.com/apps/doc/A457390688/ITOF?u=nysl_me_newyorku&sid=ITOF&xid=6e28e848. Accessed 17 Jan. 2021.

Taylor, Chris. "Horn-like phrasing for guitar." *Guitar Player*, vol. 46, no. 1, Jan. 2012, p. 90+. *Gale General OneFile*, link.gale.com/apps/doc/A276352418/ITOF?u=nysl_me_newyorku&sid=ITOF&xid=ada4a7bd. Accessed 17 Jan. 2021.

Brennan, Patrick. "Hybrid Vehicle: Combining flatpicking and fingerpicking techniques, hybrid picking can help unlock new possibilities in your playing." *Guitar Player*, vol. 54, no. 1, Jan. 2020, p. 82+. *Gale General OneFile*, link.gale.com/apps/doc/A618573387/ITOF?u=nysl_me_newyorku&sid=ITOF&xid=d34392b8. Accessed 17 Jan. 2021.

Van Eps, George. "On jazz picking." *Guitar Player*, vol. 30, no. 3, Mar. 1996, p. 134. *Gale General OneFile*, link.gale.com/apps/doc/A17928255/ITOF?u=nysl_me_newyorku&sid=ITOF&xid=c1b21167. Accessed 17 Jan. 2021.

Johnson, Eric. "Eric Johnson on speed picking." *Guitar Player*, vol. 29, no. 3, Mar. 1995, p. 143. *Gale General OneFile*, link.gale.com/apps/doc/A16680134/ITOF?u=nysl_me_newyorku&sid=ITOF&xid=4e97ecb9. Accessed 17 Jan. 2021.

Bolton, Ross. "Ain't that a groove! The ABCs of funk guitar." *Guitar Player*, vol. 30, no. 2, Feb. 1996, p. 122+. *Gale General OneFile*, link.gale.com/apps/doc/A17991082/ITOF?u=nysl_me_newyorku&sid=ITOF&xid=16e221fe. Accessed 17 Jan. 2021.

"Leading Tones: Players Who Changed the Way we Sound." *Guitar Player*, vol. 31, no. 12, 12, 1997, pp. 61. *ProQuest*, http://proxy.library.nyu.edu/login?url=https://www-proquest-com.proxy.library.nyu.edu/magazines/leading-tones-players-who-changed-way-we-sound/docview/1065387/se-2?accountid=12768.

Fox, Darrin. "THE MAGIC Christian." *Guitar Player*, vol. 36, no. 10, 10, 2002, pp. 74-78,80,82,84. *ProQuest*, http://proxy.library.nyu.edu/login?url=https://www-proquest-com.proxy.library.nyu.edu/magazines/magic-christian/docview/222419828/se-2?accountid=12768.

Fox, Darrin. "Riffs: Jazz - Pat Martino." *Guitar Player*, vol. 41, no. 9, 09, 2007, pp. 38-42. *ProQuest*, http://proxy.library.nyu.edu/login?url=https://www-proquest-com.proxy.library.nyu.edu/magazines/riffs-jazz-pat-martino/docview/1071993/se-2?accountid=12768.

Bruno, Jimmy. *Art of Picking: Includes Online Media*. Mel Bay Pubns, 2016.

Okazaki, Miles. *Fundamentals of Guitar: a Workbook for Beginning, Intermediate, or Advanced Students*. Mel Bay Publications, 2015.

Greene, Ted. *Chord Chemistry*. Alfred Pub. Co., 1981.

Discography List

Brown, Ray/ Alexander, Monty / Malone, Russell, *Ray Brown, Monty Alexander, and Russell Malone*, Telarc CD-83562, 2002, CD.

Evans, Bill. *The "Interplay" Sessions*, Fantasy / Milestone Records 7247066, 1962 (2007), CD.

Farmer, Art. *Interaction*, Warner Bros. / Warner Music 7411571 1963 (2012), CD.

Green, Grant. *Standards*, Blue Note 8212842, 1961 (1998), CD.

Green, Grant. *The Complete Quartets with Sonny Clark,* Blue Note 7243 8 57194 2 4 , 1961-62 (1997). CD.

Hall, Jim. *Jim Hall Live!*, Verve 0654282, 1975 (2003), CD.

Hall, Jim. *Concierto*, CTI 6060 S1, 1975, CD.

Kenny Burrell / Kenny Burrell Trio, *A Night at the Vanguard*, Chess 9316, 1959 (1990), CD.

John Coltrane/Kenny Burrell, *John Coltrane & Kenny Burrell*, OJC OJCCD-300-2, 1963

(1992), CD.

Martino, Pat. *El Hombre*, Prestige PR 7513, 1967, CD.

Metheny, Pat. *Bright Sized Life*, ECM 827133-2, 1976 (1991), CD.

Metheny, Pat. *Question and Answer*, Geffen E4242932, 1989 (1990), CD.

Montgomery, Wes. *Full House*, Riverside Records VICJ-60028, 1962 (2007), CD.

Montgomery, Wes. *The Incredible Jazz Guitar of Wes Montgomery*, Riverside Records 1866362, 1960 (1991), CD.

Miller, Tim. *Trio vol 3*, CDBY 5637504419, 2006, CD.

Rogers, Adam. *Time and the Infinite*, Criss Cross 1286, 2006 (2007), CD.

Wynton Kelly Trio / Wes Montgomery. *Smokin' at the Half Note*, Verve AA8295782, 1965 (1995), CD.