

**Strings Can Swing: Redefining the Role  
of Large String Ensembles in the Jazz Context**

**A dissertation containing 3 CD recordings, scores and an exegesis**

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## Abstract

The aim of this dissertation is to enable the large string ensemble to develop a more meaningful engagement with jazz and jazz-related genres. It accomplishes this through a combination of pedagogy, composition and performance based research.

The transcription and analysis of the playing styles of jazz violin masters Joe Venuti and Stuff Smith underpins the generation of a pedagogical approach for the large string ensemble equipping its players with necessary technical and stylistic tools. These tools are then applied to new original works by the author, resulting in recordings and performances for both string and symphony orchestras which demonstrate their effectiveness while contributing to the available jazz repertoire for string sections.

## Declaration

Declaration:

I certify that this work contains no material which has been accepted for the award of any other degree or diploma in my name, in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. In addition, I certify that no part of this work will, in the future, be used in a submission in my name, for any other degree or diploma in any university or other tertiary institution without the prior approval of the University of Adelaide and where applicable, any partner institution responsible for the joint-award of this degree. I give consent to this copy of my thesis, when deposited in the University Library, being made available for loan and photocopying, subject to the provisions of the Copyright Act 1968. I also give permission for the digital version of my thesis to be made available on the web, via the University's digital research repository, the Library Search and also through web search engines, unless permission has been granted by the University to restrict access for a period of time.

## Acknowledgments

Over the last four and a half years, this research has been guided and supported by expert staff at the University of Adelaide. Special thanks go my team of supervisors, Professor Mark Carroll, the late Bruce Hancock, Doctor Peter Dowdall and Doctor Lyndon Gray for their insight, encouragement and meticulous attention to detail. I would also like to acknowledge the post graduate community at the University, especially Associate Professor Kimi Coaldrake, Professor Charles Bodman Rae and Doctor Emily Dollman for their valuable contributions throughout my study.

The compositional and performance aspect of this study was made possible due to a commission from the Adelaide Symphony Orchestra, resulting in 'Have Violin Will Travel'. Special thanks go to the C.E.O., Vincent Ciccarello, and Artistic Director, Simon Lord, for their vision and programming which continues to champion emerging composers in South Australia. The successful performance on this work was made possible by the expertise and goodwill of the Adelaide Symphony Orchestra players and administrative staff. Special thanks go to the conductor, Benjamin Northey, whose extensive experience over a broad array of music styles was invaluable in bringing the suite to life. I would also like to acknowledge concert master, Natsuko Yoshimoto, and rhythm section: John McDermott, the late Dave Phillips and Sam Cagney, all who went beyond the brief to help create a magical concert.

I would also like thank the Operations and Program Manager at WOMADelaide, Anette Tripodi, for offering [big] String the valuable opportunity to feature at the 2017

WOMADelaide festival, creating a platform for Adelaide musicians and composers. A huge thank you to Fabian Hevia and all the players in [big] String for working tirelessly learning and memorising the repertoire.

Most importantly, this research would never have begun much less have been completed without the love, support and endless patience of my family. I cannot overstate the contribution made by my wife Elizabeth McCall who, as well as bringing good humour, encouragement and perspective to an often-stressed researcher, also offered crucial insight through her own career as a musician, researcher and producer.

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Part A  
Exegesis

# Introduction

Although the violin has been used in jazz for over a century, there are still relatively few string players who can reproduce the genre's articulations, rhythm and sound quality. The rhythmic orientation or 'swing feel' in particular eludes many professional string players so much so that jazz arrangers are in some cases explicitly warned against writing in this style for the string section (Nestico 1993, p. 14).

In the author's professional life as a jazz string arranger, composer and music director, a significant part of rehearsal time is spent communicating the stylistic idiosyncrasies involved in the effective performance of jazz. These include appropriate rhythmic phrasing, the amount of vibrato necessary and how far before or behind the pulse each note or phrase should be expressed.

The absence of correct jazz phrasing and articulation from the average string player's skillset has led to a paucity of repertoire for the larger string ensemble in the jazz genre. When string sections are brought together with a jazz combo or studio orchestra, their role is often relegated to 'sweetening' the sound with sustained chords, legato passages, or simple ostinato pulses. A notable example is the album *Charlie Parker with Strings* (1950) in which the string section is arranged for and performs in the western classical tradition, including excessive use of vibrato and the playing of even rather than swing quavers. The classical string section's performance stands in stark contrast to that of Parker and his swinging jazz rhythm section. This clash of interpretive styles can also be heard on the albums *Chet Baker*

*and Strings* (1954), *Clifford Brown with Strings* (1955) and *Wes Montgomery – Fusion!* (1963).

Compared with classical virtuosi, there have been considerably fewer jazz violinists of renown in the earlier part of the 20<sup>th</sup> century. This research has been inspired and informed by two notable masters, jazz violin pioneers Joe Venuti and Hezekiah Leroy ‘Stuff’ Smith.

Venuti was one of the first string players to establish the violin as a legitimate jazz instrument. He had tremendous facility and sense of swing and produced a sound strong enough to be heard even within a big band context. His duo work in the 1920s with guitarist Eddie Lang was an inspiration to violinists and guitarists alike, including the seminal Stephane Grappelli/Django Reinhardt partnership (Iorizzo, Rossi 2010, p. 201). Venuti enjoyed a recording career that spanned 60 years with over 400 recording dates and his ability to adapt the western classical tradition and forge a hard-swinging jazz style made him an essential case study for this work.

The second violinist, Hezekiah ‘Stuff’ Smith, approached jazz from a different perspective, one which bears ‘absolutely no debt to western classical tradition’ (Glaser 1981, p.15).

Growing up African American in the 1920s would have meant there were little to no opportunities for meaningful career development as a classical musician for Smith. Black musicians were not even allowed entry to many ‘white only classical venues and institutions’

(Goodman 2013, p. 483). It was the recording ‘West End Blues’ by jazz trumpeter Louis Armstrong that ultimately inspired Smith to become a jazz violinist (Barnett 2002, p.12).

Smith rose to prominence in the 1930s at a time when his band enjoyed an extended residency at the Onyx Club on 52<sup>nd</sup> Street in New York City. This permitted him the rare opportunity to fully develop his jazz style in an environment in which he would have heard

the best of his jazz contemporaries every night of the week. He adopted many of the melismatic inflections of trumpeters he performed with, including the young Dizzy Gillespie. These included shakes, fall-offs as well as other interpretive devices not normally associated with the violin. Also, the high energy milieu in which he performed led him to develop a more pronounced attack, generating a dynamic swing feel.

The recordings of both artists helped establish the violin as a jazz soloing instrument on par with the trumpet and saxophone – however, while the brass and woodwind roles were adapted into larger big band sections, the strings arguably never made that transition. The most likely cause is that in the 1930s, the necessary technology for their amplification did not exist and strings struggled to be heard over the more powerful woodwind, brass and rhythm sections. As a result, there is a lack of repertoire for the larger jazz string ensemble or string section and, consequently, the ability to ‘swing’ naturally and effortlessly has not been inculcated by experience into most professional string players.

In order to define the characteristics that constitute a jazz violin style, this study will begin by first exploring those techniques and distinctive stylings of Smith and Venuti that differentiated them from more traditional classical players, before combining the three streams of pedagogy, composition and performance in addressing the following research questions:

- 1) What elements of idiomatic jazz language did Joe Venuti and Hezekiah ‘Stuff’ Smith transfer and adapt to the violin?
- 2) What are the articulation and rhythmic devices in jazz-derived music that can contribute to the string section’s skill set?

- 3) What strategies can be employed to more successfully teach jazz style to string players?
- 4) What are the expressive and rhythmic elements which, once learned, will enable string players to have a more genuine engagement in other jazz-derived and non-European genres?
- 5) How may jazz string techniques be incorporated in new works and performances for the string section?

The approach taken is as follows:

- 1) Research and identify jazz violin devices by means of transcription and analysis of seminal recordings, specifically those of Joe Venuti and Stuff Smith.
- 2) Create a series of exercises and studies for the integration of those devices into the large string ensemble's skill set.
- 3) Compose a series of suites incorporating these devices with a view to demonstrating them in live performance.
- 4) Record the live performances of the above suites showcasing the integration of these devices by professional ensembles.

Part A of this study will analyse Venuti and Smith's playing styles by examining six violin solos. The solos have been transcribed from recordings and the identified devices will inform a string ensemble pedagogy. The pedagogy includes two case studies and several exercises designed for the attainment of a consistent and accurate swing feel. The latter part of the pedagogy presents a framework so that string sections can apply these devices to the new works in Part B.

Part B is a collection of two new suites which apply these techniques throughout the string section.

'Have Violin Will Travel' Adelaide Symphony Orchestra 2017

The first suite is the result of a commission for two 45 minute sets of new music for solo violin, rhythm section and the Adelaide Symphony Orchestra, conducted by Benjamin Northey. This commission had the primary focus of celebrating the violin's unique place in the various music cultures of the world.

The copy read as follows:

*Unlike any other instrument, the violin is at the heart of nearly every culture's music. From Celtic reels to Andalusian Flamenco, American Jazz to Indian Ragas, North Africa to South America, the violin brings to life the stories of people and places... Jazz violinist Julian Ferraretto returns – drawing upon his unique experience of performing with artists such as Natacha Atlas, Amjad Ali Khan and Eska – to take you and his fiddle on a global adventure.*

This commission presented the author with the opportunity to write for the Adelaide Symphony Orchestra's string section in a variety of non-traditional styles incorporating many of the jazz string techniques relevant to this study. This first suite consists of twelve pieces, which includes a variety of swing styles as well as rhythms and articulations specific to other world genres. A summary of some of these devices written into the string ensemble throughout the movements follows:

1. 'The Cameraman' – Up-tempo swing passages
2. 'Entabeni' – 12/8 African and Afro-Cuban rhythms
3. 'Kalavatiwood' – Indian 'Bollywood-style' scoops, fall-offs and portamenti

4. 'Korma' – Medium tempo swing passages
5. 'Two Australians in Algiers' – Rai rhythms – 6/4 against 12/8 polyrhythms
6. 'Bulerias' – A Flamenco-inspired 12/8 against 6/4 polyrhythm
7. 'Duckett Blues' – bright tempo swing passages with an extended 'tutti' chorus
8. 'Grand Bazaar' – quarter-tone passages, the string section as the driving timekeeper
9. 'Somma Vesuviana' – Tarantella inspired 6/8 rhythms
10. 'Bound for South Australia' – 7/8 against 7/4 poly-meters
11. 'Latin Mass' – Sanctus – Cuban rhythms, syncopation and extended 'tutti' chorus
12. 'The Norwood' – 6/8 Celtic rhythms as well as 4/4 Reel with swing feel

[big] String at WOMADelaide Festival (Mar 2017)

The second suite of scores were specifically orchestrated for [big] String, a professional development string ensemble with a distinct focus on jazz rhythms and articulation. Founded and directed by the author since 2012, the ensemble runs concurrently in Adelaide and London under the titles '[big] String' and 'Goldsmiths [big] String' (GBS), respectively.

As a result of a 2016 [big] String collaboration with the composer Eska Mtungwazi, the author was invited to prepare a twenty-minute set for [big] String to perform at WOMADelaide 2017. The proposal for the commission specified:

*'layered grooves, sounds you never hear from string players ... 6/4 across 4/4 as you would hear in North African music like Rai.'*

The suite applies jazz-specific techniques to contemporary and non-European genres and includes three compositions reworked from the 'Have Violin Will Travel' suite, as well as two new pieces, performed in the following order:

- 1) 'Entabeni'
- 2) 'Never Would if I Could'
- 3) 'Two Australians in Algiers'
- 4) 'Sanctus'
- 5) 'Little One, Little One'

Part C is a collection of recordings:

CD 1 'Have Violin Will Travel' is a recording of the concert performed on Feb 4<sup>th</sup>, 2017. It was recorded by the ABC and broadcast on ABC Classic FM on Feb 23<sup>rd</sup>, 2017.

CD 2 'Big String Live at WOMADelaide 2017' is a field recording of the live performance at WOMADelaide. The performance, captured using a Virtual Reality 360-degree video camera, is presented in .mov video format.

CD 3 'Pedagogy' contains the audio examples relevant to the figures and studies referred to in chapters three, four and five.

## Literature Review

This research project involves the disciplines of pedagogy, composition and performance. As a result, a broad cross-section of literature was examined covering aspects of transcription and analysis of jazz violin soloing. It is important to note that this research does not seek to teach improvisational techniques or approaches for string players. Rather, through the examination of the playing styles of Venuti and Smith, it presents an approach to executing correct jazz swing and jazz derived articulation for the string ensemble. To that end, jazz string improvisation publications were studied as they often contained some instruction on articulation and execution of the swing style. Large string group writing has attracted little attention from the writers of instructional material and this project has drawn upon observations by the author derived from recordings of solo multi-tracking artists, string quartets and orchestras.

As well as drawing from the recording catalogue of Venuti and Smith, other jazz violin masters' recordings which proved essential to this study include those of Stephane Grappelli, Eddie South, Jean-Luc Ponty and Regina Carter.

Publications of transcribed jazz violin improvisations include, most notably, *Jazz Violin* by Matt Glaser (1981), a collection of predominantly Stephane Grappelli transcriptions and Aidan Massey's *Joe Venuti - Never Before...Never Again* (2005), which transcribes each violin solo from the album of the same name recorded in 1954. Both publications are useful documentations of a range of solos and provide some interpretative suggestions. Glaser's book provides a helpful glossary of symbols covering those techniques not communicated

through traditional western notation. These include several slide or portamento variations, note bends and the representation of quarter note pitches. The jazz violin transcriptions accompanying this research make use of Glaser's notations for some of the extended techniques.

Studies and textbooks aimed at the individual development of the solo jazz string player include Joe Venuti's *Violin Rhythm – A School of Modern Rhythmic Violin Playing* (1937), David Baker's *Jazz Improvisation Method: Strings* (1976), Matt Glaser's *Berklee Practice Method for Violin* (2004) and, more recently, Christian Howes's e-book series on jazz scales, arpeggios and harmony (2012). Matt Holborn's podcast series *The Jazz Violin Podcast* (2019) has proven to be a valuable resource of in-depth primary source technical observations from such artists as Jean Luc Ponty. Anthony Barnett has provided much historical perspective on Stuff Smith's output in his publications *Pure at Heart* (1991), *Desert Sands* (1995) and *Up Jumped the Devil* (1998).

Another valuable resource is the rare recording by violinist Harry Lookofsky. His 1959 album *Stringsville* (1959), employed basic sound on sound techniques in order to allow Lookofsky to overdub multiple violin, viola and baritone violin performances to create a simulated string quartet.<sup>1</sup> The arrangements and written solos were composed by pianist Hank Jones and trombone/pianist Bob Brookmeyer and sit firmly within the jazz tradition. Lookofsky, an accomplished concert violinist, not a jazz improviser, worked closely with the arrangers on the interpretation of each phrase.

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<sup>1</sup> Baritone violin: a violin tuned an octave below the standard GDAE.

Jazz string quartets such as the Turtle Island String Quartet (U.S.A), Zapp 4 (Netherlands) and Basquiat Strings (U.K.) demonstrate that the execution of the swing feel, syncopation and modern rhythmic patterns can be done successfully in a smaller string format.

The members of these ensembles are largely jazz and bluegrass improvisors and their respective functions within the quartet are often similar to those of the members of a small jazz combo in that the roles of bassline, accompaniment and improvisation are distributed throughout the ensemble. The quartets are a useful starting point in considering the upward scaling from a quartet to a larger string ensemble, particularly in view of their more homophonic-style arrangements.

It was helpful to examine the works of those orchestras with string sections known for their ability to ‘cross-over’ into jazz and pop genres. Two examples are The Metropole Orkest’s (Netherlands) recent collaboration with Snarky Puppy on the album *Sylva* (2016) and The John Wilson Orchestra’s (U.K.) reconstruction of original MGM film scores (2011) and the music of Cole Porter (2014).

Tracy Silverman’s *The Strum Bowing Method – How to Groove on Strings* aims to expand the technical and stylistic palette for the string section, his research centers on semiquaver subdivisions rather than swing quavers, drawing predominantly on bluegrass, rock and funk influences rather than jazz.

This research has a different focus than Silverman’s as it is firmly rooted in the jazz and swing tradition as expressed by two master exponents of the style. It is informed by the work of jazz violin pedagogues, adapted and scaled up to the string ensemble. The jazz genre may

have been applied to string quartets and, at times, combined with orchestras with mixed success but, at this time, there is little literature, repertoire and performances where the strings are participating as a jazz section.

# Chapter One: Transcription and Analysis – Venuti

## Introduction

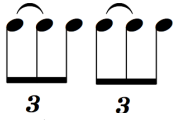
Jazz is an aural tradition in that its emergence was contemporaneous with the introduction and popularisation of the phonograph (Hennessey 1994, p.32). Individual performances were, for the first time, able to be mass distributed and listened to repeatedly. The performer's artistic choices, real-time adjustment of technique, articulation and improvisatory decisions were thus preserved and available for scrutiny, analysis and re-examination. This enabled the developing jazz musician to absorb every last nuance of a master's performance.

In particular, recordings enabled the swing 'feel' to be communicated in a way that Western notation was ill suited to represent. The swing feel or swing quaver is a combination of articulation, rhythm and line construction which gives jazz its infectious forward motion, alluded to by Duke Ellington in his 1931 composition 'It Don't Mean a Thing if it Ain't Got That Swing.' Specifically, swing quavers are written either as pairs of dotted quavers followed by a semi quaver, as triplet quavers with the first two triplets tied or, alternatively, simply as straight quavers (*fig 1*). All three methods fail to adequately express the correct rhythm (Prögler 1995, p 21).

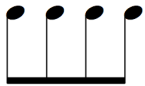
Figure 1: Examples of swing quaver notation



*Dotted quaver followed by semiquaver*



*Triplet quavers – First two triplets tied*



*Straight quavers*

Aural transcription has played an historic part in the jazz soloist's education and is also valuable to this research.

## **General considerations**

The purpose of the following analyses is to gather technical information on how each of the players achieves their distinctive and effortless swing sound. This is achieved through transcription and re-creation on the violin. This research identifies and catalogues the articulation, bowing patterns, techniques and melismatic devices.<sup>2</sup>

The analyses feeds into the pedagogy chapters 3, 4 and 5, where string players may begin to assimilate these devices into their own playing.

Each transcription was facilitated by importing the recordings into a Digital Audio Workstation where the audio could be manipulated. The software permitted endless looping of phrases, speed reduction of fast passages without pitch alteration (particularly useful in

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<sup>2</sup> An appendix containing the six selected transcriptions of Venuti and Smith is also provided.

identifying bowing patterns) and also included plugins which helped isolate those passages which were difficult to decipher from the overall ensemble mix. Where necessary, the overall pitch reference of older recordings was adjusted to A440 to compensate for the often inaccurate 78rpm mastering practices of the past.

For this study, the decision was made to notate swing quavers as straight quavers. This approach has the effect of uncluttering the written notation, giving the reader a better visual guide to other elements in the score, such as the syncopations and phrase structures employed. Also, as will be explored in the pedagogy chapters, the swing quasi-triplet sound is, in fact, generated by playing relatively straight quavers with a bowing pattern and articulation specific to the swing feel.

Venuti and Smith both varied the placement of their phrases against the metronomic time feel of the ensemble. These ‘participatory discrepancies’ (Keil 1987, p 275) were most commonly placed after or behind the pulse.<sup>3</sup> A decision needs to be made at the outset on how to accurately represent the soloist’s rhythmic phrase in relation to the pulse of the ensemble. In Smith’s case, for example, this displacement could be quite extreme and, if one were to record his notes on a strict metric timeline during transcription, it could result in some very complex and confusing notation.

Phrase placement, therefore, is dealt with on a case by case basis. This study determines the compositional intent of the player rather than the fall of each particular phrase in the bar continuum. If the soloist were to play a three-quaver anacrusis placed far behind the pulse then, rather than attempting to identify where among the demi-semiquavers the phrase

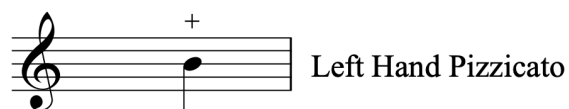
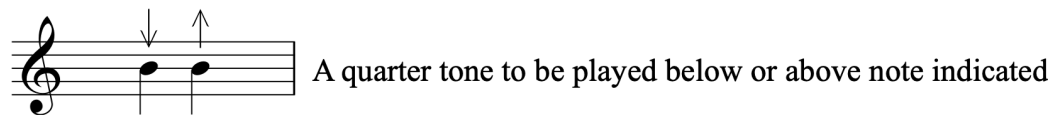
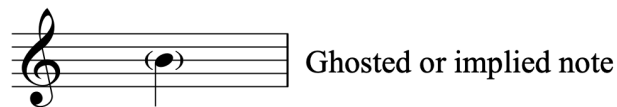
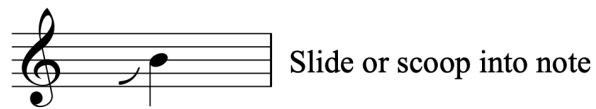
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<sup>3</sup> By which is meant - later in time as compared to the rhythm section underpinning.

landed, the notation would instead depict the three-quaver anacrusis with either a qualification specifying to 'lay back' or a backward-facing arrow. Once again, the aim is to declutter the notation.

The Glaser/Grappelli volume *Jazz Violin* (1981) includes a comprehensive list of notational symbols. These are used as a starting point in the transcriptions to follow (*fig 2*).

Figure 2: Notational symbols



## ‘Stringin’ the Blues’

Italian New Yorkers, Joe Venuti and Eddie Lang (guitar) were childhood friends and formed a highly sought after musical duo until Lang’s tragically early death in 1933. The 1926 recording of ‘Stringin the Blues’ makes up part of a more extensive collection of duets now considered ‘classics of chamber jazz.’ (Massey, Romano 2005, p.4)

### Back-bowing

In classical performance, quaver pairs are generally bowed in line with the metric pulse (*fig 3a* below). As illustrated in the opening of the second excerpt (*fig 3b*), Venuti used a particular bowing pattern over these passages by grouping the quaver pairs across the quarter note pulse.<sup>4</sup> This grouping is consistent with the approach used by jazz saxophone players called ‘back-tonguing.’

Figure 3a: Bowed quaver groupings with the pulse



Figure 3b: Bowed quaver groupings against the pulse



By grouping quavers in this manner, Venuti could accent the off-beat in a melodic quaver line. The subtle emphasis of off-beats gives the line syncopation and lends a triplet-like swing to the passage.

<sup>4</sup> Where possible, the inclusions of slurs and tied notes are written into the transcription.

Venuti applied a variation of the back-bowing in bars 9-12, grouping some quavers into sets of three. The bowing pattern moved both with the pulse and against it. This grouping generates another kind of syncopation, momentarily creating a cross-rhythm against the common-time meter (*fig 4*).

Figure 4: Bowed polyrhythm groups



Another example occurs in bars 25-26 in which a cross-rhythm was produced through the repetition of a three-note melodic shape. The back-bowing changed slightly to emphasize this cross-rhythm by playing the upper C with a separate bow (*fig 5*). A regular back-bowing pattern resumed at bar 26.

Figure 5: Cross rhythm with back-bowing



In the following example, the bowing pattern was drawn mostly from the back-bowing technique. The line maintained forward-motion while allowing the cross-rhythm groupings of three-note motifs to create another layer of rhythmic complexity. Bars 69-72 demonstrate this where there is an extended set of three-note groupings over four bars (*fig 6*).

Figure 6: Extended cross rhythm with back-bowing



Back-bowing is an essential feature of jazz articulation. It is evident in all recordings featured in this work and is critical to the production of an effective swing feel.

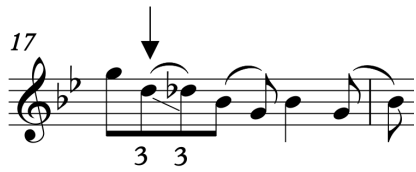
### Vibrato

Venuti was quite sparing with his use of vibrato which required him to play with precise intonation. In this solo, vibrato was only employed to highlight the final note of a longer phrase. Venuti's vibrato was very subtle with a narrow and rapid pitch oscillation.

### Note bends

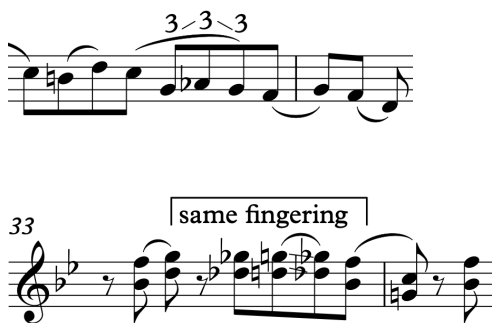
Venuti often used the same finger in sliding the pitch from one note to the next. In bar 17, he used his third finger on the A string to slur the pitch down from a D to Db. The first note begins approximately a quarter-tone flat, as indicated by the downward arrow (*fig 7*). This very small portamento hints at the major third of the Bb chord before descending microtonally towards the minor third. The tension between the major and minor third situates this phrase strongly within the blues tradition that underpins the jazz genre.

Figure 7: Note bend on third finger



Venuti used the note bending approach again in bar 23. This time he bent the pitch upwards before returning to the original pitch (*fig 8*). In bar 33, he employed the same three-note bend pattern on two strings played simultaneously.

Figure 8: Three-note bends



Bar 84 (*fig 9*) demonstrates the clearest example of note bending, where Venuti played two sets of consecutive bends. This passage occurred during a break in the guitar accompaniment and highlights Venuti's mastery of the technique.

Figure 9: Consecutive three-note bends



### Double Stopping

The playing of two strings together is known as ‘double stopping.’ Double stops allow the soloist to add harmonic colour to their lines with the addition of a second pitch. They also serve to boost the volume of the violin as twice the number of notes are played simultaneously. Double stopping can prove technically demanding, particularly at fast tempos. Venuti favoured particular interval choices when double stopping in his improvised lines. He used, almost exclusively, a combination of perfect fifth and fourth intervals, often moving between the two. The following repeated pattern is a first finger, perfect fifth, double stop followed by a perfect fourth combination of the second finger on the upper string and third finger on the lower string.

Figure 10: Double stopping:

Bars 33 – On E and A strings



Bar 59 – On A and D strings



Bars 84-85 – On D and G strings



Venuti then chose to use a series of parallel fifth intervals in bars 115 and 116 (*fig 11*), creating a deliberate departure from the harmonic structure. The guitar's chordal accompaniment ceased under this passage and Lang joined Venuti on the melodic line played in parallel fifths to reinforce this departure. In figure 11, Venuti continued into bar 117 with a series of minor sixth double stops creating a momentary cross-rhythm.

Figure 11: Consecutive fifths (bars 115-117)



### Harmonics

Venuti expanded his repertoire of tonal colours by bowing natural and false harmonics. These can produce a somewhat ghost-like timbre. There are several ways the string player can produce them:

1. By lightly touching the string at its midpoint, the player produces a harmonic one octave above the open string pitch.
2. By lightly touching the string a perfect 4th above the open string, the player produces a harmonic two octaves above the open string pitch.
3. By placing the first finger firmly on the string and then touching the string lightly a perfect 4th above the first finger, the player produces a 'false harmonic'. False harmonics generate a pitch two octaves above that produced at the first finger position.

In notating harmonics, two to three pitches appear in the vertical plane, giving the appearance of a chord, whereas only one pitch is actually sounded. Referring to fig. 12 below, the highest note appearing in brackets is the pitch value created by the harmonic. The hollow note represents the placement of the third or fourth finger, which stops the string with a small amount of pressure. In the case of a ‘false harmonic,’ a third pitch is notated underneath the ‘chord’ indicating the placement of the first finger. Venuti used harmonics in short accented stabs. In bar 51 and 60 he made use of false harmonics enabling him to play Bb diatonic notes unavailable on the open strings (*fig 12*).

Figure 12: False harmonics

Later, in bars 118-120, Venuti combined double stops and harmonics to create a syncopated line (*fig 13*).

Figure 13: Harmonics and double stopping

From the very onset, Venuti's recording of 'Stringin' the Blues' contains an array of techniques, tools and colours. His application of back bowing, targeted vibrato, double stops and harmonics contribute to the successful expression of the jazz aesthetic on the violin.

### **'Black and Blue Bottom'**

'Black and Blue Bottom' was released as the B-side of 'Stringin' the Blues' by Columbia Records in 1926. Another Venuti/Lang composition, it also features many of the techniques observed in the previous recording.

The opening phrase is a clear demonstration of back-bowing combined with double stops in parallel fifths. Similar to the playing of consecutive fifths in 'Stringin' the Blues,' Lang joined Venuti on the melodic line rather than providing a chordal underpinning, playing the third interval in between the parallel fifths and giving the passage an aeolian modal colour.

Figure 14: Double stopping and back-bowing



The playing of consecutive fifths is technically less demanding on the violinist when compared with other intervallic options such as thirds and sixths. The violin's strings are tuned one fifth apart, so soloists need only to flatten their fingers to cover the neighbouring string. Venuti was rather sparing with his use of consecutive fifths, possibly due to the

harmonic clashes which may potentially occur when a melodic line is duplicated precisely one fifth below.

### Scoops

Venuti made frequent use of scoops into important notes, often at the beginning of a musical phrase. An example appears in the opening passages – bar 9, 14 and 17 (*fig 15*).

Figure 15: Scoops



The scoops commence approximately one semitone below the target pitch and begin in time with the written notation, effectively moving the target pitch backwards in time by a quaver. Another way to notate these scoops is to treat them as portamenti beginning on the lower pitch. The following table shows the original scoop notation on the left with its equivalent portamento notation on the right. The notation on the left communicates more of the musical intent of the player, placing greater importance, on the target note. The approach note, which is notated explicitly on the right-hand side, is implied and carries less dynamic weight (*fig 16*).

Figure 16: Scoop notation



Venuti used scoops to create several effects. Displacing the target note earlier in time by a quaver adds a degree of rhythmic tension to the line by delaying the targeted pitch. Secondly, the practice of sliding between two neighbouring pitches creates an inflection similar to the Afro-American vocal inflections from which jazz derived much of its language.

### Bowing triplets

In addition to the back-bowing already explored, Venuti's treatment of quaver triplets within an extended quaver line demonstrates a consistent and effective way to maintain rhythmic momentum. The quaver triplet, in effect, disrupts the back-bowing quaver pattern since a triplet cannot be split in half. Venuti bowed triplets by carrying the slur over the entire triplet into the first note of the next quaver pair. A two-note grouping becomes a five-note grouping. The effect is an unbroken swing feel with this variation of the back-bowing pattern working to accent the off-beat pulse going into and out of the triplet. In bar 45, the triplet is surrounded by a double-stopped passage (*fig 17*). Earlier in bar 33, the same bowing pattern is applied to a triplet pair to form an eight-note slur. In the final virtuosic sequence in bar 77, Venuti combined the same triplet bowing approach with consecutive harmonics.

Figure 17: Examples of bowed triplets



### 'Four string Joe'

The most unusual feature of this violin solo occurs over the final section (from bar 100 onward) where Venuti played on all four violin strings simultaneously, creating the effect of a homophonic string quartet. Given that the bridge of the violin positions the strings in a convex arch, whereas the bow stick and bow hair are arranged in a straight line, this technique requires the partial dismantling of the violin bow. The violin bow stick is traditionally made of wood with horsehair attached at either end at high tension. The frog, located at the end of the bow where the violinist grips, holds together the horsehair ends, connecting them to the adjuster, which controls tension. By completely removing the adjuster, the frog releases from the bow stick, leaving the bow hair hanging loose and attached only at one end - the tip of the bow. After removing the screw and frog, Venuti placed the bow stick underneath the violin and the loosened horsehair above the strings. By bringing the two loose ends together in his right hand, a loop around the violin is formed. By pulling the bow stick towards the floor, Venuti, in turn, pulled the bow hair across the violin

strings, increasing the hair tension and making contact with all four strings simultaneously. As well as playing all four strings at once, he was able, by tilting the bow stick, to alter the bow hair pressure across the strings playing different combinations of double, triple and quadruple stops (*fig 18*).

Figure 18: Open strings combinations available under ‘Four string Joe’ technique

Combination	String				Effect
Number	selection				
1.	G				single string
2.	G	D			double stop
3.	G	D	A		triple stop
4.	G	D	A	E	quadruple stop
5.		D	A	E	triple stop
6.			A	E	double stop
7.				E	single string

The transcribed solo includes suggested fingerings where the highest number refers to the highest note in the chord (*fig 19*).

Figure 19: ‘Four string Joe’ passage

The musical notation shows a sequence of chords and notes on a single staff. The tempo is marked as 100. The first chord is a quadruple stop (G, D, A, E) with fingerings 3, 2, 1 above the notes. This is followed by a series of chords and notes, including a double stop (A, E) and a single string (E). The final chord is a quadruple stop (G, D, A, E) with fingerings 2, 3, 1 above the notes.

Venuti's 'Four string Joe' technique illustrates the importance of constant bow contact with the strings for the communication of syncopation and swing phrasing. A constant string contact is unavoidable using this technique as the bow hairs cannot be lifted from the violin. The violinist simply controls the amount of pressure and tension the hair exerts upon the string. When the bow stops moving, the rests emerge more clearly as the hair contact minimises any string resonance and immediately stifles the note's decay. The full rhythmic value of the rest is thus more clearly expressed. The idea of constant string contact need not be limited to the 'Four string Joe' technique. It is equally effective with traditional bowing and can be adopted by the string section to shorten note decay and make the differentiation between note and rest more apparent.

Back-bowing combines well with the 'Four string Joe' technique. The swing feel comes into sharp focus with the presence of multiple lines of similarly phrased melody.

## ‘Raggin’ the Scale’

‘Raggin’ the Scale’ is a 1915 composition by Edward Claypoole. In the original piano music (Broadway Music Corp), the swing rhythm appeared as a dotted quaver followed by a semiquaver. This notation appears to be the standard approach for swing notation in that era, as it also appeared in Joe Venuti’s book *Violin Rhythm – A School Of Modern Rhythmic Violin Playing* (1937). In later years, the swing quavers are usually presented as straight quavers with the instruction ‘Swing’ indicated above the first stave.

Venuti recorded several versions of this tune - this transcription (*appendix transcription no. 3*) is taken from a recording made on February 26 (1932). A comparison with the original 1930 version is made later.

### Variations in the swing feel

‘Raggin’ the Scale’ conjures up an image of classical violinists practicing their scales while succumbing to the infectious rhythms of ragtime. This impression was intensified by Venuti as he alternated between back-bowing and the use of separate bows. The latter produces a more etude-like classical sound. In the opening theme (*fig 20*), he straightened out the swing feel by using predominantly separate bow strokes. At the same time, he hinted at the swing feel by back-bowing into the second beat of bars 8 and 9.

Figure 20: Variations in swing feel



Venuti's treatment of the theme at bar 20 stands in contrast to his playing from bar 39 onwards, where the separate bow strokes were replaced by a consistent back-bowing pattern, producing an unmistakable swing rhythm (*fig 21*).

Figure 21: Back-bowing



Venuti chose to interpret the swing feel differently in his earlier recording of 'Raggin' the Scale' in which he over-emphasised the swing feel, generating a rhythm closer to the triplet quaver pattern with the first two quavers tied. He played these quasi-triplets on the opening scale only, before returning to the back-bowing pattern. In the case of both recordings, Venuti

conveyed the impression that he deliberately manipulated the swing feel in order to create and release tension.

The notation in bar 60-61 is a rhythmic approximation of Venuti's quick scalar run. He placed this fast cascade of notes behind the pulse before answering it with a rhythmically syncopated figure at bar 62 (*fig 22*).

Figure 22: Fast passages



The above example clearly demonstrates the ease with which Venuti was able to manipulate the swing feel to create tension and release.

### Crotchets and swing

When Venuti played quavers, the bow contact against the strings was constant, giving the resultant line a connected or legato delivery. The bow changes, placed on the off-beat quaver, created a slight accent against the pulse, communicating forward motion and contributing to the creation of the swing rhythm. Venuti's approach to crotchet passages in the swing context differs significantly from his back-bowing quaver playing as he delivered crotchets with

separate strokes for each note with small, but noticeable, breaks between them. He still maintained constant bow contact, allowing this slight break, or ‘air,’ to emerge clearly without the interference of note decay. He articulated each bow stroke creating a small accent on the pulse rather than in between. The repeated crotchets at bar 51 illustrate a clear example of this approach (*fig 23*).

Figure 23: Repeated crotchets



In bar 87, Venuti began improvising by plucking the strings with the index finger of his left hand. Notes that are played pizzicato typically produce a more pronounced attack than those that are bowed. Venuti took advantage of this with syncopated passages such as bar 88 (*fig 24*). In the same bar, he introduced blues-like inflections by scooping into notes. In bar 89, Venuti used a single finger strike to play two consecutive notes. The second finger of the left hand playing the C pitch was pulled off causing the open A string to resonate, mimicking a slurred pair in an apparent reference to back-bowing allowing Venuti to maintain the swing feel throughout the section.

Figure 24: Pizzicato pull-offs



In the final section of this piece, Venuti set up an ostinato rhythm, grouping the quavers in sets of three, creating a contrasting meter against the common time. The passage opens with two quaver C pitches at bar 163 (*fig 25*). This pattern repeats at bar 166 and again at every three-bar interval. The two meters resolve every three bars with Venuti's pattern repeating eight times against twelve crotchet pulses. This grouping generates an extended musical phrase where the bar lines become difficult to identify. The listener is treated to a series of rhythmic tensions and releases, rounding off the piece with a heightened sense of energy.

Figure 25: Ostinato and poly-meter



Throughout 'Raggin' the Scale,' Venuti demonstrated a mastery of rhythmic colour. He approached quaver lines with varying levels of evenness to manipulate rhythmic tension, reinforced the ensemble's sense of pulse through his treatment of crotchet passages and built polymetric passages using ostinato patterns.

## Chapter Two: Transcription and Analysis – Stuff Smith

### ‘Crazy Rhythm’

Beginning with the 1928 Kahn/Meyer composition ‘Crazy Rhythm,’ the first of the Stuff Smith transcriptions is taken from a previously unissued track recorded in 1958 for his album, appropriately named, *Have Violin will Swing*. The track eventually appeared on a Verve reissue *Stuff Smith, Dizzy Gillespie and Oscar Peterson* (1994)

*‘I’ve always visualised myself playing trumpet, tenor or clarinet. Alas, I don’t use the full bow – only at the end, about six inches, maybe eight inches at a time. The reason for this is you can slur more easily, the way a horn would and can get more warmth. Using the end of the bow the way you breathe. I mean, it’s my equivalent of a horn player’s breath control. Then, if I want to make a staccato accent, I bring the bow up, but almost as if I were hitting a cymbal.’ (Glaser 1981, p. 16)*

From the onset, it is clear that Smith shared the same approach to back-bowing as Venuti, although he possessed a much more exaggerated attack. This was generated by applying greater downward pressure with the index finger of his right hand. That, coupled with an even more insistent and constant bow pressure on the strings, gave Smith a more aggressive sound. Smith also shared the same clipped treatment of crotchets in which the execution is closer to a quaver followed by a quaver rest than the full crochet measure.

Throughout the transcriptions of Smith's solos, as was the case with Venuti, the swing quavers are notated as even quavers together with back-bowing slurs. Figure 26 illustrates this with Smith applying back-bowing coupled with triplet figures.

Figure 26: Extended quaver phrase with back-bowing



Both Smith and Venuti selected moments within their solos where they veered away from the back-bowing pattern and, in doing so, removed the sense of swing rhythm, as demonstrated in bar 52 where Smith played with separate bow strokes (*fig 27*). Straightening out a swing quaver passage creates rhythmic tension, which Smith then released with the same phrase two bars later, this time employing a syncopated interpretation of the line.

Figure 27: Removing the swing feel

### Vibrato

Whereas Venuti used little to no vibrato, Smith ornamented his longer notes with a technique similar to a trumpet shake. The technique is related to vibrato, with the pitch oscillation moving upwards from the fundamental rather than downwards. With classical string vibrato, the left-hand wrist is kept supple as the finger rolls on its tip. Smith's 'trumpet shake,' on the other hand, requires a firmer wrist with movement coming from the left forearm. The finger, instead of rolling on the point, slides upwards and downwards across the fingerboard in small portamento-type movements. Smith's 'shakes' are a feature of his expressive palette and he used them on any note held longer than a crotchet. Throughout the transcription (*appendix transcription no. 4*), trumpet shakes are notated with a thick horizontal zig-zagged line (*fig 28*).

Figure 28: Trumpet Shake



### Scoops and note bends

Both Venuti and Smith applied a variety of scoops, portamento or note bends to their phrases. Smith employed a wider variety of these techniques and his execution was more exaggerated in two ways. Firstly, Smith takes more time to reach the destination note, as can be observed in the fourth beat of bar 20 where he slides into the F natural (*fig 29*).

Figure 29: Note Bends

Secondly, the pitch width of Smith's portamentos is wider than Venuti's. The initial pitch lies from a semitone to a full tone below its destination. Similarly, his fall-offs are exaggerated and deliberate. One example is the slow downward fall-off in bar 68, where Smith emphasised the movement by playing simultaneous octaves upon the A and E strings (*fig 30*).

Figure 30: Fall-offs

Smith used fall-offs to ornament phrase endings. His fall-offs were played as a downward portamento, fading away without a clear destination pitch. Much like his use of the shake, this inflection is borrowed from the trumpeter's lexicon, most likely gleaned from his mentor Louis Armstrong. Figure 31 shows Smith applying consecutive fall-offs at a phrase ending over bars 11 and 12.

Figure 31: Consecutive fall-offs



executed on the quavers between the pulses, most commonly on beats 2+ and 4+, with the added syncopation creating rhythmic tension in conjunction with the pitch dissonance (*fig 34*). These short accented, multi-note dissonances or ‘stabs’ echo the role of an accompanying jazz pianist with their rhythmic left-hand chord voicings and are a potent device in energising the overall time feel and complimenting the surrounding improvised lines.<sup>5</sup>

Figure 34: Left hand pizzicato



Smith gave the impression of an extremely relaxed player and improviser. On this recording, one can, at times, hear the open strings casually struck between phrases. In the case of beat 4+ in bar 113, the open strings sound may have been unintended. The time feel, however, remains unaffected and Smith manages to communicate the swing rhythm regardless (*fig 35*). It would suggest that Smith’s bow was always in motion in synchronicity with the time feel, even in the short space between phrases.

Figure 35: Open strings



<sup>5</sup> One can hear and see Smith using a slightly less dissonant version of left-hand pizzicato over an F major key-centre on footage shot (from 02:16) at ‘Jazz festival à la Mutualité’ in Paris (1965) [https://www.youtube.com/watch?v=\\_SWnTqVxs10](https://www.youtube.com/watch?v=_SWnTqVxs10)

### Side Slipping

Side slipping or playing ‘outside’ of the tonality is an approach associated with more contemporary artists such as Joe Henderson, McCoy Tyner and David Liebman. (Levine 183)

It is where non-diatonic notes are introduced into a melodic line to build tension. Although this analysis does not deal primarily with the harmonic improvisational approaches of Smith and Venuti, it is concerned with how they expressed their ideas so that their rhythmic role within the ensemble can be transplanted to the larger string group. To that extent, an examination of Smith’s use of side slipping in bars 116-124 follows.

This passage demonstrates a simple way to execute a complex harmonic sequence. Levine describes sequences as effective ways to communicate to the listener that the improviser is moving through dissonant harmonic territory (Levine 1995, p 185). Smith’s sequence is a very simple second to first finger ostinato repeated over the top three strings, beginning in the fifth position. He slowly slid the sequence backward towards the first position before sliding back up again to fifth with the sequence passing in and out of dissonance against the chordal accompaniment, sometimes delving into microtonality.

Smith’s articulation and rhythm together with the line structure communicate the deliberate motion in and out of diatonicism (*fig 36*).

Figure 36: Economy of execution – Side-slipping

The image displays three staves of musical notation in a single system. The first staff, starting at measure 113, shows a sequence of notes with a wavy line above the final measure, annotated with 'L.H. pizz' and 'arco'. The second staff, starting at measure 117, features a series of eighth-note patterns with fingerings '1 2 1 2 1 2 1 2' and slurs. The third staff, starting at measure 121, continues with similar eighth-note patterns and slurs.

### ‘Back Home in Indiana’

‘Back Home in Indiana’ was recorded by Smith (1958) as well as Venuti (1974).<sup>6</sup> The 32 bar chorus has a distinctive harmonic structure that went on to underpin subsequent jazz standards, including ‘Ice Freezes Red’ by Fats Navarro and ‘Donna Lee’ by Miles Davis. It has been selected in this series as it includes different kinds of shakes, blues affectations and illustrates changes to Smith’s swing phrasing.

#### Shakes

In this solo, Smith expands on his preferred ornamentation, the trumpet-style shake, applying different variations during the opening thirty two bars. The thicker notated shakes feature a slower, more pronounced rate of oscillation with the interval between pitches approaching a semitone. The thinner notated shakes are played at a faster rate and a narrower depth of pitch variation. Within these two categories, there exist smaller degrees of variation of speed and

<sup>6</sup> Published in 1917, Indiana is one of the earliest jazz recordings having been committed to 78RPM disc by the Original Dixieland ‘Jass’ Band (78 Record: Original Dixieland ‘Jass’ Band – Indiana)

interval width. These variations offer the arranger/composer alternatives to vibrato, especially when ornamenting longer notes (*fig 37*).

Figure 37: Variety of Shakes

9      Head In

13

17

21

As with previous transcriptions, crotchets are generally performed as quavers, followed by quaver rests. A ‘*marcato*’ symbol is used to indicate when the crotchets are given their full rhythmic value. Smith played these contrasting longer crotchets in bars 32-25 when delivering a ‘sweeter’ or more classical affectation. He also accented this passage on beats 1 and 3, effectively working against the backbeat and emphasising the ‘straight’ sound (*fig 38*).

Figure 38: Marcato

29

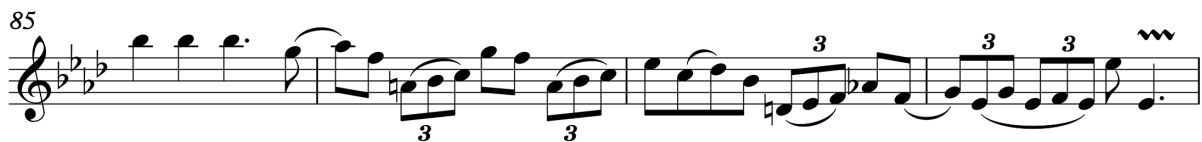
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*sfz*

### Bowing separate quavers

Back-bowing is ubiquitous throughout Smith's improvisations. There are, however, subtle variations on the pattern, usually when dealing with triplets within the melodic line, as in bar 86 below, (*fig 39*) or when adding dissonant harmonic colour to his phrases.

Figure 39: Variations in the back-bowing



In bar 157, Smith is soloing over a G half-diminished chord moving towards a C dominant flat nine chord in bar 158. Rather than outlining the harmony, Smith played intervallic patterns of perfect 4ths and major 2nds. This departure from the harmonic structure was combined with separately bowed quavers emphasising the dissonance (*fig 40*).

Figure 40: Bowing separate quavers



### The blues tradition on the violin

Stuff Smith referenced the blues tradition with his use of note bends. The effect is similar to that of the pitch-bending employed by blues harmonica players such as Little Walter on the track 'Ora-Nelle Blues' (1947). Smith played a note bend at bar 27 with his second finger on the D string, where an F natural is bending downwards to the E natural before returning to the



### Target Notes

Stuff Smith's broad expressive palette can create difficulties for the transcriber. One example occurs in bar 86 where Smith played a figure somewhere between a portamento and a rising triplet quaver (*fig 43*). The accented pitches in this passage are the higher notes. In bar 86, he played a high A and G firmly on beats 1 and 3. He continued the phrase with the high note accents aligning with beats 1 and 4 in bar 87 and beat 3 in bar 88 creating a three-over-four poly-meter. By playing the lower notes in a less defined manner than the higher accented pitches, Smith gives shape and clarity to the temporary poly-meter adding textural as well as rhythmic contrast.

Figure 43: Target Notes



Bars 100 to 103 (*fig 44*) are another example where rising triplet figures were played with a quasi-portamento execution. Smith's slides differ from portamenti as different fingers cover the different pitches. In this example, Smith used the open A string as well as the first and second fingers on the left hand to play the triplet, the addition of a sliding motion creating the effect. Smith arranged the higher notes to create a five-over-four poly-meter beginning on beat 2 of bar 100. The pattern of five divides up into a two-three-two-three beat sequence before moving to a two-beat pattern in bar 102 with the higher accents aligned with beats 2 and 4.

Figure 44: 5/4 Poly-meter

### ‘Old Stinkin’ Blues’

The final transcription deals with a much slower tempo of 58bpm. This recording was taken from a live performance rather than a studio setting and appears on the 1965 album *Swinging’ Stuff* recorded at Jazzhus Montmartre in Copenhagen. The original recording was cut and spliced towards the end of the track. As a result, in bar 56, two beats are missing from the 12 bar blues form (*fig 45*).<sup>7</sup>

Figure 45: Live edit point

Before transcribing ‘Old Stinkin’ Blues,’ a decision needed to be made whether to use 12/8 or 4/4 meters. At 58 beats per minute, a 12/8 meter captures the swing quavers, which are, at

<sup>7</sup> There may have been a more substantial section cut from the original recording, e.g. a 12 bar chorus plus the 2 bars missing from the form. In the bars preceding the cut, bar 55, the band plays a long crescendo that suddenly disappears after the edit point which indicates that this was probably the case.

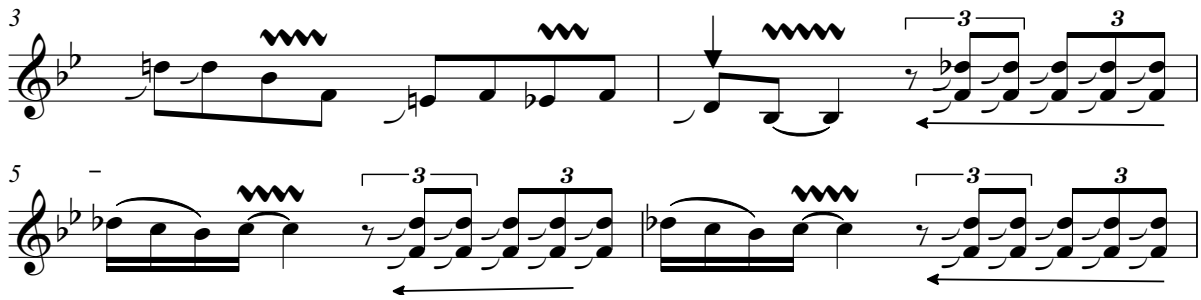
this slower tempo, expressed more like triplets. However, Smith played his phrases so far behind the pulse that expressing triplets over a 12/8 meter is only partially effective in communicating his performance. Furthermore, notating the solo in this manner generates a more cluttered score, which would be less successful in describing Smith's musical ideas.

Notating the recording using a 4/4 meter and expressing the swing feel as quavers is consistent with the faster tempo swing notation used in each of the previous transcriptions and is arguably a more accurate method of expressing Smith's musical intent. This raises the question: How does the transcriber identify Smith's compositional intention? The approach taken is to identify rhythmic patterns consistent with the jazz genre and employ additional symbols to communicate participatory discrepancies, particularly Smith's placement of phrases far behind the pulse.

#### Playing behind the pulse

In this example Smith played a set of five minor sixth intervals placed behind the beat while maintaining an underlining triplet rhythm (bars 4 and 6). The recognisable rhythmic structure enables the listener to follow the intent of the player so that the phrase sounds deliberately placed and the rhythmic tension created resolves in the final bar. The rhythmic juxtaposition was further emphasised when he repeated the phrase. The addition of a left-pointing arrow below the stave communicates the phrase placement behind the pulse, as shown in (*fig 46*).

Figure 46: Playing behind the pulse



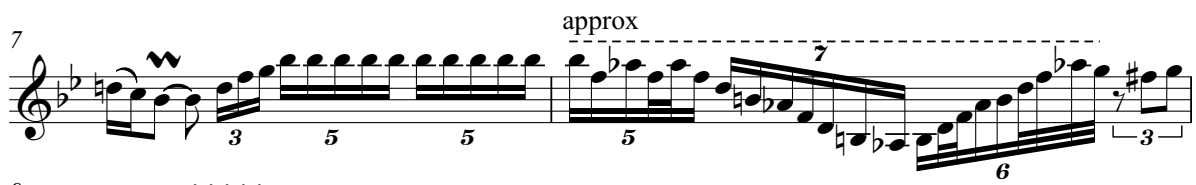
An alternate notational approach would be to identify where each pitch falls strictly in relation to the pulse. In this way, the five repeated notes would not form part of a triplet set. Instead, the passage would read as five repeated notes, spread evenly over the last two triplet crotchets. The resulting notation (*fig 47*) is overly complicated and fails to offer any insights into Smith's perceived compositional intent.

Figure 47: Playing behind the pulse alternative notation



In bars 7 and 8, Smith played across the time feel with an extended melodic line, which accelerated and decelerated before being brought back into synchronicity with the band for the final beat of bar 8. Conventional notation fails to capture this nuance and can only offer an approximation of the rhythm as notated with the dotted line (*fig 48*). This passage raises the question of how to apply this type of rhythmic flexibility to the larger ensemble. It may be that longer and more sophisticated phrases such as the one above are better relegated to a soloist. For a string section, rehearsals would be needed to determine exactly how far back against the pulse a particular phrase should be placed and would require a considerable degree of group synchronicity following the section leader's bow strokes.

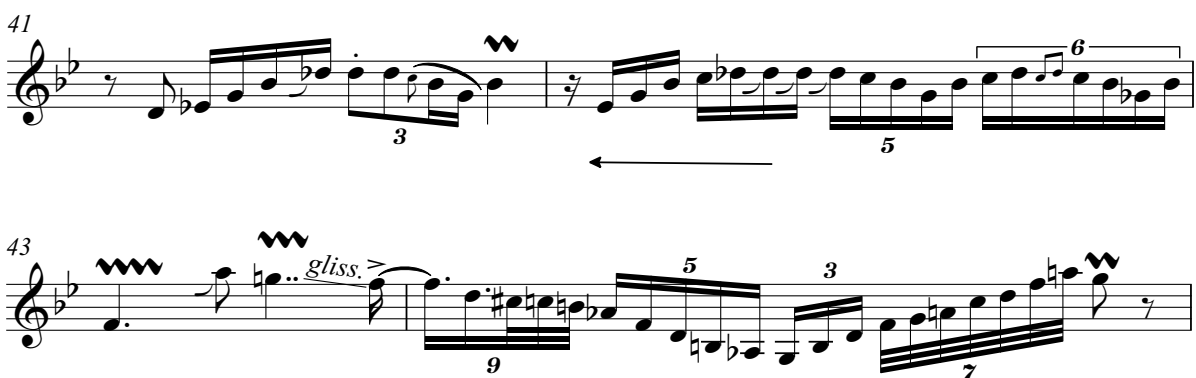
Figure 48: Playing across the pulse



Later on, Smith emphasised beat three in bar 42, though there is some interpretative licence exercised in notating all the pitches and bow strokes. In this example the author attempted to confer a sense of the acceleration in Smith's line by grouping the notes in increasingly dense sequences of quintuplets and sextuplets.

Bar 44 depicts another grouping written according to the perceived intent, this time by identifying target notes which outline the pulse. Here, the low and high Gs are aligned to beats 3 and 4. This use of target notes aligned with pulses can aid in communicating this type of expression to the larger ensemble.

Figure 49: Compositional intent



### Trumpet style shakes

Stuff Smith drew upon his usual repertoire of trumpet style shakes, scoops and fall-offs throughout this piece. The slower tempo brings these techniques to the fore, with Smith favouring the use of scoops, applying them to more than a quarter of the pitches in the opening twelve bars.

In bar 36 (*fig 50*), Smith began the note with a straight tone and applied the shake only towards the end of the note in combination with a gentle reduction in dynamic level. This treatment of more extended notes is practiced widely by jazz singers and Smith himself was an accomplished jazz vocalist. The technique has the potential for application in the large string section context.

Figure 50: Trumpet shake on longer notes



The slower tempo gave Smith the opportunity to explore texture with more finesse. In figure 51, he demonstrated four separate articulations within one bar. Bar 57 begins with a fall-off followed by a scoop, followed by a trumpet style shake before finishing with two staccato notes. These are in contrast to the straight-time phrase which immediately follows.

Figure 51: Multiple Textures



## Summary

Smith and Venuti both contributed to the expressive palette of the violin with a variety of textures and rhythmic devices. The combination of swing-specific bowing patterns, an array of scoops, glissandi and fall-offs, left-hand pizzicato, double stops, harmonics and trumpet style shakes helped deliver a convincing jazz sonority to string instrument performance.

These articulations are also quite adaptable to the larger string section giving the arranger, composer and performer the opportunity to incorporate this rich musical heritage into their repertoire. The next chapter categorises these techniques and offers a pedagogical framework by which string sections might expand their sonic repertoire to include them.

## Chapter Three: Pedagogy – Case Study

### Introduction

*‘One last word of caution, the legitimate string player has spent his life studying classical repertoire so please don’t ask him to swing’*

(Nestico 1993, p. 141)

Swing feel is an idiomatic feature of jazz, creating an infectious forward motion. It is indeed a shame that Nestico felt obliged to offer the warning to arrangers to avoid writing in that style for the string section.

In order to redefine the role of the string section in the jazz context, it is necessary to equip players with a new set of tools. This section draws upon the techniques observed throughout the previous analyses and presents an approach by which they can be applied to the string section’s repertoire.

The pedagogy is presented over the following three chapters:

Chapter 3 – Case study

Chapter 4 – Incorporating the swing feel

Chapter 5 – Other techniques

### Case study


Chapter three draws upon the repertoire of J.S. Bach and Charlie Parker in order to illustrate a practical approach to playing the swing feel.

### Incorporating the swing feel

Chapter four lays out a stepwise approach to developing an authentic swing feel for members of a string ensemble. This section focusses specifically on those bowing patterns that enable players to internalise and express the swing feel. It introduces scale exercises that integrate these bowing patterns before applying them in the context of a 12 bar blues form. In addition, this section provides a rehearsal framework one may apply when addressing technical or stylistic issues.

### Other techniques

Chapter five addresses additional techniques such as scoops, fall-offs and trumpet style shakes as observed in the solos of Venuti and Smith. This section also extends the list of jazz-related techniques, specifically those required to perform the compositions contained in Part B. Techniques include the playing of extended syncopated passages as well as poly-meters and polyrhythms.

Accompanying these chapters are audio recordings of the scales, studies and pieces presented. Examples with corresponding audio recordings include the symbol  and are located in Part C, CD3.

## **Bach to Bebop**

*‘Swung eighth notes do have a triplet feel – but not quite!’*

(Massey 2005, p.6)

This first case study explores the theory that the swing feel is created from a defined articulation and bowing pattern, rather than changing the width of the quaver pair from even straight quavers towards a triplet.

The following illustration borrows the opening of J.S. Bach’s ‘Allemanda’ from the first movement of his D Minor Violin Partita. Well-known repertoire is chosen to enable classically trained violinists to concentrate more fully on the unfamiliar rhythmic aspects being introduced.

Firstly, the opening 12 bars are re-written with the original semiquavers now expressed in quaver pairs at a tempo of 120 beats per minute. With the quaver pairs slurred throughout the sample, the bow changes line up with the common-time pulse.

Playing through this first part of the exercise should not pose a rhythmic challenge to the classically trained violinist. This treatment is still close to the original phrasing of Bach’s ‘Allemanda.’

Bach's D Minor Partita:  
Allemanda opening expressed as quaver pairs

JS Bach/J Ferraretto 2016

$\text{♩} = 120$

Bach's D Minor Partita:  
Allemanda opening - quaver pairs displaced by one quaver

Part two of the illustration presents the same sample with the rhythm displaced earlier, relative to the pulse, by one quaver. All notes and bowings remain the same, but the relationship of the line to the pulse has changed.

CD 3 begins with audio recordings made based upon this notation. They were recorded with a violin into a digital audio workstation<sup>8</sup> and used a computer-generated rhythm section<sup>9</sup> for accompaniment. The violin take was recorded playing along to the second displaced ‘swing’ version of the ‘Allemanda’ and is identical across all three examples. On (*CD3 track 1*), one can hear the violin playing a swinging quaver line against the backing track. Upon muting the band in (*CD3 track 2*), the very same violin recording, now solo, appears to be playing the first, more traditional version of the ‘Allemanda’ with no apparent swing feel. Track 3 on the CD begins with the solo violin before the backing band gradually fades in. With the fade-in, one can hear the transition from an apparent straight feel to the swing. The violin track remains completely unchanged throughout this track and the shift from straight to swing is brought about by a perceived shift of the pulse rather than a change in the violin articulation.

- CD3 track 1:           Bach’s ‘Allemanda’ in Dm - opening with backing rhythm section.  
 CD3 track 2:           Bach’s ‘Allemanda’ in Dm with no backing.  
 CD3 track 3:           Bach’s ‘Allemanda’ in Dm - opening with backing slowly faded in.

How does the same violin track manage to be swinging and, at other times, playing even ‘straight’ quavers? This example suggests that the performance of swing rhythm has more to do with the location of the bow changes rather than any attempt to increase or decrease the length of notes in creating a swing triplet effect.

The use of Bach’s solo violin repertoire is useful in that both Baroque and jazz improvisation use arpeggiation within line structure in order to communicate implied harmony. Also, in using melodic displacement, this study creates a bebop-like aesthetic where phrase peaks and

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<sup>8</sup> Pro Tools

<sup>9</sup> iReal Pro

accents fall more on the syncopated off-beats. Line structure and the rhythmic placement of high pitched accents are a vital ingredient in the expression of both genres.

### **Parker to Baroque**

After adding a swing feel to Bach through melodic displacement, this case study investigates whether the opposite is also possible. Can a jazz bebop excerpt, played in a swing style by a violin, be transformed into a baroque-style piece of music when displaced by a quaver?

For this case study, the blues composition 'Au Privave' by Charlie Parker undergoes a similar treatment. Firstly, the original composition appears with additional back-bowing, consistent with the bowing patterns used by Smith and Venuti. The second version of 'Au Privave' presents the same melody; this time moved backward against the pulse by one quaver. Immediately one can observe how previously syncopated passages such as in bar 4 now sit firmly on the pulse.

This example called for two forms of accompaniment. Once again, a computer-generated jazz backing track, created using iReal Pro software, accompanied the original melody. For the second 'baroque' accompaniment, a string orchestra, recorded using multi-tracked violins, plays an ostinato over a simple quaver pulse. The second accompaniment creates a tangible pulse against which we hear the displaced melody.

## Au Privave (jazz version)

Musical score for "Au Privave (jazz version)" in G minor, 4/4 time. The score consists of three staves of music. The first staff (measures 1-4) has chords: F, Gm, C7, F, Cm, F7(#5). The second staff (measures 5-8) has chords: Bb7(b9), Bbm, Eb7, F, Am, D7. The third staff (measures 9-12) has chords: Gm, C7, F7, D7, Gm, C7. The piece ends with a double bar line.

## Au Privave (displaced version)

Musical score for "Au Privave (displaced version)" in G minor, 4/4 time. The score consists of three staves of music. The first staff (measures 13-16) has chords: F, Gm, C7, F, Cm, F7(#5). The second staff (measures 17-20) has chords: Bb7(b9), Bbm, Eb7, F, Am, D7. The third staff (measures 21-24) has chords: Gm, C7, F7, D7, Gm, C7. The piece ends with a double bar line.

The melodic lead violin take was recorded playing along to the original swing version (*CD3 track 4*). Upon muting the band and replacing the accompaniment with that of the string orchestra, the same violin track loses its swing feel and appears to be playing a baroque style piece (*CD3 track 5*). In (*CD3 track 6*), the band slowly cross-fades from the jazz band to the

string backing. The perceived sense of pulse shifts by one quaver and the lead violin appears to change from the swing feel into the more traditional, straighter rhythm.

CD3 Track 4: 'Au Privave' by Charlie Parker with jazz backing

CD3 Track 5: 'Au Privave' by Charlie Parker with baroque backing

CD3 Track 6: 'Au Privave' by Charlie Parker backing slowly cross-faded from jazz to

baroque

The violin part was more successful in generating both the swing and straight feels when recorded against the swing accompaniment. When recorded against the straight metronome click, the swing version came across as more stilted and uncomfortable. This supports the idea that in addition to playing relatively even quavers using the back-bowing pattern, the player also needs to place the quaver pairs slightly late against the pulse. This technique of pulling back against the time feel is prominent in Stuff Smith's playing style, especially in slower tempo recordings such as 'Old Stinkin' Blues.'

A string section that understands the relationship between the bowing pattern and the swing feel is better able to interpret swing notation.

One suggestion is the possible application of jazz 'tutti' writing to the string section. 'Tutti' sections are a combination of unison and closely-voiced, swing quaver lines, often found as a sectional feature in big band arrangements – a famous example being Woody Herman's 'Four Brothers' (1947). The mastery of swing feel by the large string ensemble is critical in enabling a shift in the role of the string ensemble in the jazz context.

## Chapter Four: Pedagogy – Incorporating the Swing Feel

### Scales


Expertise in the expression of the jazz idiom is the result of a prolonged and careful engagement with the music. By following the exercises presented in the following chapter, both the soloist and the entire string section can achieve a convincing and unified swing feel. Exercises should be applied to all modes and key signatures. Accompanying recordings were created on the digital audio workstation, Reaper, using multi-tracked string parts where necessary, accompanied by a computer-generated rhythm section.

Practicing scales on string instruments presents a logical way to absorb this bowing pattern. While classical scale manuals and syllabuses suggest a variety of bowing patterns, the bow changes tend to align with the crotchet pulse. Consider the following D Dorian mode (*fig 52*):

Figure 52. Dorian mode – two notes per bow change




Applying back-bowing to this same mode means the musician now plays the first note with a separate bow stroke, bowing the subsequent notes in pairs across the pulse (*fig 53*).

Figure 53.  D Dorian mode with back-bowings (CD3 track 7)



Scales should extend over the entire first position range before resolving back to the tonic.

Figure 54 illustrates the D Dorian mode played from the tonic, to the highest first position pitch, B natural, to the lowest, G natural, before returning to the tonic. This approach to scale work also gives the player facility in a variety of keys throughout first position. Where the classical violin syllabus outlines the practice of three-octave scales, it abandons first position in all scales from C major upwards to F# major.<sup>10</sup> These classical scale positions and fingering choices have long been utilised to train violinists to play with accurate intonation in second, third, fourth positions and beyond. In contrast, the bowing pattern and range limit proposed in figure 54 prioritises proficiency in an even and relaxed back-bowings pattern across all key signatures over first position and is especially useful in acquiring proficiency in less commonly used symmetrical scales such as diminished scales.


Figure 54.  D Dorian Mode in violin first position range (CD3 track 8)



This approach can be adjusted to encompass a wider range. The following example shows the D Dorian mode played up to fifth position on the violin. Players are free to choose their own

<sup>10</sup> Australian Music Examination Board – Violin Technical Workbook (2011)


fingering patterns and shift positions. However, to maintain the integrity of the bowing exercise, shifts should occur with the change of bow rather than mid-slur (*fig55*).

Figure 55.  D Dorian mode up to violin fifth position (CD3 track 9)

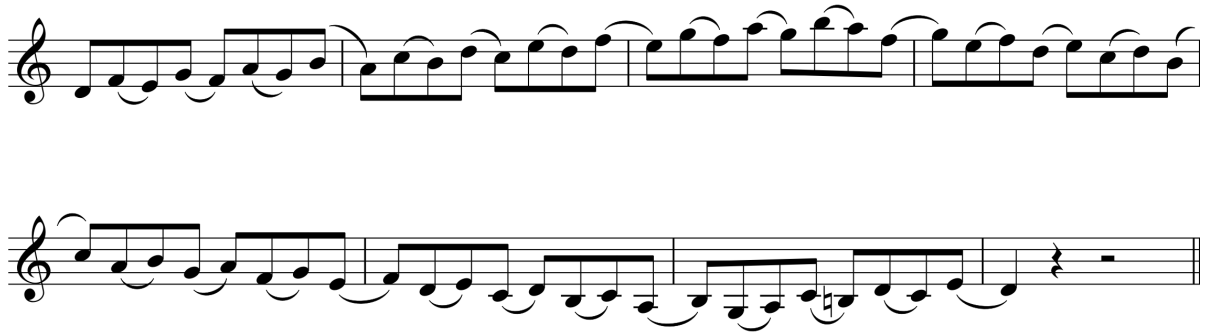


The exploration of scales over an extended range using back-bowing can also apply to intervallic variations of the mode. This practice is common among jazz saxophone players (Trezona 2012, p. 10) and not only allows for a more in-depth application of back-bowing but also assists string players aiming to develop their facility in jazz improvisation. Figure 56 shows the Dorian scale played over the violin's first position range with intervallic variations.

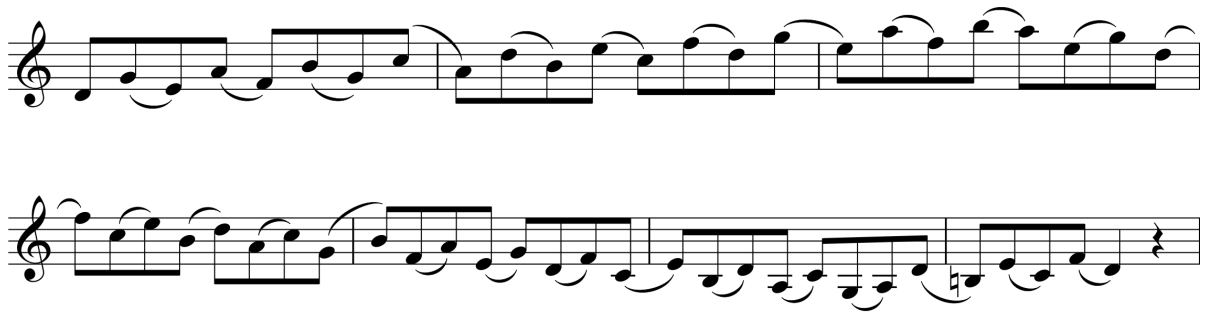
When applying this exercise to other scales, note how the pattern needs adjusting at both ends of the scale range. The pitches at the upper and lower extremes act as pivots allowing the subsequent intervals to be inverted thereby preserving the integrity of the exercise.

Figure 56.  D Dorian Mode with intervallic variation (CD3 track 10)

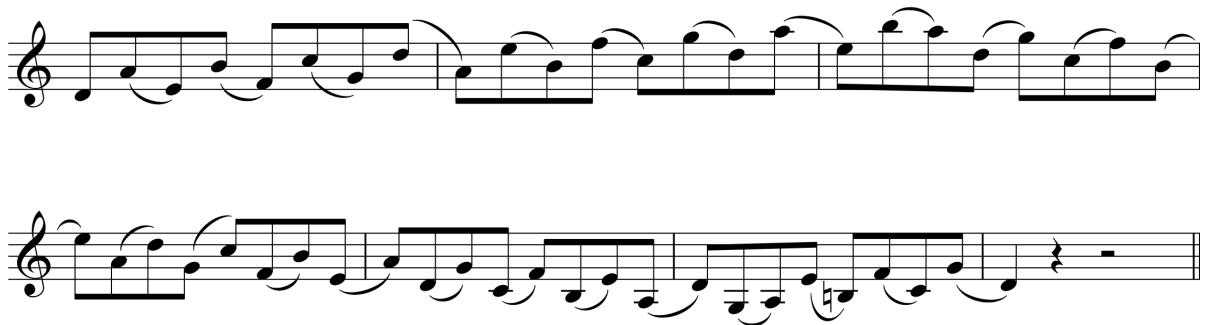
## Broken 3rds



## Broken 4ths



## Broken 5ths



## Broken 6ths



## Broken 7ths



The addition of a chromatic approach tone adds harmonic complexity to the scale. In bars 5 and 9, where there are repeated notes, the bowing pattern is adjusted to allow for more precise articulation (*fig 57*).

Fig 57.  D Dorian mode with Chromatic Approach tone (CD3 track 11)



This following section illustrates how this approach can be applied to a larger group of players. The exercises span a narrower range over the G, D and A strings. Viola and violin sections play in unison and the cello section plays one octave lower.

The ensemble begins on the root note and ascends in scale tones to the pitch played by the fourth finger on the violinist's A string. The pitch will either be an E flat or E natural depending on the scale. The ensemble then descends in scale tones to the lowest relevant pitch on the violin (either G or A flat) before ascending again to the original tonic pitch.

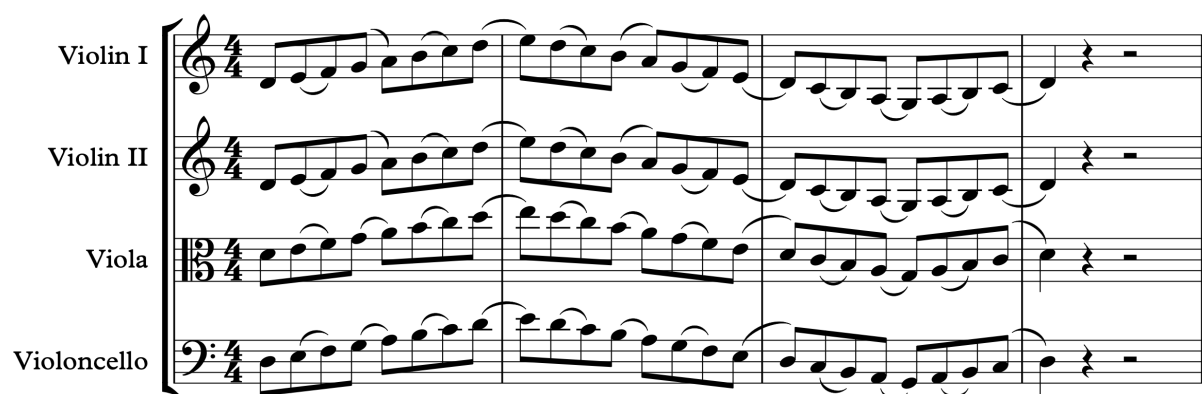
When executing these scales, players should adjust their technique in order to be consistent with Venuti and Smith's execution.

- The bow must maintain constant contact with the string rather than lifting between strokes.
- The players should avoid accenting in synchronisation with the pulse. Instead, the bow changes occurring on the off-beats can include a slight accent.
- The players should not attempt to alter the note length of the quaver in order to generate a swing triplet. This bowing pattern will be sufficient in creating the necessary swing feel.
- Exercises should be practiced against a repetitive pulse, which can either be a recorded/generated backing track of a jazz rhythm section playing in the relevant mode or a metronome count on the second and fourth beats of the common time meter.<sup>11</sup>

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<sup>11</sup> The metronome striking on beats 2 and 4 mimics the sound of the drummers hit hat pattern and helps to accentuate the back-beat.


Figure 58.  D Dorian mode with string section over a restricted range (CD3 track 12)

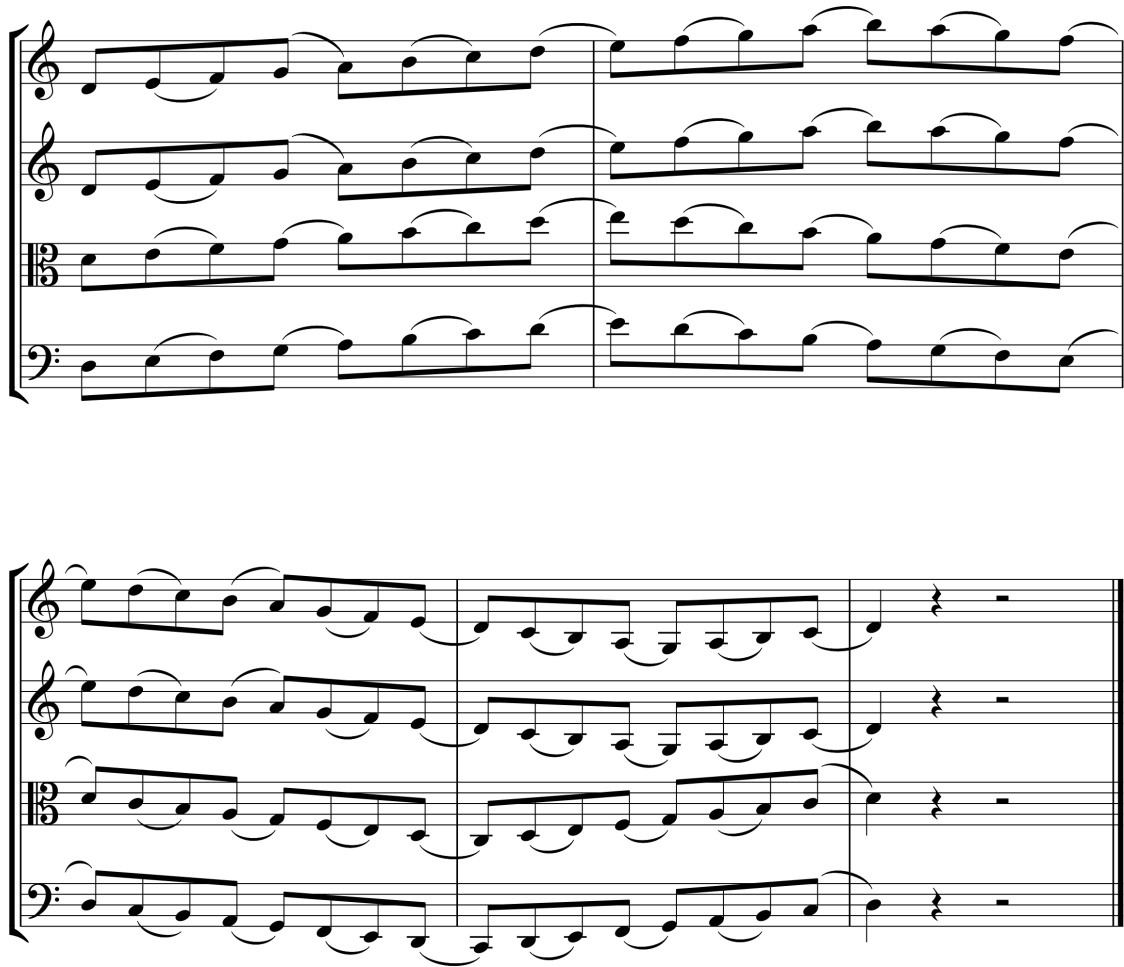


The musical score consists of four staves, each representing a different string instrument. The top two staves are Violin I and Violin II, both in treble clef. The bottom two staves are Viola and Violoncello, both in bass clef. The time signature is 4/4. The key signature is one flat (B-flat), representing the D Dorian mode. Each staff contains a descending scale exercise. The Violin parts start on D4 and descend to D3. The Viola and Violoncello parts start on D3 and descend to D2. The exercise is divided into four measures, with the final note of each measure being a whole note followed by a rest.

A possible variation of the back-bowing scale exercise utilises the full first position ranges of the violins, violas and cellos (*fig 59*). In this version, the section begins and ends in unison and octaves, but the violas and cellos begin their descent at the viola's fourth finger pitch on the A string. The violins continue their scale tones to the pitch sounded with the fourth finger on the E string before descending.

The downward pivot note for the violas and cellos will now be their lowest scale tone on the low C string before returning to the tonic. Violins will continue as usual to their lowest note on the G string before returning to the tonic. The resulting scale generates a series of intervals between the violin section and the lower strings. Beginning in unison, then sounding intervals of 3rds, 5ths, 7ths and ultimately a series of major and minor 9ths, this variation allows the ensemble to explore the mode over a broader range and provides an opportunity for relative pitch training as well as the intended back-bowing exercise.

Figure 59.  D Dorian mode with string section over full first position range (CD3 track 13)



The image displays two systems of musical notation for the D Dorian mode. Each system consists of four staves: two treble clefs (violin and viola) and two bass clefs (cello and double bass). The first system shows the ascending and descending scales. The second system shows the same scales with some notes marked with a 'z' and a dash, indicating a specific interval or note.


Figure 60 highlights the specific intervals generated by the previous exercise, with major intervals indicated by a capital 'M' (M3 for a major third interval). Minor intervals are labelled with a small 'm' (m9 for a minor ninth interval) and perfect intervals with a 'P' (P5 for a perfect fifth interval).

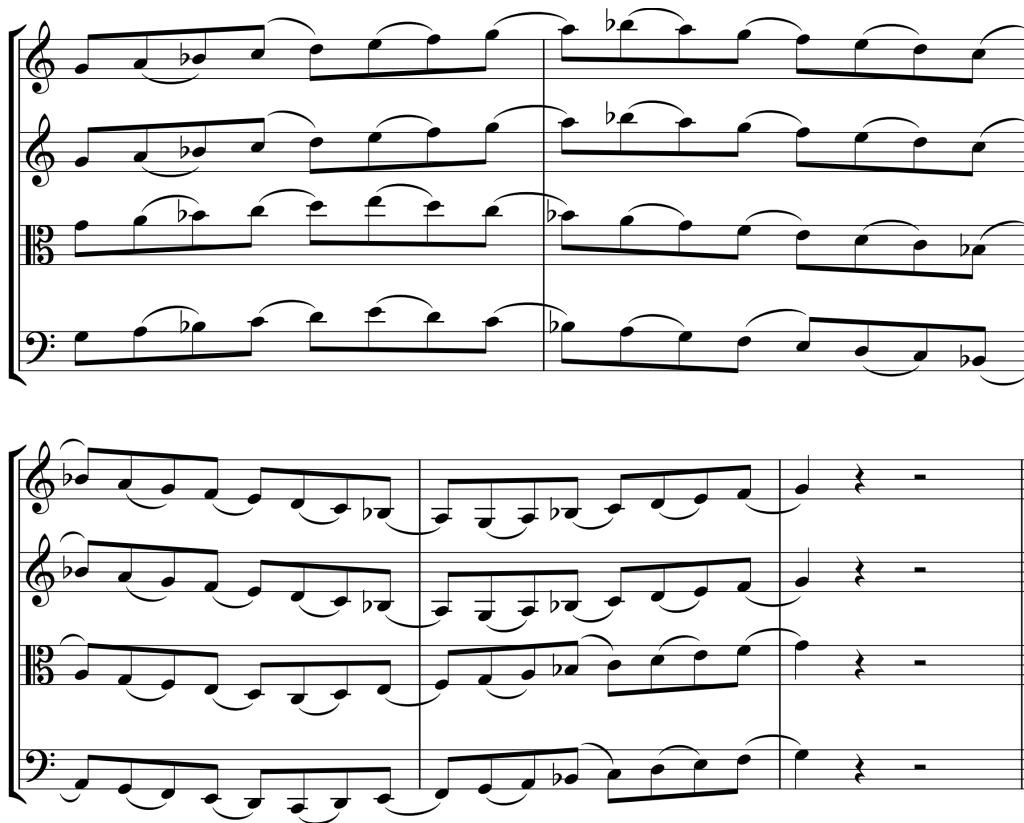
Figure 60: Intervals generated from Dorian mode exercise

The figure displays two systems of musical notation, each consisting of a treble and bass staff. The first system shows a sequence of notes with intervals labeled: unison, m3, P5, m7, M9, and m9. The second system shows a sequence of notes with intervals labeled: M9, m9, M9, m9, M9, m7, P5, M3, and unison.

Although the scales examined so far have been restricted to the D Dorian Scale, it is suggested that this bowing approach be applied across all scales and modes.



For example, figure 61 uses the G Dorian mode. Note that although the beginning and ending pitches may differ from scale to scale, the ensemble still begins and ends in unison/octaves.

Figure 61:  G Dorian mode with string section (CD3 track 14)



The musical score for Figure 61 is presented in two systems, each containing four staves. The first system shows the G Dorian mode in a two-measure phrase. The second system shows the mode in a three-measure phrase, ending with a double bar line. The notation includes treble and bass clefs, a key signature of one flat (B-flat), and various musical symbols such as slurs, ties, and accidentals.

Practicing modes over the full first position range with back-bowling can be adapted to the playing of broken intervals. Figure 62 illustrates an F Mixolydian scale expressed in broken thirds.

Figure 62.  F Mixolydian mode in broken thirds (CD3 track 15)

The first system of musical notation consists of four staves. The top two staves are in treble clef, and the bottom two are in bass clef. The music is written in F Mixolydian mode, characterized by a key signature of one flat (Bb) and a scale of F, G, A, Bb, C, D, E. The melody is played in broken thirds, with notes beamed together and slurred. The first measure of the system contains two measures of music, and the second measure contains two measures. The notes are: F4, G4, A4, Bb4, C5, D5, E5 in the first measure, and F5, G5, A5, Bb5, C6, D6, E6 in the second measure.



The second system of musical notation consists of four staves. The top two staves are in treble clef, and the bottom two are in bass clef. The music is written in F Mixolydian mode, characterized by a key signature of one flat (Bb) and a scale of F, G, A, Bb, C, D, E. The melody is played in broken thirds, with notes beamed together and slurred. The first measure of the system contains two measures of music, and the second measure contains two measures. The notes are: F4, G4, A4, Bb4, C5, D5, E5 in the first measure, and F5, G5, A5, Bb5, C6, D6, E6 in the second measure.



The third system of musical notation consists of four staves. The top two staves are in treble clef, and the bottom two are in bass clef. The music is written in F Mixolydian mode, characterized by a key signature of one flat (Bb) and a scale of F, G, A, Bb, C, D, E. The melody is played in broken thirds, with notes beamed together and slurred. The first measure of the system contains two measures of music, and the second measure contains two measures. The notes are: F4, G4, A4, Bb4, C5, D5, E5 in the first measure, and F5, G5, A5, Bb5, C6, D6, E6 in the second measure.

This sectional approach adapts well to parallel scales, such as the 8-note Dominant or Octatonic scales. It is important to note that where there are two pitches sounded by the fourth finger, as in the case below of a C eight-note dominant scale, only the lower of the two pitches is to be sounded as the pivot note to allow for a synchronised unison/octave finish (*fig 63*).

Figure 63.  C Eight-note Dominant scale (CD3 track 16 )




The musical score for Figure 63 consists of two systems of four staves each. The first system shows the ascending and descending C eight-note dominant scale. The second system shows the scale in a different voicing, also ascending and descending, ending with a unison/octave finish on the C note. The notation includes various accidentals (sharps, flats, naturals) and slurs to indicate phrasing and bowing.


The playing of jazz-specific modes and symmetrical scales with the application of back-bowing, not only builds a unified swing feel among the players but helps musicians become accustomed to negotiating the sophisticated chromatic harmonic relationships which are typically used in modern jazz voicings and line construction.

The following exercises concentrate on the accurate playing of close voicings in the string section. Voicings compressed within one octave are an arranging technique consistent with ‘tutti’ passages often encountered in big band charts, creating a sonority associated with the classic jazz tradition (*fig 64*).


In the first of these exercises, the first note of the scale has been displaced later in time by one quaver. The reasons are twofold. As indicated in the earlier ‘Case study 1,’ the displacement of Bach’s musical passage by a quaver effectively generated a more syncopated melody consistent with the jazz idiom. Secondly, in later exercises, the ensemble will be required to play short melodic phrases displaced by one quaver before repeated them in the original rhythm.

Figure 64.  D Dorian scale with close voicings (CD3 track 17)


The group playing of scales, whether in unison, intervallic, or closely voiced, are especially useful when matched to the key of the particular piece the ensemble is rehearsing. The following musical excerpts examine a simple 12-bar Blues progression in F, so in preparation, the ensemble should begin with an F Mixolydian scale (*fig 65*).

Figure 65:  F Mixolydian scale with close voicings (CD3 track 18)

Another variation can include both the natural and flat seventh degrees of the mode generating the F bebop scale (*fig 66*). The bebop scale enables improvisers to play lines in which the tonic, third, fifth and flat seventh scale degrees of the dominant chord conveniently align with the pulse – thereby strongly reinforcing the underlying harmony. In order to maintain the correct alignment of the chord tones, the first note now begins on the pulse. The bowing notation allows for a separate bow on the first note before applying the back-bowing pattern.

Figure 66:  F Bebop scale with close voicings (CD3 track 19)

In order to expand the range of the group scale practice, a drop-two voicing can be applied where the second violin part is played by the cello section one octave lower. The previous viola and cello parts are now covered by the second violins and violas respectively (*fig 67*).

Figure 67:  F Bebop scale with drop-two voicings (CD3 track 20)

### Swinging on a Blues

After having applied a back-bowing pattern to a variety of scales, modes and voicings, the ensemble can begin to apply the same technique to a simple blues composition. The following exercise, ‘Blues Heads’, is a series of 12 bar blues melodies, in the key of F, based upon the ‘riff’ blues compositions made famous by composers such as Count Basie and Duke Ellington (ref. ‘C Jam Blues’). The following ‘riff’ based blues melody takes a short motif or ‘riff’ and repeats it over the blues form with little or no variation. The recording of ‘Blues Heads’ is included (CD3 track 21).

Riffs are a useful tool for the string ensemble due to their repetitive nature. The presence of ample musical space between phrases allows the director to assess and, if necessary, correct the feel.

Each 12-bar section is suitable as a stand-alone 'head' for a jazz performance scenario. In doing so, the ensemble will play the chosen 12-bar phrase at the beginning and end of the piece, with the middle section available to individual players to improvise a solo as the accompanying rhythm section plays over the 12-bar blues structure.

## Blues Heads

Medium Swing ♩=168

Julian Ferraretto 2019

**A**

Violin I

Violin II

Viola

Violoncello

Medium Swing ♩=168

**A** F<sup>7</sup> B<sup>b7</sup> F<sup>7</sup> Cm<sup>7</sup> F<sup>7</sup>

Rhythm Section

5

B<sup>b</sup> B<sup>o</sup> F<sup>7</sup> Am<sup>7</sup> D<sup>7</sup>

9

Gm<sup>7</sup> C<sup>7</sup> F<sup>7</sup> Gm<sup>7</sup> C<sup>7</sup>

2

13 **B**

**B** F7                      Bb7                      F7                      Cm7                      F7

17

Bb                      B°                      F7                      Am7                      D7

21

Gm7                      C7                      F7                      Gm7                      C7

25 **C**

**C** **F7** **Bb7** **F7** **Cm7** **F7**

29

**Bb** **B°** **F7** **Am7** **D7**

33

**Gm7** **C7** **F7** **Gm7** **C7**

4 **D**

37

**D**  $F^7$   $Bb^7$   $F^7$   $Cm^7$   $F^7$

41

$Bb$   $B^\circ$   $F^7$   $Am^7$   $D^7$

45

$Gm^7$   $C^7$   $F^7$   $Gm^7$   $C^7$

Once the ensemble is able to play 'Blues Heads' with a consistent and relaxed swing feel, they can begin working on the mastery of longer and more syncopated phrases. The following composition, 'Cornerstone Blues,' is derived from a violin improvisation performed by the author, which has been adapted and arranged for a string ensemble (Ferraretto 2017).

In this example, the approach to voicings differs from the earlier F blues riffs. The cello section's part lies precisely one octave lower than the first violins. This doubling of the primary melody thickens and strengthens the line. Voicing the section over a slightly wider interval gives the composer and arranger more choices when selecting pitches for the inner two parts while effectively thinning out the harmonic density.

This voicing approach for the string section was used by Hank Jones and Bob Brookmeyer when arranging Harry Lookofsky's albums *Stringsville* and *Miracle in Strings*. A clear example can be found on the latter's opening track 'Swinging 'till the Cows Come Home.'

The three choruses of 'Cornerstone Blues' notated below serve as a useful case study for the application of the subsequent rehearsal pedagogy. The audio recording 'Cornerstone Blues' is included (*CD3 track 22*).

# Cornerstone Blues

Julian Ferraretto 2018

**A**  
Medium Swing ♩=168

Violin I

Violin II

Viola

Violoncello

Rhythm Section

**A**  
Medium Swing ♩=168

F<sup>7</sup> B<sup>b7</sup> F<sup>7</sup>

4

Violin I

Violin II

Viola

Violoncello

Rhythm Section

Cm<sup>7</sup> F<sup>7</sup> B<sup>b</sup> B<sup>o</sup>

2

7

3

3

3

3

F7 Am7 D7 Gm7

10

C7 F7 Gm7 C7

13 **B**

**B**  
F7                      Bb7                      F7

16

Cm7                      F7                      Bb                      B°

19

3

3

3

3

F7 Am7 D7 Gm7

22

3

3

3

3

C7 F7 Gm7 C7

25 **C**

gliss.

**C**  
F<sup>7</sup> B<sup>b</sup>7 F<sup>7</sup> C<sup>m</sup>7 F<sup>7</sup>

29

4  
0

B<sup>b</sup> B<sup>o</sup> F<sup>7</sup>

32

Am7 D7 Gm7 C7

35

F7 Gm7 C7 F7

## Rehearsal Pedagogy

The structured rehearsal pedagogy presented below brings the swing feel and other new jazz-specific techniques and approaches into the string player's repertoire. The following four steps allow for the identification of problem areas and the establishment of creative and practical solutions.

1. Identification – Examine the composition and identify those sections which present a specific rhythmic/articulation/stylistic challenge.
2. Analysis – Create short exercises that ensure the ensemble is expressing a unified interpretation of the section. These need not require instruments and may include clapping, body percussion, or other rhythmic exercises.
3. Assimilation – The skills acquired in point 2 above are then applied to the relevant section or sections of repertoire.
4. Expression – Finally, the ensemble performs the repertoire, followed by an assessment of the efficacy of the rehearsal.

The following case study applies this four-step rehearsal pedagogy to the 'Cornerstone Blues' composition.

### Identification


An examination of the first chorus (Chorus A) reveals extensive use of the swing quaver line. The score includes specific bowing patterns consistent with the back-bowing technique. As the swing feel is key to this piece, the above framework can be applied to this particular aspect.

### Analysis

The Bach case study in chapter 3 illustrated how following traditional swing notation instructions (that is: quaver pair is equal to a triplet with the first two beats tied) does not reflect an accurate swing conception. It demonstrated that the swing feel is more accurately delivered by straight quaver pairs bowed together but displaced by a half-beat. This differentiation can be used to generate short exercises that teach the ensemble to play the swing feel more idiomatically.

Figure 68 presents four pairs of phrases. The first phrase in each pair is identical to the second but is displaced earlier by one quaver. The aim of this exercise is for the section to rhythmically shift lightly-accented bow changes aligned to the pulse to the syncopated off-beats without re-accenting the pulse.

The ensemble begins by playing the first phrase of the pair, placing accents on the bow changes consistent with a more traditional classical music approach. The second phrase is then played with a similar accent on bow changes with the phrase now moved later in time by one quaver. The second phrase is written with the back-bowing pattern and the ensemble should avoid accenting on the pulse.

Figure 68:  Displaced phrases, D Dorian (CD3 track 23) [practice this section over a D minor vamp]<sup>12</sup>

The first system of the musical score consists of four staves. The top two staves are in treble clef, and the bottom two are in bass clef. The music is in 4/4 time. The first measure shows a melodic phrase starting on D4, moving to E4, F4, and G4, with a quarter rest. The second measure is a whole rest. The third measure continues the phrase with A4, B4, and C5. The fourth measure is a whole rest. The system ends with a double bar line and repeat dots.

The second system of the musical score consists of four staves. The top two staves are in treble clef, and the bottom two are in bass clef. The music is in 4/4 time. The first measure continues the melodic phrase with D5, E5, and F5. The second measure is a whole rest. The third measure continues the phrase with G5, A5, and B5. The fourth measure continues with C6, B5, and A5. The system ends with a double bar line and repeat dots.


The third system of the musical score consists of four staves. The top two staves are in treble clef, and the bottom two are in bass clef. The music is in 4/4 time. The first measure continues the melodic phrase with G4, F4, and E4. The second measure continues with D4, E4, and F4. The third measure continues with G4, A4, and B4. The fourth measure continues with C5, B4, and A4. The system ends with a double bar line and repeat dots.

<sup>12</sup> A vamp refers to a simple one or two-bar harmonic repeated sequence played by the accompanying rhythm section. In a rehearsal situation this may be live musicians or a pre-recorded or computer generated backing track.

To the listener, the displaced figure (where the string players are bowing with the pulse) may not sound particularly jarring against the swing feel. However, when one hears both phrases side by side, the back-bowing produces a much stronger swing feel. The back-bowing pattern affords the line a greater degree of forward motion. A second factor at play here is the line construction itself. As observed in the Bach case study, by shifting Bach's melodic lines earlier in time by a quaver, their peaks and accents moved from the pulse to the off-beat consistent with jazz style.

### Assimilation

Figure 69 demonstrates the next stage by applying the same rhythmic displacement to specific lines taken from 'Cornerstone Blues.'

Figure 69:  Displaced Blues phrases (CD3 track 24) [practice this section over medium swing drums]



The musical score for Figure 69 is presented in four staves: two treble clefs (top two) and two bass clefs (bottom two). The key signature has one flat (B-flat). The score is divided into two measures by a double bar line. The first measure is labeled 'Displaced by a quaver' and the second 'original rhythm'. In the first measure, the melodic lines in the treble clefs start on the second eighth note of the measure, while in the second measure, they start on the first eighth note. The bass lines in both measures consist of eighth-note chords, with the first measure being a B-flat major triad and the second a B-flat minor triad.

Displaced by a quaver                      original rhythm

The first system of music is divided into two sections. The left section, labeled "Displaced by a quaver", shows a rhythmic pattern where the first eighth note of a pair is shifted to the start of the next eighth note. The right section, labeled "original rhythm", shows the same pattern without the displacement. The notation includes eighth and sixteenth notes with various accidentals (flats and naturals) across four staves.

Displaced by a quaver

The second system of music is labeled "Displaced by a quaver" and shows a more complex rhythmic pattern with eighth and sixteenth notes. The displacement is consistent with the first system. The notation includes various accidentals and slurs across four staves.

original rhythm

The third system of music is labeled "original rhythm" and shows the same complex rhythmic pattern as the second system but without the displacement. It includes triplet markings (the number 3) over groups of three notes in the upper staves. The notation includes various accidentals and slurs across four staves.

### Expression

In this and each of the following examples, ensembles are encouraged to record themselves as an objective and effective way to determine whether the exercise has achieved its aims. In this case, it is particularly helpful where the swing feel is very new to the ensemble, or the ensemble has become accustomed to expressing the swing feel as a triplet.

## Chapter Five: Pedagogy – Other Techniques

### **Ornamentation**

The analysis of the violin improvising styles of Joe Venuti and Stuff Smith yielded similar results in terms of vibrato use with both players using vibrato quite sparingly. The inclusion of Stuff Smith's idiosyncratic shakes appears in bars 17, 31 and 34 of the 'Cornerstone Blues' composition and exercise below.

#### Identification

In determining how Smith's signature shake differs from standard violin vibrato, the source material was analysed at various playback speeds.

#### Analysis

Louis Armstrong's famous 'terminal shake' has been described as a combination of hand vibrato and lip trill (Wallace/McGrattan 2011, p 62) and Smith's re-creation of this sound requires the finger to be in motion between the pitch extremes rather than rolling on the point of contact. The pivot, therefore, comes from the elbow allowing the wrist to remain firm and support the finger as it glides back and forth.

#### Assimilation

Traditional vibrato exercises, such as Kucktenberg's 1994 article 'Developing Violin Vibrato,' can be adapted for learning the trumpet shake. Indeed, the shake is a more

straightforward concept as it does not require the finger rolling on its point of contact with the fingerboard.

Figure 70 suggests a simple stepwise approach taken from the chord voicing at bar 17. All parts are in the first position and, using the same finger, can slide upwards and downwards over the quickening metric subdivisions with the fourth and final section generating the trumpet shake.

The width of the oscillation varies according to the tempo of the piece, with slower tempos having a wider oscillation. For this exercise, an oscillation width of a tone is suggested.

Fixing the width at the wider end of the spectrum allows the section to develop the technique with relative ease.

Figure 70: 🎺 Trumpet shake exercise (CD3 track 25)

The first system of the musical score consists of four staves. The top two staves are in treble clef, and the bottom two are in bass clef. The key signature has one flat (B-flat), and the time signature is 4/4. The music features a sequence of eighth notes with slurs, followed by a final measure with a fermata. The notes in the top staff are G4, A4, B4, C5, B4, A4, G4. The notes in the second staff are F4, G4, A4, B4, A4, G4, F4. The notes in the third staff are E4, F4, G4, A4, G4, F4, E4. The notes in the bottom staff are D4, E4, F4, G4, F4, E4, D4.

The second system of the musical score consists of four staves. The top two staves are in treble clef, and the bottom two are in bass clef. The key signature has one flat (B-flat), and the time signature is 4/4. This system introduces triplet markings (the number '3' above or below groups of notes) over the eighth notes. The notes in the top staff are G4, A4, B4, C5, B4, A4, G4. The notes in the second staff are F4, G4, A4, B4, A4, G4, F4. The notes in the third staff are E4, F4, G4, A4, G4, F4, E4. The notes in the bottom staff are D4, E4, F4, G4, F4, E4, D4.

The third system of the musical score consists of four staves. The top two staves are in treble clef, and the bottom two are in bass clef. The key signature has one flat (B-flat), and the time signature is 4/4. This system features sixteenth notes with slurs. The notes in the top staff are G4, A4, B4, C5, B4, A4, G4. The notes in the second staff are F4, G4, A4, B4, A4, G4, F4. The notes in the third staff are E4, F4, G4, A4, G4, F4, E4. The notes in the bottom staff are D4, E4, F4, G4, F4, E4, D4.

2

The image shows a musical score for a trumpet part, consisting of four staves. The top two staves are in treble clef, and the bottom two are in bass clef. The music is written in a key with one flat (B-flat) and a 4/4 time signature. The score is divided into two measures by a double bar line. Each measure contains a series of eighth notes, with slurs indicating phrasing. The notation includes various rhythmic values and rests, typical of a jazz or blues style.

### Expression

In rehearsing and performing the trumpet shake effect, ensure the initial pitch is played for a short time before commencing the shake. This delay establishes the intended pitch in the player's ear. Recordings of rehearsals should be played alongside and compared with the recordings of Stuff Smith.

## **Bends and scoops**

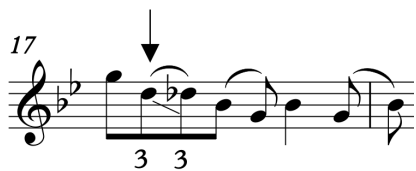
### Identification

As evidenced by the transcriptions, both Venuti and Smith employ a variety of scoops and note bends. 'Cornerstone Blues' features a number of these. Bar 1 begins with two consecutive fall-offs and bars 28-31 include a more complicated phrase where note bends feature prominently.

### Analysis

In Venuti's 'Stringin' the Blues,' he uses note bends to bring out the microtonal information between two adjacent semitones, often between the fifth and flattened-fifth of the given key or against the third and flattened-third. These bends colour phrases with a distinctive blues inflection. Bar 17 from 'Raggin' the Scale' contains one example (*fig 71*):

Figure 71: Venuti's note bends




Smith uses note bends with greater frequency than Venuti. The following excerpt comes from his 'Crazy Rhythm' solo where the third finger bend is used five times in succession (*fig 72*).

Figure 72: Smith's note bends



Figure 73 presents a short study illustrating an approach the string ensemble can adopt towards playing note bends with a unified sound. Using Smith's melodic line as a template, the phrase first appears in a truncated form without any portamento before being repeated with the note bends. The phrase extends with each subsequent repeat allowing the group to maintain the relaxed and rhythmic feel throughout each iteration.

Fig 73:  Note bending exercise (CD3 track 26) [practice this section over an F major vamp]

$\text{♩} = 170$



5

9

2

13

Musical score for measures 13-16. The score is in 7/8 time and B-flat major. It features four staves: two treble clefs and two bass clefs. Measures 13 and 14 contain a half note G4 and a quarter rest. From measure 15, the right hand plays a triplet of eighth notes (F#4, G4, A4) followed by eighth notes (B4, A4, G4, F#4, E4, D4). The left hand plays a half note G3 and a quarter rest in measure 15, then a triplet of eighth notes (F#3, G3, A3) followed by eighth notes (B3, A3, G3, F#3, E3, D3) in measures 15-16. Triplet markings '3V' are present above the first triplet in both hands.

17

Musical score for measures 17-20. The score is in 7/8 time and B-flat major. It features four staves: two treble clefs and two bass clefs. Measures 17 and 18 contain a half note G4 and a quarter rest. From measure 19, the right hand plays a triplet of eighth notes (F#4, G4, A4) followed by eighth notes (B4, A4, G4, F#4, E4, D4). The left hand plays a half note G3 and a quarter rest in measure 19, then a triplet of eighth notes (F#3, G3, A3) followed by eighth notes (B3, A3, G3, F#3, E3, D3) in measures 19-20. Triplet markings 'V' are present above the first triplet in both hands.

21

Musical score for measures 21-24. The score is in 7/8 time and B-flat major. It features four staves: two treble clefs and two bass clefs. Measures 21 and 22 contain a half note G4 and a quarter rest. From measure 23, the right hand plays a triplet of eighth notes (F#4, G4, A4) followed by eighth notes (B4, A4, G4, F#4, E4, D4). The left hand plays a half note G3 and a quarter rest in measure 23, then a triplet of eighth notes (F#3, G3, A3) followed by eighth notes (B3, A3, G3, F#3, E3, D3) in measures 23-24. Triplet markings '3V' are present above the first triplet in both hands.


Scoops are also employed at the beginnings of phrases. In these cases, they effectively displace the target note later by one quaver, thus functioning as a chromatic approach note.

The following (*fig 74*) contains a selection of phrases from Venuti's violin solo on 'Black and Blue Bottom.' The scoops on the left are re-written on the right-hand side with the scoop expressed as a chromatic approach tone.

Figure 74: Scoops expressed as chromatic approach tones

The figure displays three pairs of musical staves. Each pair compares an original scoop notation (left) with a re-written version using a chromatic approach tone (right).  
 - The first pair is in 4/4 time. The left staff shows a scoop starting on a dotted quarter note, followed by an eighth note, and then a quarter note. The right staff shows a chromatic approach tone starting on a quarter note, moving down by a half step, and then up to the target note.  
 - The second pair is marked with a '3' (triple). The left staff shows a scoop starting on a dotted quarter note, followed by an eighth note, and then a quarter note. The right staff shows a chromatic approach tone starting on a quarter note, moving down by a half step, and then up to the target note, with a 'gliss.' marking above the approach tone.  
 - The third pair is marked with a '5' (quintuplet). The left staff shows a scoop starting on a dotted quarter note, followed by an eighth note, and then a quarter note. The right staff shows a chromatic approach tone starting on a quarter note, moving down by a half step, and then up to the target note.

Using the alternate notation on the right-hand side, the following exercise makes use of the drop octave voicings used in 'Cornerstone Blues.' Figure 75 presents three iterations of the same phrase. Firstly, the chromatic approach tone is expressed as a quaver in the score. In the second iteration, the chromatic approach tone is expressed with a portamento into the target note while the third version depicts the original scoop notation. With the second and third iterations, the ensemble will need to alter their left-hand fingering pattern as the same finger will now cover two pitches. In the case of Violin 1, the third finger covers the movement from C# to D. As the ensemble moves through the iterations, the emphasis moves away from the chromatic approach note and towards the microtonal expression of the portamento. One can observe this subtle transition in the accompanying recording (*CD3 track 27*).

Figure 75:  Scoop exercise (CD3 track 27) [practise this section over a G major vamp]

♩=150



Musical score for the first system (measures 1-5) of Figure 75. The score is in 4/4 time, G major (one sharp), and consists of four staves: Treble Clef 1, Treble Clef 2, Bass Clef 1, and Bass Clef 2. The music features a rhythmic pattern of eighth notes and quarter notes, with rests in the second and fourth measures of each staff.



Musical score for the second system (measures 6-8) of Figure 75. The score is in 4/4 time, G major (one sharp), and consists of four staves: Treble Clef 1, Treble Clef 2, Bass Clef 1, and Bass Clef 2. The music features a rhythmic pattern of eighth notes and quarter notes, with rests in the second and fourth measures of each staff.



Musical score for the third system (measures 9-11) of Figure 75. The score is in 4/4 time, G major (one sharp), and consists of four staves: Treble Clef 1, Treble Clef 2, Bass Clef 1, and Bass Clef 2. The music features a rhythmic pattern of eighth notes and quarter notes, with rests in the second and fourth measures of each staff.

2

12

15

Smith is more liberal than Venuti with his use of scoops within his solos. He uses them more frequently throughout all three transcriptions and performs them more slowly and initiates them at a greater distance from the target note. The analysis revealed that the scoop's distance and speed were related to the length of the target tone where 'the longer the target note, the wider and slower the accompanying scoop.'

Figure 76 examines this relationship between the speed and width of the scoop based upon Smith's use of scoops throughout his three solos. They are an approximation of his ratios of scoop depth and length in relation to the target note. The table shows that the approaching portamento is consistently equal to half the rhythmic value of the target note. The depth of

the scoop is also proportional to the rhythmic value of the target note and widens as the target note's length increases.

Figure 76: Scoop lengths

### **RHYTHMIC VALUE**

#### **OF TARGET NOTE**

#### **LENGTH OF SCOOP**

#### **DEPTH OF SCOOP**

CROTCHET	Quaver	Semitone
MINIM	Crotchet	Tone
SEMI-BREVE	Minim	Minor 3 <sup>rd</sup> /Maj 3 <sup>rd</sup>

The following formula expresses the rhythmic relationship between the length of the scoop and the length of the target note with 'SL' representing the scoop length and TNL representing the target note length.

$$SL = TNL/2$$

Determining a correlation between scoop depth (SD) and target note length (TNL) can also be done by expressing the interval as a fraction of a tone i.e., semitone = 0.5, minor third = 1.5. Moreover, the target note length (TNL) can be expressed as a fraction of a semi-breve in common time i.e., crotchet = 0.25, minim = 0.5 (*fig 77*).

Figure 77: Scoop length and depth


TNL	SL	SD
0.25	0.175	0.5
0.5	0.25	1
1	0.5	1.5/2

Once again, a simple formula expresses the scoop depth (SD) to target note length (TNL) relationship.

$$\mathbf{SD = TNL * 2}$$

This correlation is most helpful where the notation does not specify scoop depth. On other occasions, particularly with longer scoops, the depth is specified in the score, as seen in ‘Cornerstone Blues’ bar 28.

A unified approach to scoop length and depth is necessary for its successful application to the larger string section. The following exercise (*fig 78*) applies the above formula presenting three phrases, all with differing target note lengths. In a stepwise approach, each phrase should be played first without the scoop and with the approach tones and rhythms explicitly defined. Upon repetition, scoops replace the target note.

Figure 78:  Scoop length and depth exercise (CD3 track 28) [practice this section over a G dominant vamp]

 = 150



The first system of the musical score consists of four measures. It is written in 4/4 time with a key signature of one sharp (F#). The score is arranged in four staves: two treble clefs (top two) and two bass clefs (bottom two). The music features a consistent rhythmic pattern of eighth notes with various intervals and accidentals, including naturals and flats. The first measure contains a complex sequence of notes, while the second and fourth measures have rests in the second and fourth staves.



The second system of the musical score consists of four measures, starting with a measure number '5' above the first staff. It continues in 4/4 time with a key signature of one sharp. The notation is similar to the first system, with eighth notes and various intervals. The second and fourth staves have rests in the second and fourth measures.



The third system of the musical score consists of four measures, starting with a measure number '9' above the first staff. It continues in 4/4 time with a key signature of one sharp. The notation is similar to the previous systems, with eighth notes and various intervals. The second and fourth staves have rests in the second and fourth measures.


A third scoop function is a fall-off. The fall-off shares a connection with the trumpet shake in that both begin with an expression of the fundamental pitch before the effect is applied.

However, the absence of any target note distinguishes fall-offs from other scoops and portamenti. The note bends downwards into a decrescendo as if descending into a void. There are two kinds of fall-offs employed by Smith in his ‘Crazy Rhythm’ solo. The first and most common is the fall-off from a quaver as in bars 10 and 11 (*fig 79*).

Figure 79: Fall-offs

Smith’s execution of fall-offs gives the impression that the scoop is leading to an implied or ‘ghost’ note. A ‘ghost’ note is defined ‘where a note is implied through various techniques rather than physically sounded’ (Davis 2012 , p 133) Another way to notate the effect would be to write the Ab descending, by way of portamento, to a ‘ghosted’ G. As the G is implied, the sound needs to stop slightly before reaching the pitch (*fig 80*).



Figure 81:  Fall-offs exercise (CD3 track 30) [practice this section over a Bb major vamp]

$\text{♩} = 150$



5

9


There is also a correlation between the length of the original note and the speed with which the fall is executed, with longer pitches resulting in slower and more deliberate fall-offs. In bar 67, Smith executes an impressive octave downward fall-off, which could be mistaken for a portamento were it not for the lack of a clear destination pitch. He sustains the original pitch of D for the first full crotchet before descending to Bb towards the end of the second crotchet. There appears to be no relationship between the slower downward fall-off and the pulse or swing feel.

Figure 82: Longer fall-offs



### Assimilation

In the case of 'Cornerstone Blues,' both the opening fall-offs can be treated as quaver fall-offs. Formulating a short exercise based on figure 81 will ensure a uniform approach. For this exercise (*fig 83*), the targeted 'ghost' note will be the semitone below the fundamental pitch.

Figure 83:  Fall-offs exercise from 'Cornerstone Blues' (CD3 track 31) [practice this section over a Bb major vamp]

Medium Swing  $\text{♩} = 120$



The first system of the musical score consists of four staves (treble and bass clefs) in 4/4 time. The key signature has one flat (Bb). The first measure contains eighth notes with slurs and ties, and the second measure contains a whole note followed by a quarter rest. The notes in the first measure are: Treble 1 (Bb), Treble 2 (B), Bass 1 (Bb), Bass 2 (B).



The second system of the musical score consists of four staves in 4/4 time. The key signature has one flat (Bb). The first measure contains eighth notes with slurs and ties, and the second measure contains a whole note followed by a quarter rest. The notes in the first measure are: Treble 1 (Bb), Treble 2 (B), Bass 1 (Bb), Bass 2 (B). The notes in the second measure are: Treble 1 (B), Treble 2 (B), Bass 1 (Bb), Bass 2 (B). The notes in the second measure are marked with 'gliss.' and a cross symbol.

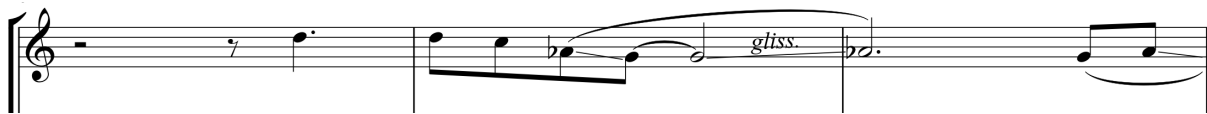


The third system of the musical score consists of four staves in 4/4 time. The key signature has one flat (Bb). The first measure contains eighth notes with slurs and ties, and the second measure contains a whole note followed by a quarter rest. The notes in the first measure are: Treble 1 (Bb), Treble 2 (B), Bass 1 (Bb), Bass 2 (B). The notes in the second measure are: Treble 1 (B), Treble 2 (B), Bass 1 (Bb), Bass 2 (B).

One of the most challenging melodic fragments to notate from ‘Cornerstone Blues’ is the phrase spanning bars 27 to 31, which draws heavily on a combination of scoops and portamenti.

Three distinct scoop approaches are used. Firstly, there is a slow portamento in the 1st violin part from the Ab to the G natural and back again (*fig 84*). The combination of the two pitches adds up to five pulses or beats in total.

Figure 84: Slow portamento



Under normal circumstances the ensemble director would decide when the upward glissando from G would arrive at the Ab. However, if the Ab is treated as a target note with a value of 5 beats, the G can be treated as the starting pitch of a scoop and the earlier formula applied.

$$SL = TNL/2$$

5 beats give us a target note length (TNL) of 1.25; therefore, the scoop length (SL) would equal 0.625, which is equivalent to a minim (0.5) plus a quaver (0.125).

The scoop could also begin from beat 2+, which would give a TNL value of 1.425 and a subsequent SL of 0.7125, which is a minim (0.5) plus 0.2125 - just short of a crotchet.

There is also the question of how long to hold the G before beginning the upward slide. It is not appropriate to regard this movement as a scoop as the depth is explicitly defined and quite narrow. This movement is better interpreted as a gradual portamento since both the G and Ab pitches need to be established at target pitches. The earlier formula is less helpful here as it allocates half of the sum portamento length to a single target note value. For this movement, consider a comparable example in bar 10 of Stuff Smith's 'Old Stinkin' Blues' (fig 85), where a slow portamento moves between two established target notes (F natural and D).

Figure 85: Smith's slow portamento



The ratio used by Smith is over a total note length (TNL) of 0.625 (this includes the final quarter of bar 9 and the first two beats of bar 10). The two target notes (Tg1 and Tg2) each have a value of 0.25, equal to one crotchet, with the remainder 0.125 allocated to the portamento length (PL).

$$\text{TNL} = 0.625$$

$$\text{Tg1} = \text{Tg2} = 0.25$$

$$\text{PL} = 0.125$$

Working from this example, one could apply the following formula to quantify the target notes and portamento's relationship to the total note length (TNL) of the phrase.

$$\text{TNL}(1) = \text{Tg1}(0.4) + \text{Tg2}(0.4) + \text{PL}(0.2)$$

In applying this distribution back to the ‘Cornerstone Blues’ phrase, we begin with a TNL value of 1.425 giving us:

$$\text{TNL}(1.425) = \text{Tg1}(0.57) + \text{Tg2}(0.57) + \text{PL}(0.285)$$

One can simplify the above target notes values (Tg1, Tg2) rounding them down into minims (0.5) and leaving a dotted crotchet in the remainder for the portamento length (0.425). For the ensemble, the portamento therefore begins on beat 4+ and arrives at the A natural on beat 2 of the following bar. Figure 86 presents the passage using brackets to highlight the target note lengths (Tg1, Tg2) and portamento length (PL)

Figure 86: Cornerstone phrase with brackets

Medium Swing ♩=130

For rehearsal purposes, sections should bow each bracketed section individually before attempting a single bow stroke for the entire portamento and target notes combined.

Immediately following this slow note bend is a repetitive pattern of downward portamenti (*fig 87*). The notation here resembles part of the exercise at figure 83 where, in the second iteration, the notation expresses the slides as glissandi. One may query whether this passage should show a series of fall-offs consistent with the third iteration of figure 83. There are two reasons for not doing so. Firstly, a fall-off notation would have resulted in the first of

the slides crossing a bar line, which is problematic to notate without additional clutter in the score. Secondly, fall-offs do not reach a destination pitch, which is not the case in figure 87.

Figure 87: Downward portamenti



The line ends with a scoop on a crotchet note. The scoop length formula can be applied to calculate slide length and depth as can the tables at figures 76 and 77. The formulae would indicate a scoop length of a quaver and a scoop depth of a semitone:


$$SL = TNL/2 = 0.25/2 = 0.125 = \text{quaver}$$

$$SD = TNL*2 = 0.25*2 = 0.5 = \text{semitone}$$

The Violin 1 part also adds a double-stopped open A string to colour the scoop. Aside from playing on two strings instead of one, the technical approach to scooping is unchanged. The double stop produces a dissonance, further accenting the scoop.

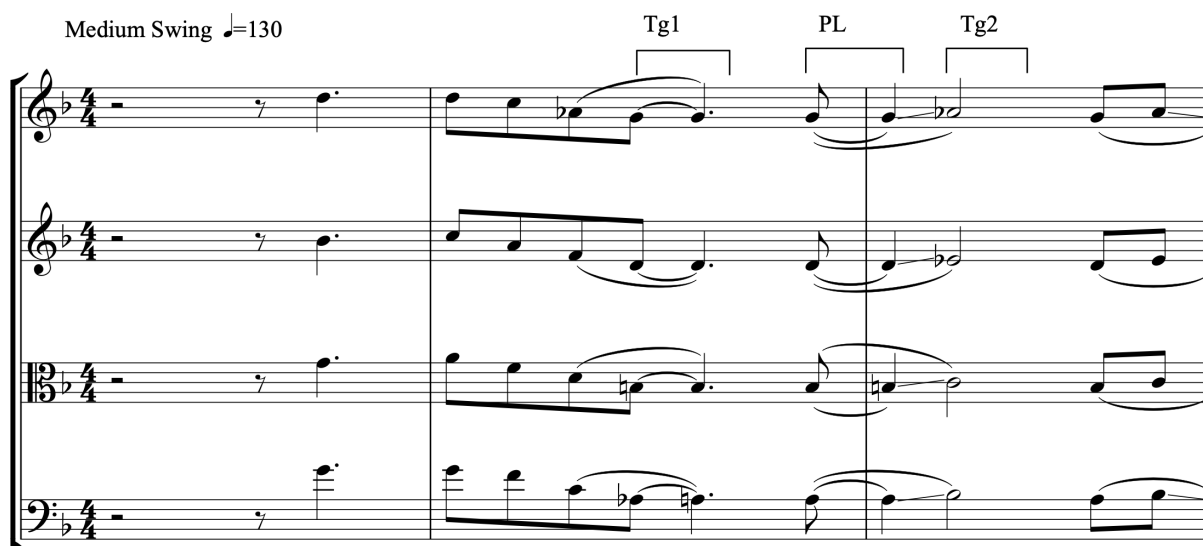
The study at figure 88 presents the same melodic line with three different versions of ornament notation. The exercise is designed to guide the ensemble towards a unified rhythmic expression of the different types of scoops and portamenti. As in earlier examples, the first version removes most of the slides and simplifies the bowing to allow for a more rhythmically accurate placement of target notes. The second version introduces the slides while also expressing the final scoop as a portamento and adds a bowing pattern for the first slow portamento. The final version is similar to the notation appearing on the ‘Cornerstone

Blues' score. The ensemble can play the exercise with an actual or generated rhythm section on an F dominant chord or a metronome set to strike on beats 2 and 4.

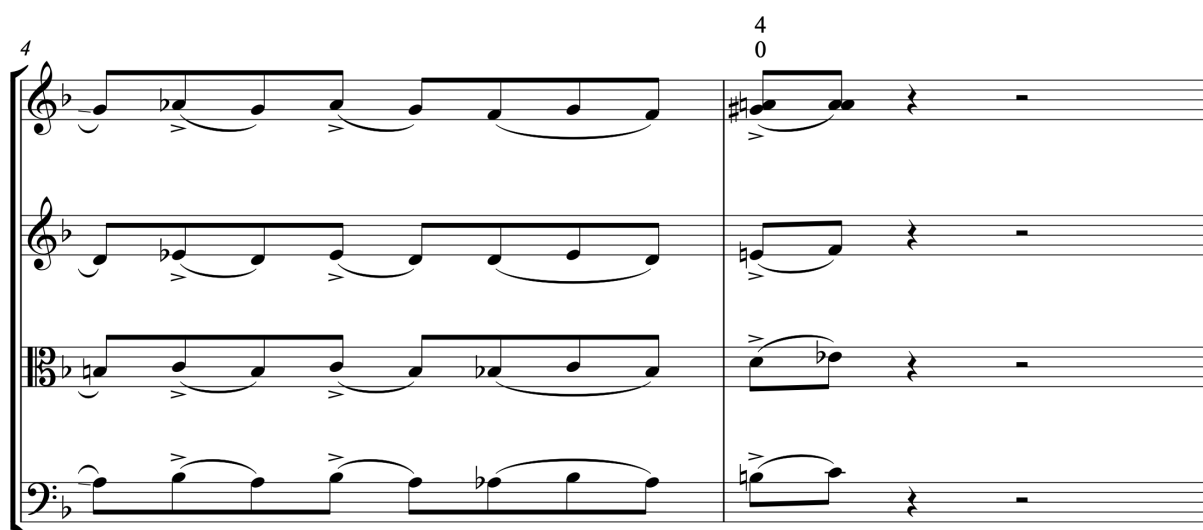
Figure 88:  'Cornerstone Blues' scoop exercise (CD3 track 32) [practice this exercise against an F dominant vamp]

Medium Swing  $\text{♩} = 130$

Tg1 PL Tg2



4 4 0



2

Musical score for measures 6-8, featuring four staves (treble and bass clefs). The score includes a key signature of one flat and a common time signature. The notation includes various note values, slurs, and glissando markings. Above the first staff, there are performance instructions: "Tg1" above the first measure, "PL" above the second measure, and "Tg2" above the third measure. The word "gliss." is written above several notes in all four staves.

Musical score for measures 9-10, featuring four staves (treble and bass clefs). The score includes a key signature of one flat and a common time signature. The notation includes various note values, slurs, and glissando markings. Above the first staff, there are performance instructions: "9" above the first measure and "4 0" above the second measure. The word "gliss." is written above several notes in all four staves.

11

Musical score for measures 11-13. The score consists of four staves. The first two staves are in treble clef, and the last two are in bass clef. The key signature has one flat. Measure 11 shows a whole note chord in the first two staves and a whole note chord in the last two. Measure 12 features a glissando (gliss.) over a series of eighth notes in all four staves. Measure 13 continues with a glissando over a series of eighth notes in all four staves.

14

4  
0

Musical score for measures 14-15. The score consists of four staves. The first two staves are in treble clef, and the last two are in bass clef. The key signature has one flat. Measure 14 features a glissando (gliss.) over a series of eighth notes in all four staves. Measure 15 shows a 4/0 chord in the first two staves and a 4/0 chord in the last two staves.

### Expression

To determine the efficacy of this exercise, the ensemble director should listen for rhythmic accuracy with regard to the onset of the portamentos and the unified arrival at each of the target notes.

## **Bow contact**

### Identification

In the last section of Venuti's solo on the track 'Black and Blue Bottom,' he prepares his violin bow to play on all four strings simultaneously using the 'Four string Joe.' technique.

This extended technique offers more than a display of virtuosity. Using the 'Four string Joe' approach, Venuti demonstrates the importance of constant string contact in the attainment of a rhythmic swing feel. Venuti plays with a consistent bow contact in the middle and upper halves of the bow, avoiding note decay at the ends of phrases. As a result, he articulates more clearly the length of the rests between melodic statements, enhancing the rhythmic feel. The relationship between rhythmic accuracy and constant bow contact is addressed in the following section.

### Analysis

Before attempting the 'Four string Joe' technique, the adjuster must be removed from the end of the bow, which permits the removal of the frog, the small ebony enclosure that houses the mechanism for tightening or loosening the bow hairs. The bow stick is then placed underneath the violin and the bow hair draped over the strings with the right hand holding

both the bow stick and the frog. The violinist now applies bow pressure onto the strings by pulling the right hand downwards.

Venuti plays a variety of four and three string combinations throughout his solo. The earlier analysis of ‘Black and Blue Bottom’ provided a simple table displaying the possible string combinations available (*fig 89*). The violinist can choose seven different string combinations, working from the outer strings inward. The inner strings (A and D) can only be played together with either the G or the E strings.

Figure 89: Open strings combinations available under ‘Four string Joe’ technique

Combination	String				Effect
Number	selection				
1.	G				single string
2.	G	D			double stop
3.	G	D	A		triple stop
4.	G	D	A	E	quadruple stop
5.		D	A	E	triple stop
6.			A	E	double stop
7.				E	single string

### Assimilation

The ‘Four string Joe’ approach may not be practical as an ensemble effect. However, for the individual, it reinforces constant bow contact and its value in jazz articulation. The technique is impossible to achieve on cello due to the large size of the main body. However, one can obtain specially made curved bows able to sound all four strings simultaneously. One

example is the 'Bach Bow' played on 'Cello Suite/Art of the Curved Bow 1' by Michael Bach.

Once the bow is in position, the player may begin to experiment using different arm angles to produce an even volume over the four strings. The player can then experiment sounding out all the different string combinations as listed in figure 89. Figure 90 presents one such exercise for violin, viola or cello. This exercise is to be played individually rather than as a section. It should be bowed slowly without accompaniment aiming for even volume balance over the chords and accuracy of string selection.

Figure 90. 'Four string Joe' exercise

The first system of the exercise consists of five measures. The treble clef part starts with a quarter note G4, followed by a quarter note A4, then a quarter note B4, and a quarter note C5. The bass clef part starts with a quarter note G2, followed by a quarter note A2, then a quarter note B2, and a quarter note C3. The second measure continues with quarter notes in both staves. The third measure features a pair of eighth notes in the treble (D5, E5) and a pair in the bass (D3, E3). The fourth measure features a pair of eighth notes in the treble (F5, G5) and a pair in the bass (F3, G3). The fifth measure features a pair of eighth notes in the treble (A5, B5) and a pair in the bass (A3, B3).

The second system of the exercise consists of five measures. The treble clef part starts with a pair of eighth notes (D5, E5), followed by a pair (F5, G5), then a pair (A5, B5), and a pair (C6, B5). The bass clef part starts with a pair of eighth notes (D3, E3), followed by a pair (F3, G3), then a pair (A3, B3), and a pair (C4, B3). The second measure continues with eighth notes in both staves. The third measure features a pair of eighth notes in the treble (D5, E5) and a pair in the bass (D3, E3). The fourth measure features a pair of eighth notes in the treble (F5, G5) and a pair in the bass (F3, G3). The fifth measure features a pair of eighth notes in the treble (A5, B5) and a pair in the bass (A3, B3).

The third system of the exercise consists of five measures. The treble clef part starts with a pair of eighth notes (D5, E5), followed by a pair (F5, G5), then a pair (A5, B5), and a pair (C6, B5). The bass clef part starts with a pair of eighth notes (D3, E3), followed by a pair (F3, G3), then a pair (A3, B3), and a pair (C4, B3). The second measure continues with eighth notes in both staves. The third measure features a pair of eighth notes in the treble (D5, E5) and a pair in the bass (D3, E3). The fourth measure features a pair of eighth notes in the treble (F5, G5) and a pair in the bass (F3, G3). The fifth measure features a pair of eighth notes in the treble (A5, B5) and a pair in the bass (A3, B3).

The fourth system of the exercise consists of five measures. The treble clef part starts with a pair of eighth notes (D5, E5), followed by a pair (F5, G5), then a pair (A5, B5), and a pair (C6, B5). The bass clef part starts with a pair of eighth notes (D3, E3), followed by a pair (F3, G3), then a pair (A3, B3), and a pair (C4, B3). The second measure continues with eighth notes in both staves. The third measure features a pair of eighth notes in the treble (D5, E5) and a pair in the bass (D3, E3). The fourth measure features a pair of eighth notes in the treble (F5, G5) and a pair in the bass (F3, G3). The fifth measure features a pair of eighth notes in the treble (A5, B5) and a pair in the bass (A3, B3).

2

18

Once the string player has achieved proficiency with string selection, then a more jazz-specific application of the ‘Four string Joe’ technique can be attempted. The following etude for violin ‘Blues For Joe’ (*CD3 track 33*) presents a simplified left-hand fingering, compared to Venuti’s voicings, so the player can focus on string selection. This etude features repeated quaver rests throughout the piece and the player should be able to hear the constant bow contact bringing syncopated phrases into sharp relief. Bow contact occurs automatically as gravity and downward tension means it is not possible to lift the bow hair from the strings. The player can only select which combination of strings to play. This exercise also features back-bowing and a range of portamenti and scoops.

## Blues for Joe

♩=170

J Ferraretto 2017

Four string Joe technique

The musical score consists of eight staves of music. The first staff begins with a treble clef and a key signature of one flat (B-flat). The tempo is marked as quarter note = 170. The piece is titled 'Blues for Joe' and is by J Ferraretto, 2017. The technique is 'Four string Joe technique'. The music is written in a style that combines traditional blues with modern harmonic concepts, featuring complex chord voicings and melodic lines. The notation includes various rhythmic values, accidentals, and dynamic markings. The piece concludes with a double bar line at the end of the eighth staff.

## Evaluation

Recordings and performances can be assessed for accurate string selection, intonation and scoop execution. The visual and audible effects of ‘Four string Joe’ offer a seldom-used colour for the composer and arranger to consider.<sup>13</sup>

## **Strum Bowing**

This chapter includes an examination of techniques specific to the composition portfolio in Part B. Although not taken directly from Venuti and Smith’s transcriptions and analyses, they share many of the same technical and expressive properties.

The first of these shares a connection with the ‘Four string Joe’ technique in that string contact plays a crucial part. ‘Strum Bowing’ is a term coined by contemporary violinist Tracy Silverman, (Silverman 2018, p 3) and refers to the consistent up and down movement used by a rhythm guitarist’s strumming arm which is then applied to the bowing movement. In the 2012 London Jazz Festival performance of the Neil Cowley Trio and Goldsmith [big] String, this technique is used by the Goldsmiths [big] String Orchestra (GBS) in the piece ‘La Porte.’ As director of GBS, the author initially coined the term ‘guitar bowing’ to describe a similar concept. ‘Strum bowing’ or ‘guitar bowing’ stands in contrast to back-bowing and the swing feel. It does not and should not swing. Strum bowing is, however, effective where the musician needs to communicate through their playing an explicit, as well as implied, semiquaver subdivision.

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<sup>13</sup> Within the ‘Have Violin will Travel’ suite, an improvised variation of ‘Blues for Joe’ appears in the introduction of the piece ‘Korma’ (CD1 track 4).

‘Never Would if I Could’ is one of the works featured in the composition portfolio. It was written for the [big] String ensemble and a percussionist playing a Cajón and was performed at WOMADelaide in 2017. The piece features several techniques specific to contemporary jazz such as layered meters, syncopated ostinato passages and heavily syncopated melodies based on the semiquaver subdivision.

### Identification

The opening ostinato, as played by the upper strings, (*fig 91*) should be played with a unified rhythmic feel accentuating the semiquaver rests, which fall primarily on the pulse. The meter is in a common 4/4 time signature, whereas the note groupings suggest a 3/4 meter layered over the 4/4 time.

Figure 91: Extended syncopated passages

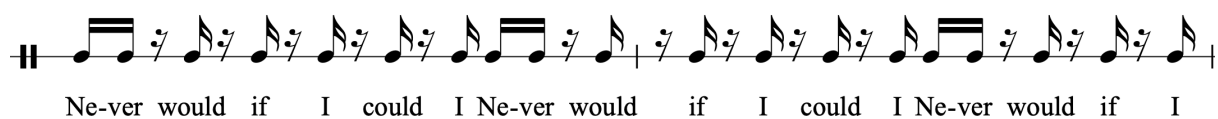
The image displays two systems of musical notation for an ostinato passage. Each system consists of three staves: a top staff in treble clef, a middle staff in treble clef, and a bottom staff in bass clef. The key signature is one flat (B-flat). The time signature is 4/4. The notation is characterized by a complex, syncopated rhythmic pattern. The top two staves of each system feature a sequence of eighth notes and rests, with the rests often occurring on the downbeat or other strong pulses. The bottom staff provides a bass line that complements the upper parts, also featuring syncopated rhythms. The overall effect is a layered, syncopated texture where a 3/4 meter is implied by the note groupings, while the underlying 4/4 time signature is maintained by the placement of rests and the overall structure of the passage.

### Analysis

The [big] String model is structured around an extended rehearsal period where the ensemble learns the music aurally, without using notated music. In the case of WOMADelaide, the ensemble gathered for six weekly two-hour sessions. With a particular focus on rhythm and articulation, the ensemble sings, claps, or speaks rhythmic phrases before applying them to their instruments. The following analysis section applies this [big] String approach to the pedagogical model.

For the opening section, the ensemble can use the natural rhythm or syntax of the title phrase ‘Never Would if I Could’ to internalize the syncopation (*fig 92*). The phrase text is adjusted slightly to express the ostinato syncopation and can be repeated while clapping or stepping to the pulse. When speaking this rhythm, players should keep the syllables short and place the voice at a slightly higher pitch than one’s normal speaking range for a clear expression of the rhythm, ensuring the rests between the syncopated notes emerge.


Figure 92: Syntax



### Assimilation

Once the ensemble is vocalising the rhythm in a consistent and unified manner, the passage can then be applied to the string instruments.


The following exercises adopt an incremental approach based on Silverman's 'strum bowing'. The opening three bars mirror the guitarist's strumming arm working with a consistent up and down motion to maintain a steady pulse (*fig 93*).

Figure 93:  Bowing with even semiquavers (CD3 track 34) [practice this section with a metronome set to 110bpm]


♩100




The ensemble can then begin accenting the semiquaver rhythm from the original passage (*fig 94*). The bowing arm still maintains its steady up and down motion. The phrase 'Never Would if I Could' should be spoken in rhythm with the exercise to reinforce the fall of each accent.

Figure 94:  Bowing with accents (CD3 track 35) [practice this section with a metronome set to 110bpm]

♩100




The following exercise requires the unaccented notes to be ‘ghosted’. Ghost notes or implied notes featured in both Venuti and Smith’s solos. Described as ‘moving your bow without making a sound’ (Silverman 2018, p 32), this technique requires both hands working together to achieve this effect. The bowing hand plays its part by minimising the bow movement and pressure on the strings and the left hand assists by dampening the string. Although the bow arm lightens the amount of pressure, it still needs to maintain string contact to avoid excess note resonance, which would lessen the clarity of the semi-quaver rests (*fig 95*).


Figure 95:  Bowing with ghost notes (CD3 track 36) [practice this section with a metronome set to 110bpm]

♩100



Finally, the opening three-bar passage appears in its original notation (*fig 96*). The bowing pattern is identical to the previous exercise with the semiquaver rests performed as ghosted notes. As before, players are encouraged to vocalise the phrase ‘Never would if I could, I’ should the rhythmic accuracy begin to falter.

Figure 96:  Bowing with original notation (CD3 track 37) [practice this section with a metronome set to 110bpm]



The musical score for Figure 96 consists of two systems of three staves each. The top staff is Violin I, the middle is Violin II, and the bottom is Cello/Double Bass. The music is in 12/8 time and features a complex rhythmic pattern with many rests. Bowing marks (V) are placed above various notes and rests throughout the piece. The first system contains four measures, and the second system also contains four measures.

### Expression

The passage should be practiced first in sections and then as a whole ensemble. The director can make a judgment on whether the syncopation and the semiquaver rests are emerging clearly and consistently.

## Polyrhythms

Throughout the suite, 'Have Violin will Travel,' the string section is called upon to play polyrhythms, where parts share a downbeat on beat one but have varying beat tempo. In the piece 'Entabeni,' the string section plays a rhythmic role where the 12/8 meter is expressed as four in the bar by the celli and first violins while violas and second violins subdivide the bar into a pattern on six against twelve (*fig 97*).

Figure 97: 'Entabeni' polyrhythms

### Identify

A more complex example of polyrhythms arises in the string accompaniment in the latter half of the piece 'Two Australians in Algiers.' The polyrhythms occur against a 12/8 meter though, for orchestration purposes, the score presents a 6/4 meter which follows the main melody. Figure 98 shows, in the first violin part, the C above middle C playing a rhythmic pattern of four against twelve while the remaining notes convey the six against twelve subdivision.

Figure 98: 'Two Australians in Algiers' polyrhythms

Separating the part into the two distinct rhythmic groups shows the top line depicting the four-in-the-bar subdivision and the bottom line doubling the bass line with a six-in-the-bar subdivision (*fig 99*).

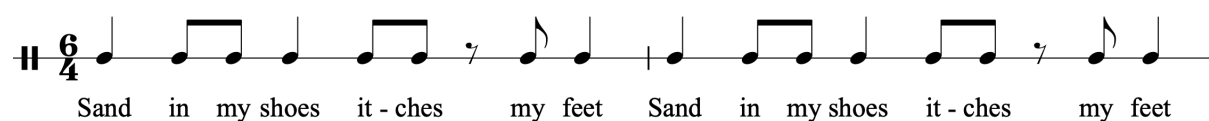
Figure 99: 'Two Australians in Algiers' polyrhythms divided into two parts



### Analysis

'Two Australians in Algiers' was also re-arranged and performed by [big] String at the 2017 WOMADelaide Festival. Consistent with the [big] String rehearsal methodology, the process of mastering the rhythmic pattern began away from the instruments. The polyrhythm was first expressed vocally as a single rhythmic line, combining both meters. In addition, a text-based phrase was introduced. In this case, the ensemble practiced speaking the phrase 'Sand in my shoes, itches my feet' in time with a clap or foot stomp matching the crotchet pulse (*fig 100*).

Figure 100: Rhythmic syntax and polyrhythms



This polyrhythm contains alternating notes which correspond to each rhythmic grouping. The first note and subsequent odd number notes line up with the four-against-twelve subdivision, while even number notes coincide with the six-against twelve subdivision. Using the thumb and middle finger of the right hand, the ensemble should tap out the rhythm on a flat surface, beginning with the middle finger on the first note and alternating with the thumb throughout the phrase. Figure 101 expresses the line, with the beats placed above and below the staff.

The notes above the staff correlate to a middle finger strike and those below to a thumb strike.

Figure 101: Tapping out polyrhythms

Sand in my shoes it - ches my feet Sand in my shoes it - ches my feet

### Assimilation

The score, in this section, specifies ‘guitar position.’ The violin should be held in a similar grip to a small guitar or ukulele, enabling the plucking of strings with both the thumb and middle finger on the right hand.

The opening two bars can be played in a repetitive loop, with the spoken phrase accompanying so that the ensemble is playing the passage with a consistent rhythmic pulse, expressing both subdivisions clearly and equally.

The following patterns should be tapped out with a foot over the two bar loop.

- a) One to a bar – foot fall on beat one of six.
- b) Two to a bar – foot fall on beats one and five.
- c) Four to a bar – foot fall on the dotted crotchets.
- d) Six to a bar – foot fall on each pulse.

### Expression

The ensemble director should emphasise consistent bow movement and constant string contact throughout the section.

## Summary

This pedagogical approach disambiguates many of the jazz techniques, textures and colours which arrangers and composers have mostly avoided when writing for the large string ensemble. Firmly grounded in the playing approaches of Venuti and Smith through the analysis of their improvised and prepared solos, it also draws upon the author's twenty-four years as a jazz violinist and strings arranger in Australia and the United Kingdom.

A modern string section with a confident and effortless swing feel, a quantifiable approach to scoops, glissandi and fall-offs and a practical approach to playing extended syncopated passages, poly-meters and polyrhythms is better equipped to have a deeper and more meaningful engagement with jazz and jazz-related genres.

Part B

Composition

Part B comprises the two suites: 'Have Violin Will Travel' and '[big] String at WOMADelaide.' The following section offers some background behind the compositions as well as suggestions to the correct expression of the string parts.

### **Have Violin Will Travel – Movement Listing and Background**

'Have Violin Will Travel' is a suite of 12 pieces, composed for solo jazz violin, a jazz rhythm section of guitar, bass and drums and the Adelaide Symphony Orchestra. The concert was performed on February 3<sup>rd</sup> and 4<sup>th</sup>, 2017 at Grainger Studio in Adelaide, with the second performance recorded by ABC Radio and broadcast on ABC Classic FM on Feb 23<sup>rd</sup> 2017.

The twelve pieces are:

1. 'The Cameraman'
2. 'Entabeni'
3. 'Kalavatiwood'
4. 'Korma'
5. 'Two Australians in Algiers'
6. 'Bulerias'
7. 'Duckett Blues'
8. 'Grand Bazaar'
9. 'Somma Vesuviana'
10. 'Bound for South Australian'
11. 'Latin Mass – Sanctus'
12. 'The Norwood'

### 1. 'The Cameraman'

The name of the piece and the primary melodic subject is taken from an earlier work by the composer, a live performance of a film score arranged for a quartet of violin, accordion, guitar and bass (2014).

The introduction features a more conventional string writing style drawing on the work of Nelson Riddle and Harry Connick Jr. The piece also refers to music from the 'Manouche Jazz' tradition made famous by Django Reinhardt and Stephane Grappelli.

At bar 191, the strings are required to use back-bowing technique, with the bowing patterns clearly expressed in the score. The string players are instructed to use no vibrato, maintain constant bow contact with the strings and avoid accenting with the pulse.

### 2. 'Entabeni'

Named after a safari park in South Africa, 'Entabeni' is composed to a 12/8 meter in which melodic phrases shift between subdivisions of six-against-twelve and four-against-twelve.

The strings take on a rhythmic role in a pizzicato section, mimicking an m'bira thumb piano on a polyrhythm referencing both meters. The ostinato figure occurs first in bars 10 to 34 and repeats throughout the composition.

The pizzicato expression required differs from conventional pizzicato in that the player is not striving for a resonant or ringing sound. In order to evoke the m'bira, players should lift the left-hand finger immediately after striking the note to shorten the pizzicato sound. A stronger attack and reduced resonance allows the polyrhythm to emerge more clearly.

Back-bowing is not applicable in this case but the concept of bowing in pairs against the meter does apply in bars 5, 24 and 207, accentuating the six-against-twelve subdivisions.

The highly syncopated writing for the strings throughout this piece calls for a forceful attack on the onset of each note together with constant bow contact with the strings. The final quaver on bar 3 requires an unusual treatment. The players should place the bow against the muted string in time with beat four (although the meter is 12/8, the conductor will be beating four to the bar) and lift the bow, sounding the pitch on the final quaver (4+). They then play the staccato by lifting the left-hand finger immediately after the pitch has sounded.

### 3. 'Kalavatiwood'

The inspiration for 'Kalavatiwood' arose from the author's participation in a collaborative concert in 2012 with Sarod master Amjad Ali Khan Amjad and Wigmore Hall's Ignite ensemble. The concert included a piece 'Kalavati,' a raga which informs the tonal framework for this piece. 'Kalavatiwood' takes a more Bollywood, or *Filmi*<sup>14</sup> music, approach rather than the stricter classical Indian tradition, allowing for the inclusion of pitches from outside the raga or scale as well as the use of changing harmony rather than a fixed *tampura*-style pedal point.

'Kalavatiwood' offers players the opportunity to apply and adapt jazz-specific string techniques to other genres. The extensive use of *portamenti* in this piece is found throughout classical Indian, Carnatic and Bollywood music and can be executed in the same way as *Stuff Smith's* signature scoops into pitches as outlined in chapter five.

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<sup>14</sup> *Filmi* Music refers to music written for India's motion picture industry.

The rhythmic backing, ‘bhangra,’ shares some similarities with jazz swing such as an implied triplet within the quaver pairs. The string section plays contrasting straight quavers against the syncopated rhythm, though in this case back-bowing is not applied. Rather, rhythmic tension is generated by playing quavers, bowed individually or in pairs, with the pulse, against the ‘bhangra’ rhythm. The score also includes the instruction ‘senza vib,’ another expression shared with the back-bowing swing approach.

#### 4. ‘Korma (Blues for Joe)’

The author composed and recorded the medium-swing tune ‘Korma’ with a jazz quartet on the album *Near* (2010). The thirty-two bar melody was expanded and adapted to the orchestral format for this suite. The piece opens with a direct reference to Joe Venuti’s ‘Four string Joe’ technique with an improvised solo violin rendition of ‘Blues for Joe.’ Constant string contact and back-bowing feature throughout the composition, both for the violin soloist as well as the string section.

#### 5. ‘Two Australians in Algiers’

‘Two Australians in Algiers’ is comprised of two distinct sections. The first, composed over an Arabic ‘Baladi’ rhythm, sees the string section playing lyrically using portamento slides as ornamentation. In the second movement, the string section’s role changes to a polyrhythmic pizzicato accompaniment. To that end, at bar 118, the upper strings alter their violin hold to ‘guitar’ position allowing them to play the polyrhythm with thumb and middle fingers, each digit covering the respective grouping.

## 6. 'Bulerias'

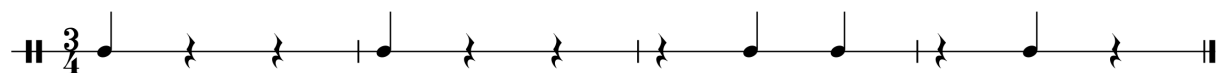
The 'Bulerias' draws upon the Andalusian Flamenco tradition. The piece is an orchestral adaptation from a brass band composition of the same name composed by the author in 2000.

The 'bulerias' rhythm can pose a notational challenge as the flamenco conception of bars or 'compás' is cyclical rather than linear (Martinez, 2011 p 8). The 'bulerias' is made up of a cycle of twelve pulses. Counting beat one at the twelve o'clock position, this iteration of the 'compás' uses the following accents:

[12] 1 2 [3] 4 5 6 [7] [8] 9 [10] 11

When expressed in 3/4 time, as is the case in the score, the pattern appears as a four-bar phrase (*fig 102*).

Figure 102. 'Bulerias' rhythm expressed in 3/4 meter



This style of music is relevant to the research in that the 'buleria's' accent pattern presents two different rhythmic structures over the four-bar pattern, a binary followed by a ternary pattern (Samtani 2006, p 56). The string section has a predominantly melodic role throughout the piece, with the melodies featuring these shifting patterns. At bar 285, the strings reproduce the flamenco guitarist's rhythmic role stating the buleria 'compás' as accompaniment to the solo violin improvisation.

### 7. 'Duckett Blues'

'Duckett Blues' is an up-tempo swing blues composition whose 12-bar theme is taken from a melody composed by the author for a jazz quintet performance with Coco Zhao in Leicester Square as part of the 2008 Cultural Olympiad. The pedal point, beginning from bar 21, creates a false sense of pulse appearing to outline beats one and three. This echoes the case studies in chapter 3 where rhythmic displacement was used to demonstrate the efficacy of back-bowing.

The piece presents an opportunity for the string section to reproduce a big band with an extended 'tutti' chorus beginning in bar 58. This section features back-bowing as well as bowing variations allowing for triplet and syncopated figures.

### 8. Grand Bazaar

'Grand Bazaar' draws upon Arabic music from the Middle East, in particular Egypt, to engage the string section with an array of portamenti and slides. The string section has a driving rhythmic and melodic role throughout the piece culminating with a gathering of speed or 'accelerando' for the final phrases. The piece also requires extensive use of quarter-tones.

### 9. Somma Vesuviana

'Somma Vesuviana' is divided into two distinct sections. The opening, a waltz, recalls a film-like style of string writing, inspired by Italian film composers such as Ennio Morricone. The second section, a tarantella, introduces a lively triplet feel expressed as quavers over a 6/8 meter. The Italian dance form highlights the rhythmic drive the string section is capable of executing. The bowing pattern of two slurred quavers and one separate, align with the pulse and highlight the triplet rhythm.

### 10. Bound for South Australia

Odd time signatures and poly-meters are a feature in modern jazz. For instance Neil Cowley's album *The Face of Mount Molehill*, Robert Mitchell's *The Cusp* and Mark Ferguson's *Yup and Other Words of Affirmation* are all examples where these devices are employed with larger ensembles. 'Bound for South Australia' is a reworking of the old English sea shanty within a 7/4 time signature. Whereas many 7/4 rhythms subdivide into combinations of 4/4 and 3/4 or vice-versa, this meter is subdivided into two sets of 7/8, the meter-inside-a-meter creating a rhythmic fluidity. The orchestral application of the meter takes full advantage of the ambiguous sense of pulse, with staggered entries for the string section spaced throughout the beats and off-beats of the bar.

### 11. Sanctus

Strings, particularly violins, are well represented in traditional Cuban music. The long running Orquesta Aragón features violins both as solo instruments and as small sections of three players. This piece uses the Cuban Montuno and Cha-cha rhythms, applying them to the string section and symphony orchestra. The theme 'Sanctus' is a melody taken from a mass setting 'Latin Mass' composed by the author in 2009 for the Saint Patricks Gospel Choir, Soho, London. The string section is required to play syncopated melodies, montuno-style pizzicato backings and a technically demanding 'tutti' section of extended quaver note phrases. Although not written to a swing feel, many of the back-bowing devices are relevant and applied in the score including back-bowing style quaver groupings, strongly articulated syncopation and the instruction for no vibrato.

## 12. The Norwood

‘The Norwood’ begins with an Irish-style air before a Holst-inspired transition leads, first to a jig, then a reel. The jig’s compound time is not dissimilar to the tarantella but features wider intervals and more frequent string crossing. Although the meter lends itself to a two-in-the-bar pulse, there are moments where the melody suggests a three-in-the-bar subdivision (bar 93). The reel, introduced in the second half, is a jazz-Irish hybrid that draws upon John Coltrane’s third’s related harmonic progressions as heard on his album *Giant Steps*. It features chromaticism in the melodic line not normally associated with traditional Irish reels and require the application of the back-bowing pattern rather than a traditional Irish reel bowing.<sup>15</sup>

### **[big] String at WOMADelaide Festival (Mar 2017)**

The second group of scores was specifically orchestrated for [big] String and was performed three times over the 2017 WOMADelaide festival: March 11th, 12th and 13th, in Botanic Park, Adelaide. The [big] String Ensemble collaborated with percussionist Fabian Hevia, who was allowed the freedom to adapt and apply his own interpretation of the percussion part in the performance.<sup>16</sup> The twenty-minute set comprised five compositions, three of which were re-orchestrated from the ‘Have Violin will Travel’ suite.

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<sup>15</sup> Irish reel bowing brings its own collection of “complicated rhythmic patterns marked by rolls and trebles” (Lyth 2013, p 11).

<sup>16</sup> In ‘Entabeni,’ The Bembe rhythm is replaced with an Argentinian Chacarera pattern. In “Sanctus’ the Rhumba is interpreted as a Guaguancó and an Afro-Peruvian Festejo rhythm is used over the Montuno.

[big] String at WOMADelaide:

1. 'Entabeni'
2. 'Never Would if I Could'
3. 'Two Australians in Algiers'
4. 'Sanctus'
5. 'Little One, Little One'

'Never Would if I Could'

This piece's contrasting A and B sections demonstrate two different roles strings may adopt in the jazz context. The A section opens with a highly syncopated ostinato in a 3/4 meter. The cello section enters with a contrasting syncopated melody, through-composed over a 4/4 meter. The players are required to internalise the semiquaver pulse thus drawing from the 'strum bowing' or 'guitar bowing' techniques covered in Chapter 5. The subsequent rhythmic tension is released in the B section, where the ensemble plays a homophonic melody over a series of parallel major chords.

'Little One, Little One'

'Little One, Little One' was adapted from a smaller string quartet work by the author in 2012. Originally intended as an accompaniment for vocalists over the song 'Ooh Child' by 'The Five Stairsteps' (1970), the music was reworked as a stand-alone composition for [big] String. Harmonically the piece is a contrafact over 'Ooh Child's harmonic structure, simplified to only two chords, one minor third apart. The ensemble's rhythmic approach was inspired by Trilok Girtu's work with strings on the album *Arkeology* (2006). 'Little One, Little One' includes an open section for improvised solos to be taken by members of the string group. It is hoped that, as well as learning to express jazz and jazz-related genres

correctly, this research can encourage string players to venture into the discipline of improvisation, where they are relatively underrepresented.

‘Entabeni,’ ‘Two Australians in Algiers,’ and ‘Sanctus’ were all adapted from the ‘Have Violin Will Travel’ suite. Reorchestration to a four-part string section involved both simplifying the arrangements and requiring the players to cover more elements of the compositions. ‘Entabeni’ required less alteration as the strings already played significant melodic and rhythmic accompaniment roles throughout the larger scale version.

For ‘Two Australians in Algiers,’ the first ‘baladi’ style prelude was removed and a shorter version of the piece was arranged, focussing on the Rai-style polyrhythmic pizzicato section.

The ‘Sanctus’ adaptation included the same extended ‘tutti’ section, though this section’s technical difficulty and through-composed nature was less compatible with [big] String’s aural approach.

The performance of a similar repertoire across two different ensembles with different rehearsal methods highlights that, in seeking to redefine the role of the string orchestra in the jazz context, one also needs to examine the ensemble model in the context of commercial and economic reality. The [big] String approach sits more comfortably in the university context (as it does in the London chapter), allowing for the development of smaller amounts of repertoire over a number of weeks targeting specific areas of jazz technique. This skill set can then be carried forward by players and applied by composers and arrangers to the commercial symphony orchestras, studio orchestras and large string ensembles.

## Part C

# Sound Recordings

## Track Listing and Information for CDs

### CD 1: 'Have Violin Will Travel'

1. 'The Cameraman' Julian Ferraretto (4:52)  
The Adelaide Symphony Orchestra, Benjamin Northey (conductor), Julian Ferraretto (violin), Sam Cagney (guitar), John McDermott (drums), David Philips (bass)
  
2. 'Entabeni' Julian Ferraretto (8:06)  
The Adelaide Symphony Orchestra, Benjamin Northey (conductor), Julian Ferraretto (violin), Sam Cagney (guitar), John McDermott (drums), David Philips (bass)
  
3. 'Kalavatiwood' Julian Ferraretto (4:19)  
The Adelaide Symphony Orchestra, Benjamin Northey (conductor), Julian Ferraretto (violin), Sam Cagney (guitar), John McDermott (drums), David Philips (bass)
  
4. 'Korma' Julian Ferraretto (6:41)  
The Adelaide Symphony Orchestra, Benjamin Northey (conductor), Julian Ferraretto (violin), Sam Cagney (guitar), John McDermott (drums), David Philips (bass)
  
5. 'Two Australians in Algiers' Julian Ferraretto (6:20)  
The Adelaide Symphony Orchestra, Benjamin Northey (conductor), Julian Ferraretto (violin), Sam Cagney (guitar), John McDermott (drums), David Philips (bass)
  
6. 'Bulerias' Julian Ferraretto (6:31)  
The Adelaide Symphony Orchestra, Benjamin Northey (conductor), Julian Ferraretto (violin), Sam Cagney (guitar), John McDermott (drums), David Philips (bass)
  
7. 'Duckett Blues' Julian Ferraretto (5:56)  
The Adelaide Symphony Orchestra, Benjamin Northey (conductor), Julian Ferraretto (violin), Sam Cagney (guitar), John McDermott (drums), David Philips (bass)

8. 'Grand Bazaar' Julian Ferraretto (4:15)  
The Adelaide Symphony Orchestra, Benjamin Northey (conductor), Julian Ferraretto (violin), Sam Cagney (guitar), John McDermott (drums), David Philips (bass)
  
9. 'Somma Vesuviana' Julian Ferraretto (8:26)  
The Adelaide Symphony Orchestra, Benjamin Northey (conductor), Julian Ferraretto (violin), Sam Cagney (guitar), John McDermott (drums), David Philips (bass)
  
10. 'Bound for South Australia' Julian Ferraretto (5:49)  
The Adelaide Symphony Orchestra, Benjamin Northey (conductor), Julian Ferraretto (violin), Sam Cagney (guitar), John McDermott (drums), David Philips (bass)
  
11. 'Latin Mass - Sanctus' Julian Ferraretto (6:15)  
The Adelaide Symphony Orchestra, Benjamin Northey (conductor), Julian Ferraretto (violin), Sam Cagney (guitar), John McDermott (drums), David Philips (bass)
  
12. 'The Norwood' Julian Ferraretto (9:24)  
The Adelaide Symphony Orchestra, Benjamin Northey (conductor), Julian Ferraretto (violin), Sam Cagney (guitar), John McDermott (drums), David Philips (bass)

## **CD 2: [big] String at WOMADelaide 2017**

1. 'Entabeni' Julian Ferraretto (6:15)  
The [big] String orchestra, Julian Ferraretto (director, lead violin), Fabian Hevia (percussion)
  
2. 'Never Would if I Could' Julian Ferraretto (4:31)  
The [big] String orchestra, Julian Ferraretto (director, lead violin), Fabian Hevia (percussion)
  
3. 'Two Australians in Algiers' Julian Ferraretto (3:22)  
The [big] String orchestra, Julian Ferraretto (director, lead violin), Fabian Hevia (percussion)

4. 'Latin Mass - Sanctus' Julian Ferraretto (4:55)  
The [big] String orchestra, Julian Ferraretto (director, lead violin), Fabian Hevia (percussion)
  
5. 'Little One, Little One' Julian Ferraretto (4:06)  
The [big] String orchestra, Julian Ferraretto (director, lead violin), Fabian Hevia (percussion)

### CD 3: Etudes and Examples

All tracks except 29: Julian Ferraretto (violin, viola, chin cello) with computer generated rhythm section where applicable.

1. 'Allemanda' by J.S. Bach: opening in Dm with backing rhythm section (0:25)
2. 'Allemanda' by J.S. Bach: opening in Dm with no backing (0:25)
3. 'Allemanda' by J.S. Bach: opening in Dm with backing slowly faded in (0:25)
4. 'Au Privave' by Charlie Parker: opening with jazz backing (0:34)
5. 'Au Privave' by Charlie Parker: opening with baroque backing (0:34)
6. 'Au Privave' by Charlie Parker: opening with backing slowly crossfaded from jazz to baroque (0:34)
7. Figure 53: D Dorian mode with back-bowing (0:06)
8. Figure 54: D Dorian Mode in violin 1st position range (0:11)
9. Figure 55: D Dorian Mode up to violin 5th position (0:13)
10. Figure 56: D Dorian Mode with intervallic variation (1:31)
11. Figure 57: D Dorian Mode with chromatic approach tone (0:27)
12. Figure 58: D Dorian Mode with string section over a restricted range (0:09)
13. Figure 59: D Dorian Mode with string section over full first position range (0:11)
14. Figure 61: G Dorian Mode with string section (0:12)
15. Figure 62: F Mixolydian Mode in broken thirds (0:19)

16. Figure 63: C 8 note Dominant Scale (0:13)
17. Figure 64: D Dorian Scale with close voicings (0:07)
18. Figure 65: F Mixolydian Scale with close voicings (0:07)
19. Figure 66: F Bebop Scale with close voicings (0:07)
20. Figure 67: F Bebop scale with drop-two voicings (0:09)
21. 'Blues Heads' (1:16)
22. 'Cornerstone Blues' (0:58)
23. Figure 68: Displaced Phrases – D Dorian (1:05)
24. Figure 69: Displaced Blues (0:36)
25. Figure 70: Trumpet shake exercise (0:32)
26. Figure 73: Note bending exercise (0:41)
27. Figure 75: Scoop exercise (0:39)
28. Figure 78: Scoop length and depth exercise (0:34)
29. Slowed down 'Crazy Rhythm' Fall-offs (0:05)  
Violin: Stuff Smith
30. Figure 81: Fall-offs exercise (0:22)
31. Figure 83: Fall-offs exercise from 'Cornerstone Blues' (0:16)
32. Figure 88: 'Cornerstone Blues' scoop exercise (0:34)
33. 'Blues for Joe' (0:34)
34. Figure 94: Bowing with even semiquavers (0:17)
35. Figure 94: Bowing with accents (0:18)
36. Figure 95: Bowing with ghost notes (0:18)
37. Figure 96: Bowing with original notation (0:18)

## Conclusion

This project has offered to the large string ensemble a stepwise approach toward a more meaningful engagement with jazz. It has provided players, arrangers and composers with an analytical and pedagogical approach applied in a portfolio of compositions and demonstrated in public performance.

The thesis examined swing playing with a particular emphasis on articulation and bowing patterns rather than note length, the foundation of which comes from the recordings of jazz violin masters Joe Venuti and Stuff Smith.

Chapters one and two began with the transcription and analysis of six solos by Venuti and Smith, identifying the technical devices they employed to communicate jazz rhythm and swing. The research examined these devices in order to apply them to the larger string ensemble.

Chapter three opened with a case study testing a bowing and articulation-based approach to swing performance. The technique of playing even quavers rather than altering the quaver length towards the triplet or dotted quavers offers a consistent approach for the large string ensemble.

Chapter four presented a series of exercises and etudes by which the members of the string section could master back-bowing. It offered a pedagogical framework by which western classically trained string players could incorporate jazz-specific techniques:

In chapter five, this framework was applied to several jazz techniques, including swing phrasing, bow contact, scoops, shakes and polyrhythmic playing.

Originally this research began with a purely pedagogical focus, the aim being to equip string ensembles with the necessary tools to master the playing styles of some of jazz violin's pioneers. It became evident that there was a noticeable lack of string ensemble compositions and arrangements which would give the string section the opportunity to apply these jazz techniques and approaches. As a response, this study was broadened to include a portfolio of new works for violin, string section and full orchestra in order to demonstrate these tools in action (Part B). The inclusion of a recorded performance component provides evidence of the their successful application within actual compositions (Part C).

The composition/performance elements are comprised of two suites. The first, 'Have Violin will Travel,' was composed for the Adelaide Symphony Orchestra, jazz rhythm section and solo jazz violin. The composition is captured in a live performance by the author (jazz violin soloist) and the Adelaide Symphony Orchestra by ABC radio as part of the 'Gigs at Grainger' series in 2017. The second suite was composed for the [big] String orchestra and one percussionist and was captured by virtual reality camera at its performance at the 2017 WOMADelaide Festival.

The combination of pedagogy, composition and performance throughout this research offers an exciting opportunity for the player, arranger and composer to learn, communicate and apply a broader expressive palette through the large string ensemble. The employment of jazz swing and jazz-related techniques to the large string section has the capacity to redefine and

broaden the string section's role in contemporary music and provide exciting new sonic possibilities in the future.

## Appendices

Transcriptions of violin solos:

(All solos transcribed by the author)

1. Joe Venuti – ‘Stringin’ the Blues’
2. Joe Venuti – ‘Black and Blue Bottom’
3. Joe Venuti – ‘Raggin’ the Scale’
4. Stuff Smith – ‘Crazy Rhythm’
5. Stuff Smith – ‘Back Home in Indiana’
6. Stuff Smith – ‘Old Stinkin’ Blues’

# Stringin' the Blues

♩=218

Violin solo by Joe Venuti 1926  
Transcribed: Julian Ferraretto 2018

2

## Stringin' the Blues





4

## Stringin' the Blues

101



105



109



113



117



121



125



130



## Black and Blue Bottom

Violin solo by Joe Venuti 1926  
Transcribed: J Ferraretto 2018

♩=200

6

9

13

17

21

25

29

33

37

41

45

2



89 Guitar Interlude



100

3  
2  
1

2  
3  
1

105

109

113

2  
3  
4

1

117

121

4  
2 2  
3 3  
1 1

125

129

## Raggin' the Scale

Edward B. Claypole  
Violin solo by Joe Venuti 1932  
transcribed J Ferraretto 2018

$\text{♩} = 220$

*f*

6

10

15

19

23

27

32

35

V.S.

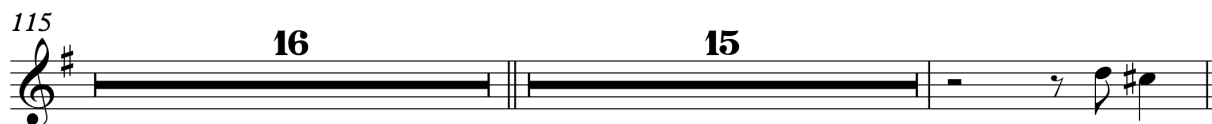
## Raggin' the Scale

2



## Raggin' the Scale

3



## Raggin' the Scale

4

155

159

163

167

171

175

# Crazy Rhythm

Irving Caesar, Joseph Meyer and Roger Wolfe Kahn

Violin solo by Stuff Smith 1958

transcribed: Julian Ferraretto 2018

♩=230 Bright swing

Introduction

5 Head In

9

13

17

21

25

29

33

37 Violin solo L.H. pizz arco *sfz*

41





# (Back Home Again in) Indiana

James F. Hanley, Ballard McDonald  
Violin solo by Stuff Smith 1958  
transcribed: Julian Ferraretto 2019

♩=200 Bright swing

Introduction

5

9 Head In

13

17

21

25 2 -----

29

33 *sfz*

37

2

42 *Piano solo..* **29**



73 *Violin Solo*



77



81



85



89



93



97



101

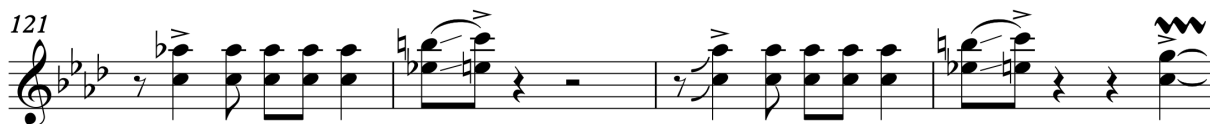


105



109





4

157



161

LH pizz Arco

*sfz*

165

Detailed description: This block contains three staves of musical notation. The first staff (measures 157-160) features a melodic line with a wavy hairpin above it. The second staff (measures 161-164) includes the instruction 'LH pizz' above the staff and 'Arco' above a specific note, with a dynamic marking '*sfz*' below. The third staff (measures 165-168) shows a complex rhythmic pattern with a wavy hairpin above it.

# Old Stinkin' Blues

Stuff Smith  
Violin solo by Stuff Smith 1965  
transcribed: J Ferraretto 2019

♩=58 Swing 12 feel

The musical score is written in 4/4 time with a key signature of two flats (B-flat and E-flat). It consists of ten staves of music. The first staff begins with a first ending bracket labeled '1'. The second and third staves feature triplet markings and wavy lines above notes. The fourth staff contains a complex sequence of notes with fingerings 3, 5, 5, 5, 7, and 6, and includes a sixteenth-note triplet. The fifth staff has triplet markings and wavy lines. The sixth staff is a whole rest labeled '12'. The seventh staff is a whole rest labeled '11'. The eighth staff features a triplet and wavy lines. The ninth staff includes triplet markings, a sixteenth-note triplet, and a wavy line. The tenth staff contains triplet markings, a sixteenth-note triplet, and a wavy line.

2

43

gliss. >

9 5 3 7

45

47

49

53

Two beats edited out of recording

57

Straight Time

59

rit.

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