

'Back-to-front' Bassists: *Idiodextrous*
Approaches to the Double Bass in Jazz

Greg Gottlieb
MA by Research
Middlesex University, London
2015

Abstract

In the history of jazz, only a very few bassists have played 'left-handed' on a 'right-handed' instrument. This 'idiodextrous' approach is an embodied phenomenon that affects the body-instrument interface, giving rise to unique physical and sonic consequences. Each idiodextrous bassist studied here was mostly self-taught and 'intuitively' applied this unconventional handedness approach to a conventional instrument. Studying this rare practice raises questions that challenge traditions of string instrument playing and expose arbitrary prejudices against unconventional handedness approaches. Since its defining trait is the 'reversed' order of the strings in relation to the body, idiodexterity challenges assumptions about the ideal stringings for different musical contexts. The malleability of identities and cultures in jazz is arguably more receptive to unusual handedness approaches than is the classical tradition. In the context of jazz improvisation, idiodexterity may even facilitate the development of a 'uniquely idiodextrous' vocabulary of musical phrases and techniques. This paper is an attempt to succinctly encompass the issues central to idiodextrous double bass in jazz, within the scope of a one-year MA by Research programme, and to make recommendations for future studies. Four main areas of research have been investigated: Instrument, Body, Identity and Vocabulary. Interviews with bassists of varying handedness approaches, with luthiers and with body experts have been employed to address this unique subject, compensating for the effective non-existence of any previous academic literature. The insights of these expert practitioners contribute new knowledge on this rare and intriguing practice.

ABSTRACT	2
DEDICATION	6
ACKNOWLEDGEMENTS	7
1. INTRODUCTION	8
1.1 AIMS	8
1.2 MOTIVATIONS	9
1.3 RESEARCH QUESTIONS	10
2. DEFINITION OF TERMS	11
2.1 IDIODEXTERITY	11
2.1.1 New terminology	11
2.1.2 An unusual approach	12
2.1.3 Striking visual imagery	13
2.2 HANDEDNESS	14
2.2.1 Handedness Story	15
2.2.2 Handedness Approach	15
2.3 DOUBLE BASS	16
2.3.1 Becoming a jazz instrument	16
2.3.2 The landscape of the double bass	17
2.3.3 Idiodextrous jazz double bass	17
2.4 BODY	18
2.4.1 Idiodexterity and the body	18
2.4.2 Alexander Technique	18
2.4.3 Body awareness across generations	19
2.5 IDENTITY	20
2.5.1 Jazz bass lore	20
2.5.2 Individuality and idiodexterity	20
2.6 JAZZ VOCABULARY	21
2.6.1 Idiomatic jazz double bass	21
2.6.2 The 'vocabulary' metaphor	22
2.6.3 Thumb position	22
2.7 TRANSCRIPTION	23
2.7.1 Informal jazz transcription	23
2.7.2 Conventions in jazz transcription	23
2.7.3 Problems of transcription	24
3. METHODOLOGY	25
3.1 SITUATING MY OWN PRACTICE	25
3.2 LITERATURE	26
3.3 SELECTING AREAS OF RESEARCH	26
3.4 PRIMARY RESEARCH	27
3.5 CASE STUDIES	28
3.6 DEVELOPING AN ONLINE RESOURCE	30
4. LITERATURE REVIEW	32
4.1 DOUBLE BASS LITERATURE	32
4.1.1 Histories of the double bass	32
4.1.2 Method books	34
4.1.3 International Society of Bassists (ISB)	35

4.1.4 Bass communities online	37
4.2 LITERATURE ON THE BODY	38
4.2.1 Handedness	38
4.2.2 Handedness in music	39
4.2.3 Handedness online	42
4.2.4 Alexander Technique for musicians	44
4.3 LITERATURE ON IDENTITY IN MUSIC	45
4.3.1 Identity construction	45
4.3.2 Identity in jazz	46
4.3.3 Double bass identities	47
4.4 LITERATURE ON JAZZ IMPROVISATION	48
4.4.1 Improvisation in jazz	48
4.4.2 Improvisation and identity	49
4.4.3 Improvisation and handedness	50
4.5 LITERATURE SUMMARY	51
5. MAIN AREAS OF RESEARCH	53
5.1 INSTRUMENT	53
5.1.1 What are the conventional handedness approaches to the double bass?	54
5.1.2 How is the double bass asymmetric?	57
5.1.3 How do the asymmetries of the bass affect sound production?	60
5.1.4 How can a double bass be set up to better facilitate an idiobextrous approach?	61
5.1.5 When was the first left-handed double bass built 'from the ground up'?	62
5.2 BODY	64
5.2.1 Unique physical challenges	64
5.2.2 Applying the Alexander Technique	69
5.3 IDENTITY	72
5.3.1 Handedness and identity in music	72
5.3.2 Attitudes towards handedness	73
5.3.3 Jazz identities	75
5.3.4 Idiobexterity in jazz	76
5.4 JAZZ VOCABULARY	79
5.4.1 Embodied vocabulary	79
5.4.2 Idiobextrous tendencies	80
5.4.3 'Raking'	81
5.4.4 Ascending arpeggios	82
5.4.5 'Thumb workout'	83
6. CASE STUDIES - IDIOBEXTROUS JAZZ BASSISTS	84
6.1 EARL MAY	84
6.2 LYLES WEST	89
6.3 TONY ARCHER	92
6.4 BUD LOYACANO	95
6.5 SHERWOOD MANGIAPANE	96
7. SAMPLE TRANSCRIPTION	98
8. CONCLUSIONS & RECOMMENDATIONS	102
8.1 CONCLUSIONS	102
8.2 RECOMMENDATIONS	104
EPILOGUE	106

BIBLIOGRAPHY	107
TEXTS CITED	107
OTHER TEXTS CONSULTED	114
APPENDIX 1: 'LEGIT LEFTY' CASE STUDIES	115
A1.1 JENNIFER LEITHAM	115
A1.2 JORIS TEEPE	118
A1.3 CHRIS JENNINGS	120
A1.4 RICHARD HAMMOND	122

Dedication

This work is dedicated to Earl May,
for swinging so beautifully in life as in music.



1

¹ Image source: http://www.nmc-inc.org/Carol_s_Corner.html

Acknowledgements

I would like to express my deep gratitude to all those who agreed to be interviewed – whether in person, or by phone, Skype or email – for this research. Bassists, their musical colleagues, luthiers, body experts, academics and friends all contributed valuable insights and interesting perspectives. My thanks to the following people for making this strange investigation so enjoyable:

Chris Batchelor, Roni Ben-Hur, Ron Bland, Lee Boswell-May, Brian Casey, Jimmy Cozier, Bob Cranshaw, Gary Crosby, Joe Detnon, Manny Flores Jr, Mark Geddes, John Gidicsin, David Glasser, Mike Griot, Richard Hammond, Chris Jennings, Matthias Heyman, Stella Evangelia Kasoumpi, Dr Randall Kertz, Ethan Kind, Jennifer Leitham, Paul Matthews, Robbie McIntosh, Adam Nussbaum, Phil Palombi, Ben Puglisi, Rufus Reid, Robin Ruscio, Arnold Schnitzer, Alyn Shipton, Bill Spilka, Bernie Stringle, Ike Sturm, Alaric Taylor, Joris Teepe, Craig Thomas, Murray Wall, Lyles West, Jackie Williams, Martin Wind and Rémy Yulzari.

For academic support, I would like to thank François Evans, Rosie Sinden-Evans, Vida Midgelow, Nanette Gottlieb and Ben Dwyer.

In June 2015, Middlesex University's School of Media and Performing Arts part-funded my research trip to the US, to attend the Convention of the International Society of Bassists and to visit New York City. I was fortunate enough to conduct interviews with some of the greatest bassists and luthiers in the world and am very grateful for the School's financial support of this study.

The International Society of Bassists has also offered generous outreach assistance through their worldwide network of double bassists. Valuable contributions also came via leftybass.com, researchgate.net and greggottlieb.net/educator/research.

Special thanks go to Telmo Sousa for filming and editing the demonstration videos, which can be found at: www.idiodextrous.com/videodextrous

1. INTRODUCTION

This research presents an account of those rare double bassists in the history of jazz who have played the instrument 'back-to-front' (referred to here as an idiodextrous approach). The lives and music of these bassists facilitate a study into the physical and sonic consequences of playing the bass in this way.

1.1 Aims

The aims of this research are:

- to clarify what is meant by an idiodextrous approach to the double bass
- to document, through case studies, the history of this rare practice in jazz
- to uncover the physical and sonic consequences unique to this approach
- to suggest how the Alexander Technique might apply to idiodexterity
- to investigate issues of identity surrounding handedness in music
- to propose ways in which idiodexterity might give rise to new improvising vocabulary
- to recommend further studies that exploit these findings and develop new repertoire and pedagogy
- to develop an online resource for ongoing discussion about idiodexterity; and
- to consider how this research has informed my own practice.

1.2 Motivations

I play a right-handed double bass left-handed. The bass is not restrung to be a left-handed bass – it is a regular right-handed bass played ‘back-to-front’ (see **Fig 1.1**). This way of playing is uncommon among guitarists, rare among electric bassists and very rare among double bassists.

In my own practice, I have observed several physical challenges to playing the double bass that I believe to be unique to playing ‘back-to-front’. I hope that better understanding those challenges and looking outward to role models for advice might help to overcome them.

Fig 1.1a – The author holding a right-handed double bass ‘back-to-front’



Fig 1.1b – The author holding the same bass in the conventional way



Discovering the recorded legacy of jazz’s most prominent idiodextrous bassist Earl May (1927-2008) was a key inspiration for undertaking this study. Background research into his life and music invited the question: how did he overcome the physical and sonic challenges of playing back-to-front?

Since learning of May, I have endeavoured to construct a timeline of idiodextrous jazz bassists, from early New Orleans jazzmen Bud Loyacano (1879-1960) and

Sherwood Mangiapane (1912-1992), to Britain's Tony Archer (1939-), North Carolina-born Lyles West (1956-) and myself (1983-).² By investigating the playing and careers of these musicians, I aim to contribute new academic knowledge of the history and current practice of this rare approach to the instrument within the context of jazz performance.

I intend to develop an online resource, making a concise version of this study's findings accessible to anyone interested in idiodexterity. I also hope that this study will be of interest beyond the scope of 'back-to-front' bassists, for the way it questions traditions universal to Western string instruments.

1.3 Research questions

The core research questions that guided this study are:

1. What are the physical and sonic consequences of an idiodextrous approach to the double bass? **(RQ1)**³
2. Why do some bassists adopt this approach? **(RQ2)**
3. How does idiodexterity challenge predominant assumptions and attitudes towards handedness inherent in string instrument traditions? **(RQ3)**
4. Is there improvising vocabulary that is uniquely, ergonomically intuitive to idiodextrous bassists? **(RQ4)**

² Archer's birthdate is often given as July 14, 1938 – but Skrimshire (in Kernfeld 2003) states that 'his birth certificate confirms 1939'.

³ NB: This text uses these codes **(RQ1, RQ2, etc.)** to indicate material addressing a research question.

2. DEFINITION OF TERMS

Several terms need to be defined in order to set properly the parameters of this research. This section will first define the key terms used in the title, and then hone several definitions of terms that will recur throughout this paper.

2.1 Idiodexterity

The first priority for defining the terms relevant to this research is to devise a short-hand reference to this way of playing, neatly sidestepping the endless reiteration of phrases like ‘a right-handed bass played left-handed without restringing.’

2.1.1 New terminology

The term *idiodexterity* has been created to meet the needs of this research. Its etymology combines two concepts to describe the notion of a personal approach to handedness.⁴ In the context of this research, the term is used to refer specifically to musicians who play a right-handed string instrument left-handed, without reversing the order of the strings. It is worth noting that a musician playing a left-handed instrument right-handed without restringing would also qualify as having an *idiodextrous* approach, although no evidence yet exists of this particular orientation. The term could also be applied more broadly to describe any unusual, unconventional or personal choice relating to the assigning of tasks to hands in any activity – but here, it is used solely in the way first described above.

⁴ The Oxford Dictionary of English (Soanes & Stevenson 2003: 861) prescribes to the Ancient Greek-derived prefix *idio-* the function of ‘forming adjectives and nouns with the senses ‘own, personal, private, peculiar, separate, distinct’. Perhaps the most familiar among the 38 words subsequently listed is ‘idiosyncrasy’. In reverse order, its meanings are: ‘a mode of expression limited to a particular author or language’; ‘a view or feeling identified with a single person’; ‘the individuality of a person’s outlook’; and ‘peculiarity of physical nature’. Although the Latin root *dexter* (ibid: 478) means ‘right’ or ‘favoured’, *dexterity* is principally defined as ‘the ability to use your hands skilfully’; the emphasis is shifted onto favourability rather than necessarily right-handed. It can also be used to refer to grace or ease of movement and to ‘the ability to think and act quickly and cleverly’. It is useful to note that both *idio-* and *dexterity* have definitions grounded in both the mental and the physical.

2.1.2 An unusual approach

Idiodexterity is uncommon to varying degrees across instruments, musical styles and probably time periods. While no statistical survey yet exists, anecdotal evidence suggests that it is much more common among rock and blues guitarists, as well as electric bassists, than it is among double bassists. One feature that all idiodextrous musicians seem to share is a predominantly self-taught relationship to their instrument.

Why is idiodexterity unusual? For purposes of comparison, it is useful to explain briefly some things about the 'conventional' approach. Historically, the double bass has been strung in a particular way and the hands have been assigned certain roles: the right hand deals with tone production (bowing or plucking), while the left hand controls the pitch by 'stopping' (pressing down) the strings. When held in the conventional 'right-handed' way, the bass is strung such that the lowest-pitched string (E^1 in modern standard tuning) is closest to the bassist's body, while the highest-pitched (G) is furthest:

Fig 2.1a – a right-handed bass, held conventionally, strings labelled

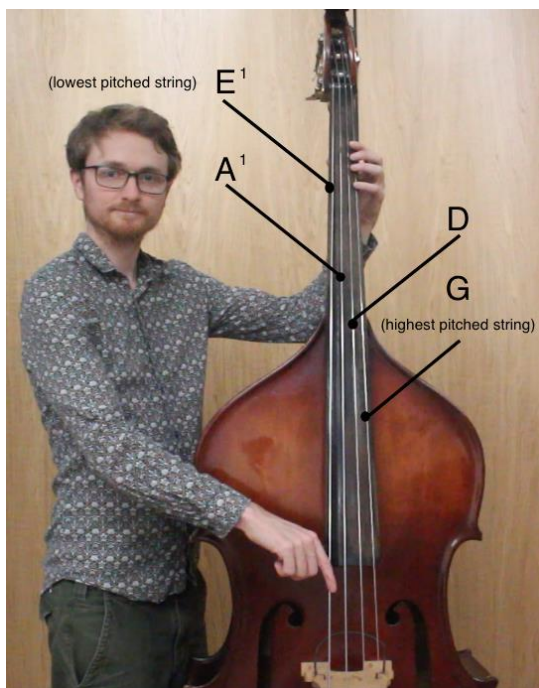
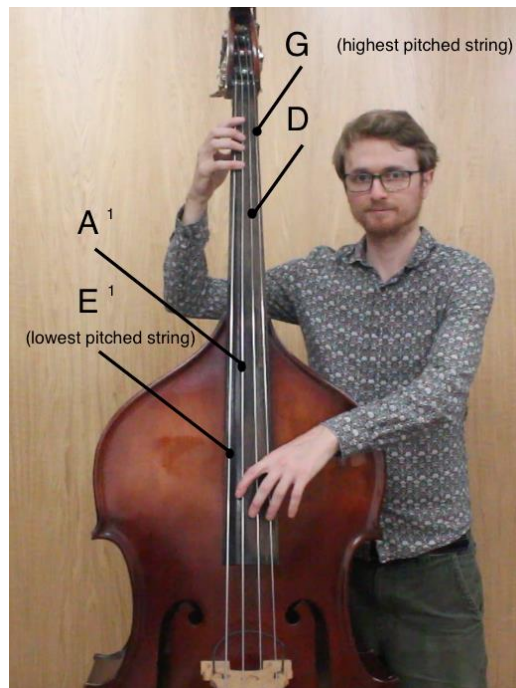


Fig 2.1b – the same, but held idiodextrously



These points are addressed in much finer detail in **5.1** and **5.2**, but for now it is useful to realise that an idiodextrous approach is adopted by standing on the other side of the same instrument. This means that the roles of the hands are swapped and that the order of the strings in relation to the bassist's body is reversed.

The rarity of this approach to double bass can be attributed to traditions in classical pedagogy – dating back at least to the standardisation of the violin family instruments in the late 17th century (Brun 2000) – and the historical predominance of right-handedness among humans, currently hovering around 90% in Western societies (McManus 2002).

In **5.3**, it is argued that an emphasis on individuality in the history of jazz may have created an environment in which idiodexterity could more readily arise. In **5.4**, tensions between idiomatic concerns of the music and the technical challenges of an idiodextrous approach are discussed, with some resolutions suggested.

Idiodexterity is an *idiosyncratic* approach to handedness. The **Case Studies** survey some of the ways in which this approach can arise, ranging from deliberately subversive, to purely pragmatic, to intuitively 'comfortable'.

2.1.3 Striking visual imagery

Playing a musical instrument idiodextrously presents an unusual visual image to audiences and fellow musicians alike. Anyone exposed to images of string instrument players in pop culture or in the course of their daily life has a conventional image subconsciously reinforced.

When we see an instrument held 'the other way', our ingrained iconography is challenged. Thomson (2003: 15) refers to the upset caused by one violinist in a section playing left-handed as *The so-called 'Problem'*, and offers a series of cartoons

displaying *Solutions (with visual appeal)*.⁵ Of the prejudices encountered against idiodextrous musicians, ranging from the subtle to the pronounced, many were motivated by this disturbance to the visual norm.

Because of its 'upright' orientation, holding the double bass 'back-to-front' is less noticeable to the casual observer than in the case of horizontal instruments like the guitar. This means that these prejudices tend mostly to come from fellow musicians, who are more likely to observe the subtle differences in stance and stringing.

In **5.3**, consideration is made of how the attitudes of peers might impact an idiodextrous musician's identity construction, with aversions to 'visual disturbance' proving a recurring theme.

2.2 Handedness

'Handedness' is a term with deep roots in the sciences, particularly in the fields of psychology, physiology and neuroscience (McManus 2002). The **Literature Review** will examine the origins of 'handedness' as a technical term and its more recent applications to music studies.

A working knowledge of handedness is useful for considering the physiological implications of assigning roles to dominant and non-dominant hands in string instrument playing. Fundamentally, handedness refers to degrees of preference when assigning hands to a given task. Standards used to define the handedness of an individual vary between academic disciplines (Christman 2010).

In the context of this research, 'handedness' (as an isolated term) will be used to refer to an individual's handedness as intuitively practiced by that individual. As this can vary from task to task and even throughout different periods of an individual's life, I have developed two further useful terms: 'handedness story' and 'handedness approach'.

⁵ Thomson has the unique distinction of being able to play the violin both right-handed and (in order to compensate for his focal dystonia) left-handed. His book *Playing Violin and Fiddle Left Handed* is unique and collects significant anecdotal material.

2.2.1 Handedness Story

As both the **Literature Review** and **Case Studies** will reveal, a person's handedness is not always uniformly fixed for all tasks (Christman 2010), nor is it impervious to change over time (Thomson 2010). The term 'handedness story' is used herein to refer to the sum total of experiences of handedness as related by an individual.

Online communities of left-handers are notorious for proudly claiming ownership of famous artists and historical figures who, upon closer inspection, turn out to be either 'mixed-handed' or not left-handed at all (McManus 2002). Knowing as much detail as possible about a person's handedness story is essential to any informed study of that person's handedness behaviour.

The handedness stories presented in the **Case Studies** are intended to contextualise the motivations, however intuitive or conscious, for adopting an idiodextrous approach.

2.2.2 Handedness Approach

Distinguishing between a person's overall handedness (as deemed by various disciplines) and the particular 'handedness approach' adopted for a specific activity (in this case, playing the double bass) is essential to being specific about the physical consequences of idiodexterity.

This can be most clearly seen by comparing the handedness of the main case study, Earl May, with my own. Both May and I play a right-handed double bass in the way that is conventionally called 'left-handed'. This approach is considered to be left-handed, because the role of sound production (traditionally assigned to the dominant hand) is carried out by the left hand.

The key difference is that May was left-handed and I am a mixed right-hander.⁶

Even within the prescribed limits of the ‘idiodextrous’ approach studied here, it is clear that there are subtly different permutations. This is important because although our approaches visually suggest the same orientation to the bass, our ‘invisible’ handedness stories means that May and I deal with different physical consequences.

2.3 Double bass⁷

While this research assumes that the reader possesses a working knowledge of what a double bass is, it is useful to set the parameters within which the instrument is being discussed.

2.3.1 Becoming a jazz instrument

There is ongoing academic debate about the precise genealogy of the double bass, but Brun (2000) makes a strong case for it being the largest member of the violin family. The contemporary instrument⁸ and its historical precedents have held an important place in Western art music for five centuries.

Around the turn of the twentieth century, when that European ‘classical’ tradition began to mix with ragtime, blues and other musical influences in New Orleans, the ‘string bass’ replaced the tubas, sousaphones and bass saxophones of pre-jazz marching bands as the bass instrument of choice in those new contexts (Crow in Kirchner 2000: 668). From these origins evolved music that came to be called ‘jazz’: then a buzz word to describe new sounds; now an umbrella term used to refer to a wide range of musical styles, artists and concepts.

⁶ While still partial, the evidence gathered on May’s handedness story so far suggests that the Edinburgh Handedness Inventory (EHI) would likely have classified him as a ‘strong left-hander’. I recently took an adaptation of R. C. Oldfield’s original EHI handedness questionnaire at brainmapping.org/shared/Edinburgh.php, which gave me a Laterality Index score of +75, denoting ‘mixed right-handedness’.

⁷ The preferred term in this study is ‘double bass’, but citations include reference to, ‘upright bass’, ‘string bass’, ‘acoustic bass’, ‘contrabass’ or simply ‘bass’ – all of which are synonyms.

⁸ Most jazz bassists today use $\frac{3}{4}$ - or $\frac{7}{8}$ -sized, four-string instruments in the standard modern tuning (E¹ A¹ D G). Full-size, three-stringed, five-stringed and alternatively tuned instruments are mostly used for classical playing.

Unlike its role as a section instrument in orchestras, with multiple basses playing mostly unison parts, one double bass is the norm in jazz ensembles. This prompted changes in technique to satisfy the demands of the music in terms of volume, presence, sound and rhythmic liveliness, with a notable shift in emphasis from arco (bowing) to pizzicato (plucking) playing. The conceptual departure from reading music in orchestras to mainly improvising (first accompaniments and later solo features) in jazz is similarly integral to the role of the bass in that music.

Mid-20th century developments in string technology (particularly the option to switch from gut to metal-wound strings), amplification and recording techniques are relevant, too. By fundamentally altering the attack, sustain, pitch clarity and volume of the bass, these technological advances enabled stylistic evolutions that modernised its role in jazz. In particular, many of its virtuosic exponents in ‘modern jazz’ (see **2.6.1**) chose to play with lower action (string height above the bridge) to achieve greater speed, relying on metal strings and amplification for volume.

2.3.2 The landscape of the double bass

The most significant asymmetry of the instrument’s exterior is the string order in relation to the bassist’s body, which is at the essence of the physical consequences of idiodexterity. Further investigation into the construction of the instrument reveals an internal asymmetry, which has important ramifications for the sound production of idiodextrous bassists.

While not strictly essential to performing well, knowledge of these design features can be beneficial (Martin in Ford 2012). It will be argued in **5.1** that idiodextrous bassists in particular can benefit from awareness of the instrument’s construction features, since these are crucial to the physical and sonic consequences they face.

2.3.3 Idiodextrous jazz double bass

This research will adopt a ‘jazz’ conception of the double bass from here on in. The

consequences of an idiodextrous approach to the double bass evaluated here prioritise the idiomatic concerns of jazz, including the emphasis on pizzicato playing just described.⁹ In **5.3**, a well-documented culture surrounding identity in jazz lore is discussed. This prefaces discussion in **5.4** of how idiomatic jazz playing techniques might manifest as challenges for idiodextrous bassists.

2.4 Body

Double bass is a physically challenging instrument to play. It is large, the strings are under a lot of tension and playing with good intonation demands precision over a wide range of movement, coordinating both hands in time and space.

In the context of this research, the body is understood as an interface between a musician's ideas and the instrument. Embodied gestures, working as conduits of musical thought, act on the instrument to manifest in sound. In **5.2**, discussion turns to how the healthy functioning of that interface is an important factor in a musician's ability to express himself/herself, and to how idiodexterity affects this.

2.4.1 Idiodexterity and the body

An idiodextrous approach to the double bass places unique demands on the bassist's body. In **5.2**, detailed assessment of these demands informs suggestions for addressing them. The practical theories and observations of Alexander Technique teachers, many of whom work frequently with performers, are employed.

2.4.2 Alexander Technique

The Alexander Technique (AT) is a system of teaching bodily awareness, rooted in the belief that this allows space for the body to let go of ingrained habits and return to its natural state. Frederick Matthias Alexander (1869-1955) was an actor who, after doctors failed to help him, developed a technique to address his own chronic

⁹ Bowing technique will occasionally be discussed, when it helps to highlight biomechanical issues

laryngitis (Rickover 2015a). He applied the scientific method to analysing his own behaviour and made profuse notes recording his observations.

Compelled by influential friends, including author Aldous Huxley,¹⁰ Alexander began teaching the technique in a formalised way. Alexander Technique is now practiced and taught around the world by people from all walks of life, but is particularly favoured among performing artists and is offered to musicians, actors and dancers in many major conservatoires.

This research will briefly survey texts on Alexander Technique for double bassists and present the findings of interviews with several AT teachers who are also musicians, such as Ethan Kind and Joe Detnon, who offer very specific insights into idiodexterity.¹¹ Alexander Technique is just one approach to cultivating bodily awareness. It has been selected for this study because of its close relationship with the performing arts and its pertinence to my own experience as a bassist and a student of AT.

2.4.3 Body awareness across generations

That there are jazz musicians who are Alexander Technique teachers at all is necessarily a recent development – a meeting of twentieth-century disciplines. In **5.2**, the aim is to briefly update that meeting, providing new insights into the physical consequences of idiodexterity. In the **Case Studies**, AT is used as an external lens through which to consider the body use of prominent idiodextrous bassists, none of whom appear to have directly employed AT.

Notions of effective body use were generally less formalised among jazz musicians of Earl May's generation, especially outside of conservatoire training (Detnon 2015). It is useful to consider the informal attitudes and creative solutions adopted by jazz musicians like May when prioritising health, stamina and longevity (see **6.1**).

¹⁰ After having lessons with Alexander, Huxley wrote: "The Alexander Technique gives us all things we have been looking for in a system of physical education: relief from strain due to maladjustment, and constant improvement in physical and mental health. We cannot ask for more from any system; nor, if we seriously desire to alter human beings in a desirable direction, can we ask any less." (Rickover 2015b)

¹¹ Detnon generously contributed his interview in the form of an Alexander Technique lesson.

2.5 Identity

Identity here is defined as ‘self-image’ – the ‘malleable’ perceptions that musicians uphold about how they ‘fit into the world’ – which in turn affects how they ‘perform with others’ (Ruscio 2015). The reasons for adopting an idiodextrous approach are tied to this self-image (Christman 2010; Snowman 2010).

Identity and music can be seen as a two-way street: musicians choose to play music that expresses their self-image; and the outcomes of those musical experiences influence (reinforcing, altering or otherwise) the identities of those musicians as perceived by themselves and by others. The musicianship of idiodextrous jazz bassists can equally be understood as an expression of their identities.

2.5.1 Jazz bass lore

Jazz bassists are often described as providing ‘the heartbeat of the band’ (Crow in Kirchner 2000: 668) – ‘the foundation on which everything is built’ (Bowler in Monson 1996). Bassist and published jazz historian Bill Crow (1927-) argues that ‘a bassist doesn’t have to be a great soloist to be in demand’ (in Kirchner 2000).

In a value system in which ‘enabling’ the music is prioritised above soloistic virtuosity, the physical challenges of idiodexterity become less important. It is important to note that several of the idiodextrous bassists studied can be heard soloing with great facility. However, the case study on Earl May – who is one such competent soloist – shows that he harboured an aversion to soloing, which may have been rooted in ‘stories’ about his idiodexterity (Ruscio 2015).

2.5.2 Individuality and idiodexterity

In jazz, improvisers are revered who not only excel at their craft, but who do so in a personalised way. Note choice and time feel are musical factors in the creation of a jazz bassist’s identity (Crow in Kirchner 2000). Extra-musical factors such as emotional sincerity, value systems and body awareness also contribute to a musician’s performing persona (Ruscio 2015).

Is there a case to be made that the scope for individuality in jazz creates a more conducive environment for adopting an unconventional handedness approach? Earl May laments being unable to study with classical teachers due to his idiodexterity, but proudly recalls influential jazz bassist Charles Mingus telling him he was ‘probably the only one who’s playing the bass correctly’ (Matthews 2002a: 20).

2.6 Jazz Vocabulary

Just as children learn to speak their native language by imitating older competent speakers, so young musicians learn to speak jazz by imitating seasoned improvisers. In part, this involves acquiring a complex vocabulary of conventional phrases and phrase components... (Berliner 1994: 95)

A key aim of this research is to look for clues in the playing of idiodextrous jazz bassists that suggest a relationship between their handedness and their musicianship. It is important first to delineate the jazz idiom within which those clues are sought.

2.6.1 Idiomatic jazz double bass

Butler (1966) charts the development of the double bass in jazz, from its validation as a solo instrument in the hands of Jimmie Blanton (1918-1942), through the bebop updates of Oscar Pettiford (1922-1960) and Ray Brown (1926-2002), to the more exploratory styles of Scott LaFaro (1936-1961) and Charlie Haden (1937-2014) in the ‘modern’ era. Developments in such a lineage occur in relation to the instrument’s role as defined in the mainstream tradition of jazz (Crow in Kirchner 2000).¹²

Even without straying far from the tradition, jazz musicians grapple with a choice to emulate or innovate. Berliner (1994) clarifies that the two are not mutually exclusive, arguing that emulation is a key step towards maturity and invention.

¹² While many historically significant musical styles have been born out of divergences from the mainstream tradition of jazz, including in the direction of ‘free improvisation’, that mainstream is nevertheless the focus of this study – simply because no idiodextrous bassists have yet been identified performing in those other idioms.

Analogies between language and music are often used to describe this process of learning idiomatic jazz ‘vocabulary’ from predecessors as a necessary step to developing an individual voice.

Discussion in **5.4** maintains the key thread of this research by investigating the relationship between ‘jazz vocabulary’ and idiodexterity. I aim to argue that some techniques idiomatic to jazz double bass – in particular the effect known as ‘raking’ – are ergonomically unintuitive to idiodextrous bassists. I also argue that there might be vocabulary uniquely accessible to idiodextrous bassists as a result of inverting these ergonomic principles.

2.6.2 The ‘vocabulary’ metaphor

Bernstein (in La Musica 1973) argues for a ‘grammar’ fundamental to all music, rooted in a ‘Chomskyan’ linguistic theory of a universal grammar in human speech. Cross (in Hallam et al 2009: 6) sums up two key differences between musical and verbal utterances:

Music may allow participants to act simultaneously rather than asynchronously as in language. In addition, music’s meanings appear less stable and consensual than those of language.

Analogies with language are useful only so long as we remain aware of how we are relating them to music. Here, I am using vocabulary to mean the repertoire of musical ideas – ‘licks, tricks, pet patterns, crips, clichés and, in the most functional language, things you can do’ (Berliner 1994: 102) – that characterise a jazz bassist’s identity as an improviser. In **5.4**, the idiomatic conventions of jazz improvisation contextualise analysis of the improvising vocabularies of the idiodextrous bassists studied here.

2.6.3 Thumb position

Thumb position is the name given to a system of fingering used to play in ‘the area of

the bass from the octave harmonic to the end of the fingerboard’ (Goldsby 2002: 210). In **5.1**, an explanation of why this poses significant physical challenges to idiodextrous bassists is given. Some of the bassists featured in the **Case Studies** share ways in which they are able to address this issue in their soloing.

2.7 Transcription

The term ‘transcription’ is used here to refer to the musical practice of notating from recordings, rather than the more common research term for writing out the content of spoken interviews. It also refers specifically to transcription as employed by jazz musicians, rather than its uses in classical pedagogy.

2.7.1 Informal jazz transcription

In jazz, transcription means to notate, learn, analyse and internalise a passage of music – most often a single instrument’s solo – by repeated listening to a recorded performance. As a continuation of the music’s aural tradition, the primary goal of informal jazz transcription is the embodiment of musical knowledge, transferred onto the instrument. In chapter **7**, I will conduct a sample informal transcription analysis to test the method for suitability in future studies of idiodexterity with larger scope.

2.7.2 Conventions in jazz transcription

Informal jazz transcription often involves a process of streamlining information to facilitate quicker analysis. The context within which the solo is taking place is usually synthesised into a harmonic progression and markings to indicate the tempo and feel of the piece, rather than providing a full score and cross analysing the interaction between the musicians.¹³ The synthesised information provides the transcriber with the primary cognitive structure from which soloists generate material (Clarke in Sloboda 1988).

¹³ Transcribers can undoubtedly gain insight into the motivations behind some of the soloist’s choices by listening to the band as a whole and students are encouraged to ‘figure out’ the voicing or bass line movement when it captures their attention – but full score transcriptions are nevertheless rare in practice.

Another convention of jazz transcription is to sometimes use a system of ‘best approximation’ of rhythms when notating. This shorthand approach to rhythmic values is practical for the same reasons described above – the rhythmic nuances are internalised by practising the transcribed music and playing along in tight synchronisation with the recording, rather than from that notation.

2.7.3 Problems of transcription

If the goal is to look for subtle clues of a bassist’s handedness approach affecting their improvising choices and tendencies, then the subjectivity and selectivity of these conventions of jazz transcription can be problematic. For example, if the goal were a comparative scientific study of beat placements between conventionally-handed and idiodextrous bassist, transcription produces quantisation of rhythm that is unsatisfactory for scientific analysis of physiological attributes such as motor response (Pressing in Sloboda 1988).¹⁴

One means of understanding ‘signature’ in improvisation is to search for ‘iteration’ – ‘the repetition of an utterance’ (Park 2012). Applied to jazz transcription, this would involve looking at a cross-section of transcriptions of many different solos by the same musician, looking for repetition of the same concepts or techniques.¹⁵ The challenge is to identify which of these repeated ideas could convincingly be argued to stem from idiodexterity.

Rather than seeking concrete, conclusive evidence of idiodextrous ‘licks’ from transcriptions (an undertaking beyond the scope of this research), a small trial will be conducted in chapter 7 to see whether a transcription of Earl May’s soloing corroborates the existence of the uniquely idiodextrous vocabulary proposed in 5.4.

¹⁴ See Wesolowski (2014) for an example of a comprehensive approach to analysing expressive timing in jazz.

¹⁵ Note that in the context of jazz, the idea need not be replicated exactly in its original form each time.

3. METHODOLOGY

This section describes the methods employed in this research and explains why they were chosen as the best means of answering the research questions.

3.1 Situating my own practice

As a member of the very marginal subset of idiodextrous bassists, it is important that I acknowledge the tendency to identify with members of that same subset as a kind of bias. Methodologically, there are two problems with aiming to use my own practice to address the research questions: a self-centred approach risks ignoring the scope of idiodexterity among jazz bassists, producing a very narrow, subjective view; and it might produce work heavily geared towards enhancing my own musicianship.

My own practice is nevertheless useful as a component method of enquiry. Once subjectivity is monitored appropriately, it is a distinct advantage to be a member of the community being studied. Indeed, awareness that idiodexterity might carry significant physical and sonic consequences for double bassists initially arose from my own first-hand experiences.

'Practice as Research' is a methodology that is gaining increasing traction in academia (Nelson 2009). While using my own practice *as the primary means of research* would present the problems of subjectivity described above, there is nevertheless merit in using it to inform my research. Being an idiodextrous bassist gives me access as a researcher to embodied knowledge, advantageously shifting me from the position of 'spectator' to 'practitioner' (Melrose 2007).

Primarily, I see the role of my practice as a generator of ideas and impulses. Rather than looking to my performance practice for definitive answers, I increasingly find it to be a source of insightful *questions*. In this way, the methodology employed here is much more akin to 'practice-based research' than 'practice as research'.

3.2 Literature

There is a notable gap in academic literature on the subject of idiodexterity, particularly in the context of double bass performance. This research aims to fill that gap. Constructing a relevant theoretical framework meant looking to literature on topics that somehow surround idiodexterity for context.

3.3 Selecting areas of research

Due to the lack of directly relevant literature, I have chosen to research four areas surrounding idiodexterity: **Instrument, Body, Identity** and **Jazz Vocabulary**.

Having a clear, working knowledge of the fundamental asymmetry, construction features, sound production issues and playing conventions of the **instrument** helps to clarify how an idiodextrous approach is unusual and what its sonic consequences might be (**RQ1**).

Idiodexterity is an embodied phenomenon, linking handedness to musicianship. I have chosen Alexander Technique (AT) as a useful means of investigating the consequences of idiodexterity in the **bodies** of bassists, primarily because of its adaptive nature and ability to apply guiding to principles to specific situations (**RQ1**).

Overlaps between these areas of research invite new theories of how they relate. In **5.3**, an '**identity** loop' linking the interfaces of body, instrument and identity in acts of music-making is proposed. Idiodextrous jazz bassists are affected by prevailing attitudes towards handedness and identity construction in jazz (**RQ2, RQ3**).

The employment of **jazz vocabulary** is a key component of how those interconnected interfaces coalesce in improvisation. Considering whether there is any vocabulary specific to idiodextrous bassists demands drawing all four areas of research together (**RQ4**).

3.4 Primary Research

The scarcity of texts specific to idiodexterity compels an emphasis on primary research. I have interviewed a wide sample of musicians, luthiers, Alexander Technique practitioners and scholars with expertise relevant to studying idiodextrous jazz bass performance. As a means of gathering new information on the subject, these interviews have the added benefit of connecting my own practice-based knowledge with that of other musicians.

Semi-structured interviews were chosen as the most effective method because they facilitate very specific lines of questioning, while still allowing conversations to take on directions and shapes of their own – which often led into new and unexpected territories of great interest and value.

Lines of questioning were designed to steer the interviews towards addressing the gaps in the literature. For example: an interview with idiodextrous bassist Lyles West yielded very specific comments on vocabulary and intuitive solutions to ergonomic challenges; conventionally left-handed bassists with some experience of playing idiodextrously contributed insights based on unique comparisons; and interviews with AT teachers generated recommendations specific to idiodextrous bassists.

These interviews are the most significant source of new knowledge gained in this study. While their focal disciplines vary, each contributor had valid and insightful perspectives to offer on the subject of idiodexterity.

Interviewees include:

idiodextrous bassists (Lyle West, Mark Geddes);

'legit lefty' bassists¹⁶ (Jennifer Leitham, Manny Flores Jr, Richard Hammond, Chris Jennings, Joris Teepe);

¹⁶ This is a shorthand term used to describe bassists who play left-handed on *left-handed* instruments

left-handed bassists playing in the conventional right-handed way (Ron Bland, Bob Cranshaw, Gary Crosby, Matthias Heyman, Craig Thomas, Rémy Yulzari);

right-handed bassists (Rufus Reid, Phil Palombi, Martin Wind, Murray Wall, Alyn Shipton, Robin Ruscio, Ike Sturm, Brian Casey, Mike Griot);

their musical colleagues (singer Lee Boswell-May, drummers Adam Nussbaum and Jackie Williams, guitarist Roni Ben-Hur, saxophonists Jimmy Cozier and David Glasser, trumpeters Chris Batchelor and Alaric Taylor);

luthiers (George and Tom Martin, Robbie McIntosh, Arnold Schnitzer, Ben Puglisi);

body and mind experts (Joe Detnon, Stella Evangelia Kasoumpi, Dr Randall Kertz, Ethan Kind, Robin Ruscio); and

scholars and historians (François Evans, Alyn Shipton, Matthias Heyman, Paul Matthews).¹⁷

3.5 Case Studies

How and why do idiodextrous bassists end up adopting this unusual handedness approach? (**RQ2**) Do they feel it had any significant consequences on their musicianship? (**RQ1, RQ4**) How do others perceive their idiodexterity as a part of their identity as a musician? (**RQ3**)

The attitudes of Bud Loyacano (1879-1960) and Sherwood Mangiapane (1912-1992) survive only in a handful of photos and one interview each. These documents are nevertheless insightful and important as the earliest records of idiodextrous double bass performance uncovered to date.

¹⁷ In June 2015, with financial assistance from Middlesex University, I travelled to the US to spend a week at the Convention of the International Society of Bassists (ISB) in Fort Collins, Colorado, then a week in New York, NY. The ISB Convention gave me access to some of the greatest experts of the double bass in the world and the insights of those interviewed were invaluable. New York (and later in life, neighbouring New Jersey) was home to Earl May (1927-2008), whose life and music are the subjects of the primary case study presented in 6.1. I was fortunate to speak with Earl's friends, colleagues and family, whose accounts gave crucial context to his story.

Earl May (1927-2008) had a better-documented career and the availability of several recorded interviews is useful for comparison and correlation. Conducting interviews with many of May's associates uncovered much additional information useful for considering his idiodexterity.

Tony Archer (1939-) has a large body of recorded work and his solos demonstrate a particularly high level of technical facility.¹⁸ Archer's virtuosity is significant for its challenge to any assumption that the physical and sonic consequences of double bass performance act only as limitations. Although Archer has been unavailable for comment to date, interviews with several of his associates have offered some insight into his handedness story.

Lyles West (1956-) provided one of the most useful interviews of this entire study. West gives very relevant insights based on his experiences as an idiodextrous bassist currently engaged in performing at a high level on his local jazz scene (in and around Dallas, TX).

The experiences of 'legit lefties' who occasionally play back-to-front are also particularly useful for their rare ability to make direct comparisons. Richard Hammond (1976-) first played bass idiodextrously before realising there was such a thing as a left-handed instrument. Hammond, Jennifer Leitham (1953-) and Joris Teepe (1962-) all have experiences of playing idiodextrously on jam sessions, when teaching and when left-handed instruments are unavailable on tour.

Their comments on idiodexterity are interspersed throughout the main text and summaries of their interviews are included as **Appendix 1** to give context to their remarks.

¹⁸ Most of these are live 'bootleg' recordings made available for free download from the Google Drive of the jazz fan who documented them. They are very valuable as a resource as they feature Archer in many extended solos on a variety of jazz repertoire. A large-scale transcription analysis project (one of my recommendations for future studies) would do well to include these.

3.6 Developing an online resource

This written dissertation is augmented by multimedia components. The two are designed to refer to one another: links are included here to videos that help clarify points in the text; and the online resource makes reference to parts of the full text, which will be available for download.

I have created a website for this research here:

www.idiodextrous.com

This site houses videos, images, music and forums discussing idiodextrous double bass. The purpose of this resource is threefold: to illustrate this dissertation's content to fellow researchers; to make a version of that content accessible to a wider audience; and to facilitate ongoing discussion.

Demonstrating a physical concept like idiodexterity has the advantages of immediacy and visual engagement. I have filmed a series of videos illustrating some of the key concepts in this dissertation. To view the whole series – each of which is referenced individually in the text – visit:

www.idiodextrous.com/videodextrous

The register of the videos may seem overly clear for academic purposes: this is because part of their purpose is to be pedagogic for potential newcomers to the subject, from beginner idiodextrous bassists to others taking a casual interest. Their ultimate function is knowledge transfer at a level accessible to all. Brief text summaries of the key findings of the full text explain and interpret each of the demonstration videos.

The site invites ongoing discussion from academics, musicians and other interested parties and includes a forum for posting comments:

www.idiodextrous.com/participate

An early version of this concept was used to succinctly outline the main areas of research and to invite contributions:

www.greggottlieb.net/educator/research

This saved time when communicating with potential interviewees. I continue to receive communication via the contact form and 'Comments' forum and having an online presence has proven very useful for the project's outreach. Fruitful examples include ongoing email conversations with Gary Karr, Manny Flores Jr and committee members of the International Society of Bassists.

4. LITERATURE REVIEW

In **3.2**, a gap in academic literature on idiodextrous approaches to the double bass was identified. The current section will review the literature available in the four key areas outlined in **3.3** (Instrument, Body, Identity and Jazz Vocabulary) and extract information and viewpoints relevant to idiodexterity.

Texts from each area of research are reviewed that directly contribute perspectives useful to answering the research questions posed in **1.3**. Authors are prioritised whose comments either accommodate idiodexterity within their scope or highlight some of the resistances to it present in traditional thought systems. Once this theoretical framework has been established, chapter **5** will use ideas gathered from primary research to draw those perspectives together and compare them with the insights of key practitioners.

4.1 Double bass literature

Recognising traditional approaches in the history of double bass performance helps to understand how and why idiodexterity challenges the norm. Since no academic literature yet exists that covers idiodextrous double bass performance to any significant extent, it is useful instead to investigate these traditions for purposes of comparison.¹⁹

4.1.1 Histories of the double bass

Spitzer and Zaslav (2005: 23) contend that Panyavsky (1998) argues ‘probably incorrectly’ for the double bass as a descendant of the viol family. Brun (2000) makes an authoritative update to the genealogical debate, locating the bass clearly in the violin family.

Slatford and Pettitt (1985) is a ‘state of play’ assessment of the double bass in the UK. Although clearly mindful of including jazz in the scope of their survey, they

¹⁹ To my knowledge, the only academic author to mention idiodextrous double bass is McManus (2002).

mention only that, 'in the field of jazz, the techniques of the early 20th century black pioneers in the USA have spread throughout the world' (ibid: 20). The fact that none of the myriad influential jazz bassists are named is unsatisfying, particularly given the long list of classical 'stars' to whom the authors attribute an elevation in the standing of the instrument.

In their chapter on pedagogy, Slatford and Pettitt (1985: 46) note that 'Alexander Technique is widely used by practising musicians to achieve a relaxed but positive posture and an equivalent mental outlook. They discuss Suzuki Method and Rolland Principles as the two main methods of teaching double bass to beginners.

The negative, cautionary tone used to describe Rolland Principles is in quite stark contrast to the positive description of AT, warning how 'a tight back' or 'incorrect stance' mean that technique 'can never be properly developed' (1985: 50). Whether or not this is the authors' subjective interpretation, it reinforces why Alexander Technique may be the best approach to addressing the physical challenges of idiodexterity, which require malleable thinking to address.

Unsurprisingly, both Planyavsky's and Brun's works assume a traditional right-handed approach throughout when referring to activities of the right and left hands and make no mention of any alternative handedness approaches. By comparison, Slatford and Pettitt (probably unconsciously) feature slightly more 'handedness-neutral' language. Technical issues are more often referred to using 'role-specific' language, such as 'the bowing arm' and 'the fingering hand'.

Particularly in pedagogy, the predominance of hand-specific terminology is notable evidence of a deeply embedded bias towards a conventional right-handed way of playing. Frisch (2015) considers the use of such language as a 'damaging prejudice' that has 'endured' too long and that can cause much 'grief for left-handed kids especially'.²⁰

²⁰ Frisch contacted Hudson Music publishers 'asking educators to stop using specific references of hands that only are correct for right hand musicians'. In September 2015, he received a reply from Hudson's Rob Wallis 'supporting' Frisch's ideas and promising to make 'his producers and educators aware of this' (Arnecke 2015).

This raises the question: when and why was the first left-handed double bass made? (see 5.1.5) No history appears ever to have been published of left-handed double basses or bassists. Developing a picture of the history of left-handed double bass performance is valuable since the availability of left-handed instruments is an implicit factor in many cases of idioldexterity (RQ2).

4.1.2 Method books

No method book yet exists for idioldextrous or left-handed double bassists. The latter is logical, since a prevailing pedagogic attitude asserts that teaching double bass to a conventionally left-handed student is essentially, ‘the same thing... like a mirror image’ of teaching right-handed (Flores Jr 2015).

Perhaps the most widely adopted method for learning double bass technique is that developed by Franz Simandl (1840-1912), which West (2015) incorporated into his early self-teaching as an idioldextrous bassist.

In the 20th century, Syrian-born, French bassist and composer François Rabbath (1931-) pioneered his unorthodox *New Technique of the Double Bass* – an ‘exploratory, ergonomics-centred, and still rather controversial double bass method’ (Reel 2011: 46). Rabbath’s emphasis on experimentation and focus on tension-free use of the body parallel some Alexander Technique philosophies useful to considering the physical consequences of idioldexterity.

Many of the existing jazz method books, such as Brown (1999) and Carter (1998) are repetitious collections of scales, fingering patterns and exercises for developing technical facility lacking in contextualisation that are unrepresentative of the mastery of the authors.²¹

²¹ While Carter’s book offers more in the way of context, the text is sometimes unclear in its meaning and there are printed errors in the exercises that suggest a rushed publication.

By contrast, the revised 'Millenium' edition of Rufus Reid's 1974 method book *The Evolving Bassist* lives up to its subtitle: 'A Comprehensive Method In Developing A Total Musical Concept For The Aspiring Jazz Bass Player' (Reid 2000). Reid's text opens with 23 pages of contextualising mini-essays, including a 'Glossary of Terms' and 'Frequently Asked Questions'.

Reid brings students of jazz bass into contact with a broad range of relevant concerns. Exercises are always accompanied by text explaining their developmental purpose. Rather than presenting blocks of patterns transposed through twelve keys, the exercises logically develop musical material, drawing the student towards the heart of the concept. By avoiding excessive repetition, Reid creates space to delve into conceptual territories of improvising.

The 'Millenium Edition' compiles what were previously two volumes, the second of which was titled *Evolving Upward* (Reid 1977). White (1977: 345) describes the latter as 'a series of exercises devoted to thumb position' and notes that 'the exercise section, if properly executed, **demands that the reader develop facility in the often-neglected area of low string thumb position** [emphasis added]'.

Accessing thumb position on the high strings is one of the key issues raised by an idiodextrous approach to the double bass (see 5.2.1.2). In 5.4.5, a proposal is made for how Reid's attention to 'low string thumb position' exercises could be exploited to develop improvising vocabulary that is uniquely, ergonomically intuitive to idiodextrous bassists (RQ4).

4.1.3 International Society of Bassists (ISB)

American double bass virtuoso Gary Karr (1941-) founded the International Society of Bassists in 1967 (ISB 2015). Originally named the 'International Institute for the String Bass,'²² the ISB was 'created to raise the standards of the string bass... [to]

²² The string bass is a synonym for the double bass. Although electric bass occasionally features in performances at ISB Conventions, the organisation is otherwise exclusively concerned with the double bass.

investigate all physical aspects of the instrument... [and to] discuss and evaluate all technical and educational approaches to the bass' (Karr 1967).

The ISB now serves more than 3000 members in over 40 countries (ISB 2015) and is constantly expanding the means by which it aims to achieve Karr's original purpose. Biennial ISB Conventions bring the world's largest gathering of bassists and luthiers to the US for a weeklong celebration and investigation of all things double bass.

In an article titled 'Our Purpose' in the first volume of the society's journal (then named *The Bass Soundpost*), Karr (1967: 4) states that the ISB:

...will make it possible for bassists throughout the world to combine their knowledge in order to solve present day string bass problems and to raise the standards of our greatly neglected instrument. In this way The International Institute hopes to make its contribution to the Renaissance of the string bass.

While studying idiodextrous approaches may not have been explicitly considered in that original manifesto, this research has nevertheless received much valuable support from the ISB. Joining their network has facilitated ongoing discussion with several contributors (including Karr himself). Many of the most significant interviews that feature here were conducted at the 2015 convention in Colorado.

The journal of the ISB is the longest-running regular publication of double bass studies.²³ Searching the back catalogue of the ISB's publications (available to all members via the George Vance Online Research Library) turns up nothing on left-handed musicians. The ISB's publications are nevertheless important to this research as a library of vital documentation of the culture of community among bassists worldwide.

²³ The journal has existed in various formats and under several names: *The Bass Soundpost* (1967-71); *Probas* (1972); *International Society of Bassists* (1974-96); and its current title *Bass World* (1975-).

4.1.4 Bass communities online

Beyond such formalised organisations as the ISB (and its newly emerging European counterpart BASSEUROPE), a significant number of online communities of double bassists exist.²⁴

Discussion on **leftybassist.com** is mostly populated by electric bassists, with ‘upright bass’²⁵ talk mostly restricted to sales and basic setup advice. A thread started by user Pete Gossett in October 2014 and titled ‘Tips, tricks and techniques for inverted lefties’ aims to stimulate sharing of idiodextrous electric bass technique. At the time of writing, the thread had become dormant by January 2015 after 19 posts, most of which suggested Youtube videos of idiodextrous electric bassists Keith Horne, Stan Sargeant, Gerald Johnson and Pony for guidance.

This brief thread implicitly reiterates that there is currently no published text available specific to that handedness approach. It also shows how tech-savvy musicians often address such deficits of reference material by looking online to videos of current practitioners for advice. This highlights the importance of visual iconography in modern learning cultures (Heyman 2014) and is further motivation for establishing an online resource for idiodextrous bassists (see **3.6**).

Leftybass.com includes a database of left-handed bassists, organised by nationality. The site’s administrator Volkmar Arnecke generously posted a ‘call to action’ inviting participants in this research, which continues to yield valuable contributions, including Frits Jochems’s global list of left-handed double bassists and running commentary on lefty bassist Jack Frisch’s campaign against hand-specific terminology in bass pedagogy.

More general discussion groups, such as **talkbass.com**, **basschat.co.uk** and the ‘**Bassit**’ section of social media bulletin board reddit.com, often have at least one

²⁴ Conceived in 2008 to ‘unite and promote Europe’s double bass players and makers’, BASSEUROPE is becoming an important counterpart to the ISB. The 2016 congress in Prague aims to further develop the organisation’s commitment to double bass research in Europe. <http://bass2016.eu/congress/presenters> has more information.

²⁵ ‘Upright bass’ is the American terminology for double bass in most common usage online

thread discussing left-handed, or even ‘backwards’ bass. The tone of these conversations reveals the supportive nature of such communities, with threads often beginning with a question or complaint around which participants rally with suggestions.

4.2 Literature on the body

The conceptual framework of the ‘performing body’ is contested in academia (Cook in Clayton et al 2003: 208). This research references the body only as a site for studying the physical consequences of idiodyexterity as an embodied phenomenon.

4.2.1 Handedness

As an unconventional handedness approach, idiodyexterity challenges prescriptive histories of the performing body that in turn raise questions about the evolution of humans. McManus (2002) ties together an impressive range of aspects necessary to fully considering human handedness: biological asymmetries, left-right symbolisms, philosophical debates, linguistic and political connotations, physics, evolutionary biology and the brain.

The result is an overarching narrative that is engaging and compels deeper understanding of the foundations on which our ideas surrounding handedness are built. McManus consolidates vast bodies of work on heavily technical subjects and translates their content into a register of writing that is academic and illuminating, yet compelling and accessible.

Core concepts of two chapters in particular feed directly into discussions of identity and idiodyexterity. Chapter 10 investigates ‘how social interactions are important in determining such lateralised behaviour’. In Chapter 11, McManus ‘considers the social processes that influence what it is like to be in the left-handed minority of a society in which most people are right-handed, and the effects on language, perception and stigmatisation’.

Furthermore, in a section of Chapter 10 under the subheading ‘Wielding a scalpel and playing the violin’, McManus considers how concerns of cooperation and efficiency have reinforced subscription to uniform handedness approaches among both surgeons and orchestral musicians. He goes on to describe string instruments as being ‘potentially ‘ambidextrous’’, describing how:

*...if the strings are put on a guitar in reverse order, then a left-hander can play them with no obvious disadvantage, Paul McCartney and Jimi Hendrix²⁶ being well-known examples. Violins, cellos and double-basses can also be restrung in that way and played by a left-hander, as was done, for instance, by Charlie Chaplin in the film *Limelight*.*

McManus then gives the example of an idiodextrous jazz double bassist! He writes:

Occasionally, left-handers have even been known to play ‘backwards’, the instrument strung as appropriate for a right-hander. The self-taught New Orleans jazz bassist Sherwood Mangiapane offers an example: ‘He picked it up by ear and played it his own way,’ said jazz historian Dick Allen. ‘He played left-handed and it looked like he was playing it backwards. He didn’t restring it. It was just the way he learned.’

That this is the only academic acknowledgement of the practice found to date further highlights the gap in literature on idiodextrous double bass performance.

4.2.2 Handedness in music

McManus (2015) recommended two very relevant articles: Snowman’s ‘*The left and right hands of the eighteenth-century British musical prodigies, William Crotch and Samuel Wesley*’ (2010); and Christman’s ‘*Eclectic lefty-hand: Conjectures on Jimi Hendrix, handedness, and Electric Ladyland*’ (2010).

²⁶ Hendrix’s handedness story is complicated and will be explored in further detail in 4.2.2. It should be noted, however, that McManus has correctly identified Hendrix’s primary handedness approach to the guitar as playing right-handed guitars turned ‘back-to-front’, but restrung to be essentially like a left-handed guitar.

Both directly address key issues of idiodextrous performance on string instruments and advance theories connecting identities with handedness approaches. Although dealing with very different time periods and societies, they share a common concern with interpreting the effects of social attitudes on the handedness of their subjects.

William Crotch (1775-1847) is mostly remembered as an English composer and organist. Snowman focuses on Crotch's early childhood, during which time he was thought to be 'a candidate for the role of the "English Mozart", at a period when English musical composition was perhaps considered provincial' (2010: 210). The young Crotch was proficient as a violinist and cellist, but played left-handed on right-handed instruments in both cases.

In Snowman's narrative, these unorthodox approaches are inextricably linked with two aspects of Crotch's early musicianship: him being 'self-taught' and his childhood handedness story. It is sometimes difficult to moderate the varying accounts of Crotch's virtuosity as described by his elders. There is an evident tension, for instance, between the praise of his patrons and his dismissal by some music critics.

Though Snowman remarks on the attitudes of various commentators to Crotch's handedness approach, she does not investigate the motives critically. This leaves unanswered some questions of gauging Crotch's musical fluency on those string instruments by modern standards.

Christman (2010) makes a direct challenge to conventional handedness approaches in playing the guitar (**RQ3**). He first clarifies Hendrix's complicated handedness story – including his approach to the guitar, which has been the source of much mythology.²⁷ Hendrix almost always played right-handed guitars left-handed, but with the strings reversed to be ordered like those of a left-handed guitar.

He notes that the few rare instances in which Hendrix was witnessed playing a regular right-handed guitar left-handed *without* re-stringing seem to have been

²⁷ In fact, the most common – and mostly erroneous – response I hear when explaining my research and my handedness approach is something along the lines of, 'Oh, it's like Jimi Hendrix but on double bass!'

sufficient to propagate the legend that Hendrix always adopted an idiodextrous approach (ibid: 261).

Christman then argues that gradual changes in guitars, as well as in styles of music, have led to different sets of priorities for the roles of each hand, depending on the musical context. He believes that Hendrix's handedness orientation intuitively recognised a very advantageous approach to playing rock guitar.²⁸

Christman very occasionally slips into ambiguous terminology, stating that when Hendrix adopted a truly idiodextrous approach, 'the fingerings for chords needed to be mirror-imaged' (ibid: 261) The phrase 'mirror-imaged' is evocative but inaccurate. Even taking into account the broader range of meanings symmetry can have (McManus 2002: 338), no axis of symmetry exists along which the hand shape of an idiodextrous guitarist fingering a given chord can be said to be an actual mirror image of that of a conventionally handed guitarist.

Christman succeeds in establishing a theoretical framework within which to discuss relationships between Hendrix's handedness and his music-making. His article tracks closely to the aims of this study and is the most relevant academic text on idiodextrous musicianship encountered to date.

In **5.4**, both Crotch's and Hendrix's challenges to traditional handedness approaches are applied to the double bass (**RQ3**). Their viewpoints are also echoed by several of the bassists interviewed.

Japanese online bass magazine *The Walker's* (Fujisan 2011) ran a feature story on 'Left-handed Upright Bassist' [sic]. The special feature 'introduce[s] 9 amazing people from the jazz scene who play left-handed woodbass'.²⁹

²⁸ Although this argument is well structured and plausible, more references would have been welcome. In this key six-paragraph passage (pp259-60), only the last sentence contains a reference – to a book that includes a list of guitarists with similar handedness approaches to Hendrix's.

²⁹ The article's introduction later explains that 'Contrabass, acoustic bass, double bass, string bass, standing bass [and] upright bass... are generally all called Woodbass in Japanese' and that 'Woodbass is a made-in-Japan word.'

Earl May is introduced as ‘the first left-handed upright bassist in the jazz world’ and as having ‘pioneered left-handed upright bass playing’. Both claims are erroneous (Loyacano and Mangiapane both predate May), but the spirit of reverence in accord with May’s status in jazz history is evident. The article notes that Earl ‘played a standard right-handed bass as is without swapping around the strings [and] developed a rare/unusual style’, but does not discuss in further detail how this differentiates him from the other featured bassists.

The article’s introduction declares a particular investigative intention:

In this issue we asked our left-handed upright bassists ‘what do you find difficult about playing with your left hand?’ The biggest difficulty they report is that when they play in a jam session as an outsider and borrow a bass for right handed playing where the strings are reversed they have trouble playing, so when they’re on tour or performing overseas they always have to take their own bass along.³⁰

This shows why practical considerations can inform a bassist’s choice to adopt an idiodextrous approach (**RQ2**). The reinforcement of this idea by several of the bassists surveyed in the magazine signifies a unity in the plight of left-handers.

4.2.3 Handedness online

Internet sites like **anythinglefthanded.co.uk**, **rightleftrightwrong.com** and **lefthandedchildren.org** are designed to be one-stop resources for left-handers (and in the latter case, their parents). Each has at least one page dedicated to music.

The page on ‘Music and Lefthanders’ at **anythinglefthanded** opens with one of the most common popular conceptions of handedness in music:

³⁰ The entire article was translated by Professor Nanette Gottlieb, FAHA, Emeritus Professor of Japanese Studies, University of Queensland

With left-handers using the dominant right side of their brain, they may be more creative than right-handers and music is something where left-handers seem to have a natural advantage. However, set against that are the practical difficulties of obtaining left-handed instruments and finding teachers that can help you to play them left-handed!

While the latter assertion is certainly useful for beginner musicians to be aware of, the former statement is unqualified. In a chapter of *Right Hand, Left Hand* (2002) devoted to debunking myths surrounding handedness, McManus clarifies the issue:

Although there are recurrent claims of increased creativity in left-handers, there is very little to support the idea in the scientific literature, and most of the popular literature merely cites anecdotes about Leonardo, Holbein and Paul McCartney, ignoring the fact that for every McCartney there seem to be another nine talented rock musicians who are right-handed. Although there is one much-cited study in the scientific literature finding an excess of left-handers among architects, it is the old, old story in laterality research that the finding doesn't seem capable of replication. This, then, seems far too little on which to hang a theory of any consequence.³¹

The **lefthandedchildren** site houses 'a wide-ranging survey on lefthanders' experiences at school'.³² The site's administrators declare that, 'by its nature, the survey cannot be fully "scientific", because we cannot control the sample of people who complete it and the information given is based on personal opinions.' However, as a source of anecdotal accounts of left-handed learners, the survey is well managed and significant for making available (anonymously) the detailed comments of each respondent.

³¹ The passage continues, "Having said that, it is possible, as suggested in chapter 9, that if left-handers are more variable in their cerebral organization, then *some* of them could be more creative, although there would also be a large number of creative *right*-handers from the same source."

³² The full results of the survey, including detailed comments from each of the more than one thousand participants can be found at: <http://www.lefthandedchildren.org/school-survey-results.htm>

At lefthandedchildren.org/school-survey-guitar.htm, there are currently 65 individual comments on playing guitars and other string instruments. The attitudes range from those who didn't know there was a left-handed way to play, to those who 'gave up' (because the practical challenges of finding an instrument and a teacher made it 'too hard' or 'expensive'); from those who preferred to play right-handed and learned that way, to those who learned left-handed – usually with a fair amount of self-teaching involved.

Rightleftwrong's page on 'Handedness and Music' presents some interesting and fairly well researched notions, but could be improved by referencing. It presents as fact the anecdotal observation 'that many left-handers claim that traditional stringed instruments do not discriminate against left-handers at all, because the left hand (which performs the fingering, chords, etc) actually has the more difficult job, requiring most the dexterity.' This view is reinforced by several of the bassists interviewed for this study, including Leitham, Thomas, Palombi and Bland.

4.2.4 Alexander Technique for musicians

American Alexander Technique teacher Ethan Kind has published a series of more than fifty e-books with titles beginning 'An Alexander Technique Approach To...'. The subjects mostly involve applying AT to musical performance technique, but also include sports, driving, yoga, meditation, psychotherapy and 'walking effortlessly'.

At first glance, such a vast range of subject matters might raise questions about the capabilities of one person to demonstrate expertise in so many areas. However, Kind (2014) explained that the book on '...Double Bass Technique' is written:

"from my experience working with bassists. I'm not a bassist, but an Alexander Technique teacher is taught to look at general and very specific ways of using the body in any activity. We find a way either to make what is being done more efficient or suggest other postural and technique possibilities."

Considering Kind's status as an extensively published (not only self-published) author, his expertise as an AT teacher and his lifelong engagement in both music and athletics, the above goes quite some way to explaining how someone might write with authority on so many technically specific subjects.

Kind's (2011: 2) highlights another important reason why AT is particularly valuable to this study, noting that one of its 'unique' philosophies asserts that 'if the whole body is balanced, and the technique **makes personal sense**, the player will play without sacrificing her body [emphasis added].' This attitude is useful in addressing the physical consequences of idiodexterity (**RQ1**).

4.3 Literature on identity in music

Academic research into musical identities is a relatively young and contentious field. It emerged out of overlaps of music psychology with a vast range of disciplines, including sociology (especially gender, race and political studies), musicology, education and communication studies in the 1980s (Macdonald et al 2002: 3). This section will discuss theories of how identities are constructed, how they manifest in jazz and how they relate specifically to playing the double bass.

4.3.1 Identity construction

How might identities be constructed in music? In the opening chapter of *Musical Identities*, Macdonald et al (2002) explain how:

Our musical tastes and preferences can form an important statement of our values and attitudes, and composers and performers use their music to express their own distinctive views of the world.

The authors draw a distinction between two aspects of identity construction, which they call '*identities in music* (IIM) and *music in identities* (MII)'. The former 'deals with those aspects of musical identities that are socially defined within given cultural roles and musical categories', while the latter 'focuses on how we use music as a

means or resource for developing other aspects of our individual identities'. In **5.3**, it is argued that identity is formed and reformed by an ongoing loop in which these two processes are in fact *complementary* and simultaneous.

Torres (2008) emphasises two aspects of identity construction that are transferrable to thinking about idiodexterity: 'Identity in the body' and the notion of 'difference'. These ideas will also feature in **5.3**.

4.3.2 Identity in jazz

Macdonald and Wilson (2006: 60) look at how identity operates in jazz:

Jazz, then is a social process. As such, it is subject to wider cultural influences (Monson, 1996) and, like other social phenomena, it is critically implicated in the processes of identity formation and maintenance (Oliveros, 2004).

Macdonald and Wilson (2005: 413) used focus group interview methods to study 'Musical identities of professional jazz musicians' in Scotland. They found that the value systems of those musicians:

...heightened the need for musicians to identify and operate as part of an ensemble and a wider jazz community... While this identity is important to continuing and participating in the music, it is negotiated (rather than shared) in the group context in relation to individual musical identities and the perceived dispositions of others.

This highlights how a musician's identity is continually being negotiated through ongoing interactions with other jazz musicians. In **5.3**, an argument is made that this affects how idiodextrous bassists define their relationship to their peers, which in turn can affect the playing situations towards which they gravitate (**RQ2**).

4.3.3 Double bass identities

Crow (in Kirchner 2005: 668) notes that:

...the role of the bass in jazz is mainly supportive...The main thing other jazz musicians want from a bass player is 'good notes,' bass notes that thread through the harmony in an interesting way, and 'good time,' a steady rhythmic feeling that helps bring the music to life.

He goes on to describe in detail how a long list of significant bassists pioneered new approaches, both musical and technical to the instrument. The subtext is that there is a thread of innovation rooted in individual expression, proliferated by legacy and fostered by an environment in which ingenuity and exploration are validated.

Crow reinforces Macdonald's and Wilson's (2005) point about the ongoing negotiation of identities in jazz – in this case the identities of double bassists, as defined by their contribution to that instrument's role in the music.

Butler's 1966 MA thesis, 'An Investigation of the Musical identity of the Double Bass' further elucidates this connection. His critical, historical account of the 'recognition and discovery of the musical potentials of the double bass' is rounded out with interviews conducted by mail and collected under the title 'Contemporary Opinions of the Musical Identity of the Double Bass'.

In his correspondence to notable jazz bassists Quentin 'Chubby' Jackson, Bob Haggart and Bill Crow, Butler (1966: 86) explains his reasons for contacting them:

... Moreover, I realize that you have been working to establish an identity not only in your own playing, but an identity for the bass (as a much broader musical vehicle). I feel that the bass still suffers from an identity problem: Blanton's playing was compared to that of a 'cello, LaFaro's playing was compared to that of a guitar, and so forth. It seems that just now the bass is breaking through old stereotypes, and is beginning to be recognized as a

more totally-acceptable musical vehicle (both as a solo instrument and in an ensemble context).

Although Butler's perspective is clearly dated, he nevertheless highlights how closely linked the identities of jazz bassists can be with that of the instrument itself. This idea is useful for considering idiodexterity and identity, and returns in **5.3**.

It is possible to discern some of the prevailing attitudes among left-handed and idiodextrous bassists in more recent times by turning again to online forums. In March 2012, **basschat** user jojoagogo234 started a thread titled 'converting a right handed double bass to a lefty' with the following comment:

"unfortunately im left handed.... this means any bass im looking at (right handed ones) are going to have an added 150(ish, depends) added on to the price, however i dont know about double bass." [sic]

Particularly in the context of practical considerations like finding and buying an instrument, many 'lefties' lament their status as an alternative subcultural group within the wider bass-playing community. Idiodextrous jazz bassists circumnavigate this issue by playing 'left-handed', but on right-handed instruments. (**RQ2**)

4.4 Literature on jazz improvisation

Due to the aforementioned lack of texts specific to idiodexterity, this review will focus on academic literature covering universal concepts of improvisation. The purpose is to identify writing on aspects of improvising that may assist with identifying whether there is any uniquely idiodextrous vocabulary (**RQ4**).

4.4.1 Improvisation in jazz

How do jazz musicians improvise? This central question has been approached from many disciplines, among them neuroscience, cognitive sciences, psychology, biomechanics, communication studies, musicology and cultural studies.

Clarke and Clarke (2014: 86) critique the collaborative attempts of the sciences and the arts in attempting to grasp improvisation:

Just what is going on in the brain and body, say, in the living presence of the improvised musical moment...? The mixed terms of such questions point to fundamental differences between investigative epistemes as much as they invite their collaboration... The field needs the distinctive discursive formations of the humanities precisely because the claims of science far from exhaust understandings of consciousness.

Among the musicological texts discussing jazz improvisation, perhaps the most in-depth, single author study to date is Paul Berliner's *Thinking in Jazz* (1994). Although the book's scope is practically limited to bebop and its related styles, Berliner gives a particularly lucid, holistic account of how musical, social, commercial, intellectual, psychological and physical factors interact throughout an improviser's journey towards musical maturity.

Hartigan (1999: 351) notes that Berliner succeeds in both 'inform[ing] his work with prior and contemporary scholarship' and focussing on 'the musicians themselves, their words and improvisations'. Berliner uses musical analysis and critical scholarship as tools to understand the broader implications of jazz improvisation as inextricably linked to the life circumstances of its practitioners, largely dissolving boundaries between musicianship and identity.

4.4.2 Improvisation and identity

Hollerbach (2004) attempts to refocus ethnomusicological views away from music as a broadly cultural domain ('a disciplinary perspective that has assumed the homogeneity of the world's cultures') towards 'biographical micro-histories [that] situate the individual at the centre of music studies.' He considers the language used by jazz musicians in describing their improvising aesthetic as symbolic of their musical identities.

Hollerbach's approach connects the viewpoints of an individual (and the language used to express them) with improvisation. The **Case Studies** in this dissertation attempt to do a similar thing. To quote from Hollerbach's title, they will explore the relationship between 'improvising aesthetics and identity' – in this case, relating specifically to unorthodox handedness approaches.

4.4.3 Improvisation and handedness

Kopiez et al (2011) conducted two experiments investigating 'the influence of handedness on a musical performance':

In Experiment 1 no evidence was found for a performance-related or well-being-related disadvantage in dNRH [designated non-right handed] instrumentalists playing in the standard position.³³ In Experiment 2 temporal sensorimotor precision in the right hand was superior to that of the left hand in both right- and lefthanded pianists. We conclude that professional musicians adapt to the standard playing position regardless of their objective handedness. However, it cannot be ruled out that a subgroup of dNRH instrumentalists subjectively feel constricted when playing in the standard position.

Their conclusions rely on a mix of quantitative measurements and qualitative data – a methodology in line with Clarke and Clarke's (2014) collaborative philosophy (see 4.4.1). Although not dealing with improvisation specifically, the work of Kopiez et al stands out as a significant, frequently cited example of serious research into the effects of handedness on musicianship.

Several more academic studies exist on the relationship between handedness and musicianship: (Oldfield 1969; Schleuter 1978; Jäncke et al 1997; Laeng & Park 1999). However, no serious research seems yet to exist on the relationship between

³³ Kopiez et al use 'standard (non-inverted) position' to refer to the conventional, right-handed way of playing string instruments

handedness and *improvisation*. Anecdotal evidence from interviewees are employed in this study to address this gap in the literature (see **5.4** and **Case Studies**).

Christman (2011) conducted an experiment on ‘handedness and open-earedness’, concluding that ‘compared to mixed-handers, strong right-handers reported significantly decreased liking of unpopular³⁴ music genres’, including jazz. This finding can be extrapolated to suggest that those who adopt unconventional handedness approaches might be more attracted to jazz, adding to the theory that jazz might accommodate idiodexterity particularly well.

4.5 Literature summary

From this selective tour of the literature surrounding Instrument, Body, Identity and Jazz Vocabulary, threads connecting each area to idiodexterity can be seen to emerge. The key authors are Snowman, Christman, McManus, Kind, Reid and Berliner.

Snowman and Christman both make strong arguments linking identity to handedness to musicianship. Their protagonists – Crotch and Hendrix respectively – each challenge the traditions of string instrument playing (**RQ3**).

McManus elucidates how handedness is perceived in various societies. His forays into handedness in music give useful context for considering the environments in which idiodexterity is adopted (**RQ2**).

Kind and Reid, from AT and jazz bass perspectives respectively, provide a valuable framework for considering the physical challenges unique to idiodextrous bassists (**RQ1**).

³⁴ In Christman’s study, musical genres were divided into two categories – ‘Popular’ and ‘Unpopular’ – based solely on Recording Industry Association of America sales figures for the period 1999-2008.

Reid's work serves the additional purpose of facilitating the proposal of some uniquely idiodextrous vocabulary (**RQ4**). Berliner delineates the crucial framework of jazz improvisation within which to consider the development of that vocabulary.

The most significant gap in the literature is the lack of academic discussion of idiodextrous double bass. There is also no research linking handedness to improvisation. The range of methods described in chapter **3** will now be employed to address these gaps.

5. MAIN AREAS OF RESEARCH

In this section, primary research will be brought to the fore to consolidate the threads explored so far and to contribute a fresh, clear perspective of idiodexterity as a rare practice among jazz bassists.

Collectively, the four areas of research outlined in **3.3** (Instrument, Body, Identity, and Jazz Vocabulary) have the scope to circumscribe the issues central to being an idiodextrous bassist. With the boundaries of each area set and the gaps in the relevant literature identified, finer-grained analysis can begin, with particular focus on the research questions posed in **1.3** and re-iterated here:

1. What are the physical and sonic consequences of an idiodextrous approach to the double bass? **(RQ1)**
2. Why do some bassists adopt this approach? **(RQ2)**
3. How does idiodexterity challenge predominant assumptions and attitudes about handedness inherent in string instrument traditions? **(RQ3)**
4. Is there improvising vocabulary that is uniquely, ergonomically intuitive to idiodextrous bassists? **(RQ4)**

5.1 INSTRUMENT

What is the 'normal' way of playing the double bass? **(RQ3)** How is the double bass asymmetric? How do its internal construction features affect sound production? **(RQ1)** These questions are crucial and the best people to answer them are often luthiers.

5.1.1 What are the conventional handedness approaches to the double bass?

Considering the challenges unique to playing idiodextrously means setting up comparisons with the conventional right-handed approach. We could equally make those comparisons with the 'conventional' left-handed way of playing. Why is this?

If a bass is built 'from the ground up' to be played left-handed, both its visible, external features and its internal construction are an exact mirror image of those for a right-handed instrument (G. Martin 2015). This means that there is functionally no difference between a right-handed bass played right-handed and a left-handed bass played left-handed.

See Video 1A at www.idiodextrous.com/videodextrous

Why is a 'right-handed' bass called that? Phrased another way: how were the conventional roles assigned to each hand in the first place? Batchelor (2015) conceives of that process as establishing a 'hierarchy of roles', noting that in pedagogy of the classical tradition, 'bowing... is the thing to focus on initially', with the fingering hand being 'secondary.' The primary concern here is helping the student to produce a good sound; stopping the strings to change the pitch is secondary to being able to sound those pitches clearly.

Evans (2015) considers that a crucial part of the identity of the sound of each instrument is the nature of the 'attack transience' at the moment of 'ictus' – the precise point in time at which the note is instigated. In jazz pizzicato playing, the finger pulls and almost immediately releases the string of the double bass and within milliseconds, 'the design elements affecting the sound production are engaged' and the character of the note takes shape.

In the hierarchy proposed by both Bachelor and Evans, sound production is prioritised over pitch control and the roles are assigned to the dominant and non-dominant hand respectively. Since the proportion of right-handedness has remained

around 90% in most human populations for centuries (McManus 2002), it follows that the role of sound production (bowing and plucking) was assigned to the right hand. This has certainly been the case at least since the standardisation of the violin family instruments in the late 17th century (Brun 2000).

Referring to Jimi Hendrix's handedness approach, Christman (2010: 258) asks:

Why would someone who wrote with his right-hand and was given a right-handed guitar spontaneously decide that playing it left-handed would be easier? One argument is that, historically, what was originally a 'right-handed' guitar has evolved into a 'left-handed' guitar (and vice versa), as the more demanding aspects of guitar playing have switched over the centuries from the right to left hand.

Christman proposes that historical changes in the guitar's dimensions, the materials used to make its strings, conventions of tuning and the stylistic demands of evolving musics may open the door for alternative handedness approaches in more modern styles of music. He argues that Hendrix 'intuitively realised' that 'using his presumably more dextrous right hand on the fretboard and his presumably less agile left hand to strum the strings' best met the demands of modern rock guitar playing (ibid: 260).

Butler (1966: 1) describes how historically, the double bass has been considered, 'by recognition of its physical shortcomings and harmonic range, acceptable only as an instrument intended for ensemble use'. Applying Christman's thinking, if volume, clarity and rhythmic precision have traditionally been valued above melodic speed, it stands to reason that the role of sound production would have been allocated to the dominant (right) hand.

This raises the question of whether the changing playing demands of jazz in the last century to include pizzicato bass solos might have facilitated some bassists' intuitively unconventional handedness approaches. Idiodextrous bassist Lyles West notes an ergonomic advantage over right-handers in articulating ascending

arpeggios, which he notes usually have more relevance in soloing than in accompaniment (West 2015). This raises the question of whether different handedness approaches might be better suited to different playing contexts.

Eighteenth century child prodigy William Crotch wondered about the same. Twining (in Snowman 2010: 227) witnessed Crotch ‘bowing with his left hand and fingering with his right on a violoncello strung as usual, playing... with more effect than most other players do by rule, and teaching and practice.’³⁵

Kopiez et al (2011) argue that there is ‘no disadvantage for left-handed musicians’ in terms of performance skill.³⁶ Some attitudes far exceed those equalising assertions, suggesting that playing in the ‘non-inverted’ way gives left-handers an *advantage* over right-handers.

Thomas (2015) argues that when playing double bass in the conventionally ‘right-handed’ way, being ‘naturally left-handed gives you a good [fingering] hand’, citing both himself and former Philadelphia Orchestra principal bass Roger Scott as examples. This contradicts the traditional hierarchy of roles assigned to each hand (see 5.1.1).

Bland (2015) argues that having the dominant hand fingering the pitches may be an advantage, especially in the context of playing fast passages. If this is truly an advantage, why don’t right-handers play in the way considered to be ‘left-handed’, and vice versa? This would place the dominant hand in control of the fingerboard, while retaining the order of the strings in relation to the body.

If the dominant hand is considered to excel at whichever role it is assigned, then playing in the ‘normal’ way means right-handers should experience an advantage in their sound production and left-handers an advantage in their pitch control. Since there is functionally no difference between playing with the conventional right- or

³⁵ Snowman also includes a fascinating sketch done by landscape artist William Delamotte of ‘...William Crotch playing the violin in his own way’ [emphasis in original] – held vertically and played back-to-front: a doubly idiodextrous approach.

³⁶ In this study, all participants (regardless of handedness) were playing in the ‘non-inverted’, conventionally ‘right-handed’ way.

left-handed approaches, it should be just as acceptable or beneficial for all string players to play 'left-handed' on a left-handed instrument.

This suggests that the tradition of favouring right-handed instruments is arbitrary. In theory, bassists could equally learn to play in either (or both) conventional handedness approaches. To understand how idiodexterity introduces other considerations to this debate, it is essential to clarify a fundamental aspect of the instrument: its asymmetry.

5.1.2 How is the double bass asymmetric?

Snowman's (2010) abstract highlights: '...that stringed instruments such as the violin, viola and cello are inherently asymmetric, with one hand bowing and the other fingering strings which are themselves arranged asymmetrically.' Clarifying the internal and external asymmetries of the double bass informs understanding of their physical and sonic consequences for the idiodextrous bassist.

5.1.2.1 External features

See Video 2 at www.idiodextrous.com/videodextrous

The outline of the double bass suggests symmetry (Fig 5.1). Even before a bassist enters the picture, subtle asymmetries are present in the exterior of the instrument itself.

Filling in the outline of the bass, we may next notice that there is asymmetry in the strings. They are arranged in an order based on their varying thicknesses:



Fig 5.2 – different string thicknesses

Fig 5.1 – outline of a double bass



Most of the less obvious external asymmetries stem from the asymmetry of the stringing. The bridge is the name of the piece of carved wood that supports the strings and raises them high enough above the body of the bass so that they sit above the fingerboard. The top of the bridge is necessarily asymmetric in order to accommodate the different diameters of the strings and the shape of its top is usually carved to match the curvature of the end of the fingerboard:

Reid (2015) notes that using a fingerboard with even curvature is a relatively recent practice – especially among jazz musicians. He considers that idiodextrous bassist Earl May ‘came up’ during a time when fingerboards with a ‘ridge’ underneath the E string (as in **Fig 5.3**) ‘were stock’. He credits

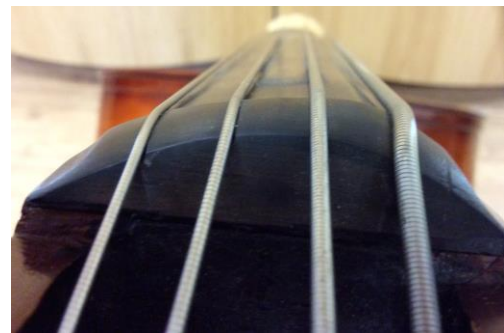
Fig 5.3 – asymmetric curvature of fingerboard and bridge



contemporary bassists Gary Karr and Eddie Gomez with introducing even curvature and equal string heights, arguing that then ‘all the techniques began to blossom’.

The nut is the name of the piece of wood placed at the top end of the fingerboard, where it meets the scroll.³⁷ It is also necessarily asymmetric, so that the grooves can support the different string thicknesses:

Fig 5.4 – asymmetry of the nut



These subtle asymmetries are important to understanding idiodexterity for two reasons. Firstly, they display why ‘converting’ a right-handed double bass to a left-handed one is not as straightforward as simply swapping the order of the strings. This is useful in understanding the reasons why some bassists end up adopting an idiodextrous approach (see **5.3**).

These asymmetries are crucial to understanding why the landscape of the bass presents unique physical challenges to the idiodextrous bassist. There are also

³⁷ It is worth noting that the machine heads (the mechanism for tuning the strings) inside the scroll are also technically asymmetric, though this does not preclude the possibility of swapping the order of the strings.

problems of sound production to consider, which rely on a working knowledge of the interior construction of the double bass.

5.1.2.2 Internal features

See Video 3 at www.idiodextrous.com/videodextrous

The bass bar and the soundpost are key components of the internal construction of all members of the violin family. They perform very different functions, but work in tandem to effect the sound production of the double bass.

The bass bar is a thin wooden beam glued vertically along the inside of the top of the bass (McIntosh 2015). It runs from a few inches above the tailpiece, under the bass foot of the bridge, to a few inches below the shoulder of the bass (see **Fig 5.5**). Gage (1999) considers its dual functions are 'to support the top from collapsing under the string pressure' and to 'tune the top to reproduce the most desirable resonance.'

Fig 5.5 – bass bar location



The soundpost is a cylindrical wooden post, placed a small distance beneath the stem of the treble foot of the bridge, fitted between the front and back plates of the bass and held in place by friction and string tension. Gage (ibid.) says that, in a functional sense, 'the sound post is the antithesis of the bassbar in that it dictates where the top doesn't vibrate'.

It is useful to note that the bass bar runs beneath the 'bass foot' of the bridge (i.e. the foot that sits beneath the thickest string), while the soundpost sits almost underneath the treble foot of the bridge (beneath the thinnest string). The necessarily asymmetric orientation of these internal components is crucial to the sound production of the double bass.

5.1.3 How do the asymmetries of the bass affect sound production?

See Video 5 at www.idiodextrous.com/videodextrous

McIntosh (2015) explains how the placement of the soundpost affects the ability of the bridge to oscillate, acting ‘like a fulcrum’ so that the pressure transferred when a string is plucked causes ‘the bass side of the bridge’ to move, but not the ‘treble side’.³⁸ Those vibrations cause the bridge to oscillate rapidly, which ‘pumps air’ between the front and back plates of the bass, forcing it out of the ‘f-holes’, which projects the instrument’s sound (ibid.).

Herein lies the first notable consequence of an idiodextrous approach: everything described by McIntosh pertains to the action of plucking the strings of a right-handed bass *in a right-handed way*.

A right-handed bassist pulls the strings towards the bass foot of the bridge. This means that at the point of releasing the string, the oscillations of the bridge begin on its bass foot. The bass foot of the bridge is unencumbered by the soundpost and can vibrate freely, producing deep, resonant tones. These are in turn spread throughout the front plate of the bass by the bass bar.

An idiodextrous bassist pulls the strings towards the *treble* foot of the bridge. This means that at the point of releasing the strings, the oscillations of the bridge begin on its treble foot. The consequences of this are twofold. Firstly, the tone produced is inevitably thinner, with less bass frequencies generated to begin with. Secondly, the distribution of the generated sound is impeded by the presence of the soundpost underneath the foot of the bridge on which the oscillations were instigated.

In the context of an instrument whose role is primarily to provide rich, low harmonic support, these are both obviously negative consequences.³⁹ Paradoxically,

³⁸ McIntosh clarified that the treble side of the bridge does, of course vibrate a tiny amount – but that this pales in comparison to the vibrations of the bass side, which are visible to the naked eye.

³⁹ Difficulty in producing a deep sound is something that I have noted in my own practice.

idiodextrous bassist Earl May had a well-documented reputation for excelling in the instrument's lower register (see 6.1).

5.1.4 How can a double bass be set up to better facilitate an idiodextrous approach?

Luthiers are experts at building, setting up, maintaining and repairing basses. McIntosh (2015) notes that understanding of vibrational acoustics has progressed significantly among instrument makers in recent decades.⁴⁰

Idiodextrous bassists stand to gain much from enlisting the expertise of luthiers. Schnitzer (2015) recalls that 'when setting up left-handed basses for people, that when I played them right-handed, they had much less sound pizzicato', for reasons mirroring those just described in 5.1.3. He suggests that nowadays idiodextrous bassists can 'depend on a pickup' and good amplification to achieve desirable sound.

Schnitzer also proposes a unique solution to the problem of internal asymmetry: two small bass bars (the one beneath the treble foot slightly smaller) and no sound post (ibid.). McIntosh (2015) concurs, clarifying how such an arrangement would allow the bridge, 'instead of pivoting on the soundpost', to 'rotate around the centre line'. He concludes that the tone would be 'deeper than what you're getting' otherwise.

Converting an instrument in this way is expensive and time-consuming. In addition, Brown's (2004b) acoustic comparison of different types of back plates concluded that, 'the musician is a more significant factor in the produced tone colour than the intrinsic acoustical characteristics'. Jennings (2015) concurs that idiodextrous bassists can learn over time to 'pull out the sound of [the] instrument' to partially compensate for sonic disadvantages related to structure.

⁴⁰ For a vibrational acoustic study of the double bass, see *Documentation of Double Bass Plate Modes Using the Scanning Laser Vibrometer* (Brown 2004a). Brown and Bertsch (2004) discuss the paradox inherent in studying the acoustic properties of an instrument in isolation 'from the musician, the room environment, and the listeners'. They point out that, 'these subjective factors' are 'intimately connected with the main purpose of musical activity: expression.'

An ideal solution to the sonic consequences of idiodexterity might be a three-pronged approach. The first process is to consciously practice sound production, which is a mainstay of any good bassist's practice, whatever their handedness approach – but with particular, informed awareness of the structural considerations. The second process is to investigate suitable amplification solutions. The third process is, time and money permitting, to invest in experimenting with reconfiguring the interior of the instrument.

5.1.5 When was the first left-handed double bass built 'from the ground up'?

The rarity of left-handed instruments can be an implicit factor in the adoption of an idiodextrous approach. Constructing a timeline of the construction or conversion of left-handed basses might track to trends in the instances of idiodexterity.

For example, the author is the only idiodextrous jazz bassist born after the 1950s discovered to date. This raises the question of whether the increased availability of left-handed instruments in recent times may have nullified the primary reason for bassist adopting an idiodextrous approach in the past. **(RQ2)**

There are two ways of obtaining a conventionally left-handed setup on a double bass. One is to 'convert' a right-handed bass, to varying degrees. The most common partial conversion involves reversing only the asymmetric external features – the order of the strings, the bridge and the nut. This enables conventional left-handed playing, but the issues of sound production discussed in **5.1.3** remain.

The further step of altering the curvature of the fingerboard may better accommodate the plucking direction of the left-handed bassist. A full conversion from a right- to a left-handed double bass involves the additional steps of reversing the positions of the soundpost and bass bar inside the instrument.

The other option is to have a fully left-handed bass built 'from the ground up'. The resulting instrument will be a mirror image of the standard (see **5.1.1**). New left-

handed instruments invariably incur a mark-up in price compared to the same model made right-handed and second-hand instruments are rare and in high demand.

If the conventional assigning of roles to hands is still considered optimal among bass pedagogues, then this suggests that left-handed bassists should be encouraged to gravitate towards playing left-handed basses. However, most left-handed bassists are encouraged to play in the conventional right-handed way, effectively reversing the roles assigned to dominant and non-dominant hands.

Leitham (2015) believes that most of the famous classical virtuosos of the bass are left-handers playing right-handed. Classical virtuoso bassist and renowned luthier Tom Martin (2015) believes that Giovanni Bottesini (1821-1889), considered one of the greatest ever exponents of the instrument, was left-handed.

A significant number of the 'right-handed' bassists interviewed for this research are actually left-handed people, including: Bob Cranshaw, Gary Crosby, Ron Bland, Matthias Heyman, Craig Thomas and Rémy Yulzari. Many of them cited famous jazz bassist John Patitucci as another example.

Unfortunately, there is no single source documenting the history of left-handed string instrument making. The earliest instance of a left-handed bass being built uncovered by this research so far is Manny Flores Jr's mirror copy of Gary Karr's Amati bass, built by a Tokyo luthier in 1998. The earliest instance of a full (inside and out-) conversion of a right-handed bass is Jennifer Leitham's old Czech instrument, made left-handed in the 1970s.

Visit www.idiodextrous.com/legit-lefties/lefty-basses for updates to this timeline.

It is possible that these practices pre-date those instances. While the sample size is ultimately too small to be conclusive, it seems feasible that the decline of idiodextrous jazz bassists documented after the 1950s may be due to the increased availability of left-handed instruments.

5.2 BODY

5.2.1 Unique physical challenges

See Video 4 at www.idiodextrous.com/videodextrous

What unique physical challenges does the asymmetry of the instrument pose to idiodextrous bassists? There are the two main issues relating to the inverted order of the strings in relationship to the body: the extra effort required by the plucking/bowing arm to excite the heavier strings furthest from the body; and the extra effort required by the fingering hand to reach to the inside of the fingerboard to finger the D and G strings in thumb position.

Several of the conventionally left-handed, or ‘legit lefty’ bassists interviewed also have some experience in playing ‘back-to-front’, usually due to practical necessity (see **Appendix 1**). Their insights will feature here and are invaluable for their ability to make direct comparisons of the physical differences between conventional and idiodextrous approaches.

5.2.1.1 String order

The violin and viola are conventionally played with the lower bout under the chin, meaning that the thinnest strings are closest to the bowing arm when playing ‘right-handed’. By contrast, the cello and double bass are traditionally played upright, so that the thickest strings are closest to the bowing arm when playing ‘right-handed’.

McManus (2015) considers the historical significance of ‘how musical instruments come to be the way around that they are’ and notes that ‘as a violin twists around and becomes the larger cello – at some point the [order of the strings in relation to the body] got reversed.’

Snowman (2010) notes that 18th-century idiodextrous child prodigy William Crotch, ‘described from infancy as ‘self-taught’, raises a number of issues about the ‘natural’

or ergonomically ‘optimal’ way of organising instruments, in particular the cello.’ Crotch himself (in Snowman 2010: 217) places this curiosity at the centre of his handedness story:

*“It appears to me, by the way, that **all violoncello players ought to bow with the left hand** or else alter the direction of the strings. Violin players have the first string next [the] bow, and violoncello players the reverse.”* [emphasis added]

This is a challenging and controversial viewpoint, particularly for Crotch’s time and musical environment. Heyde (in Snowman 2010: 220) considers the biomechanical implications of Crotch’s idea:

A spread four-note chord on the violin has the movement of the bow mirroring the natural arc of the arm as it moves from the lowest to highest string, with gravity working in tandem. The same chord played conventionally on the cello demands an ‘unnatural’ lifting against the arc of the arm and against the pull of gravity. Stringing the instrument in reverse resolves this problem as Crotch also did by playing the instrument strung conventionally but with the bow in the left instead of right hand.

There is a crucial subtext here. When Heyde proposes the optimal conditions for playing ‘a spread four-note chord’, this prioritises **ascending arpeggios**. This perhaps infers something idiomatic to classical violin music.

How does this translate to the double bass in jazz? A rhythmic, descending arpeggio technique idiomatic to jazz bass playing known as ‘raking’ (see **5.4.3**) directly exploits the fact that the string order in relation to the plucking hand is the opposite of that in violins and violas.

Heyde (ibid: 221) further argues that:

While Crotch’s proposal makes much sense from the perspective of the bow

arm, it presents problems for the fingering hand. It is preferable that the highest string is nearest the hand itself, both for the fingering of melodic passages (which are often on that string alone)... Thus, while the reverse stringing assists the large motor movements of the bow arm (usually the dominant 'hand') it creates problems for the smaller movements of the fingering.

There is a melody-centric bias in considering access to the thinnest strings advantageous. While the role of the bass in jazz has certainly expanded to include virtuosic soloing and melody playing, its main function remains rhythmic and harmonic support.

Idiodextrous jazz bassist Earl May (in Matthews 2002a: 20) recalled that:

"[Influential jazz bassist Charles] Mingus was the one who told me, 'You know, you're probably the only one who's playing the bass correctly.' Because the function of the instrument is to put a 'bottom' to the band."

May considers that his idiodextrous approach affords him the advantageous 'facility for playing the low notes very easily'. Since the heaviest strings are furthest from the idiodextrous bassist's body, meaning they require more effort to pluck, he must logically mean that having the heaviest strings closest to his fingering hand made it easier to press down those strings. Comparing it to a conventionally left-handed approach, Jennings (2015) concurs that in an idiodextrous orientation, the heavy strings are 'actually in a more convenient location' for the fingering hand.

Leitham (2015) considers that 'much of the character in a bass player's sound is from your grip strength' and accordingly plays in the conventionally left-handed way despite describing herself as 'favouring my right hand'. Similarly, West (2015) contends that 'fingering hand does the hardest work' and argues that as a right-handed person adopting an idiodextrous approach, he may be at an ergonomic advantage by placing his dominant hand on the fingerboard.

From his experiences in using both conventional and idiodextrous approaches, Hammond (2015) argues that either way, one of the hands is at an ergonomic disadvantage. He concludes that the asymmetry in the string order is therefore the source of a compromise fundamental to playing all string instruments. (RQ3)

5.2.1.2 Thumb position

See Video 4 at www.idiodextrous.com/videodextrous @ 1m15s

Thumb position describes a fingering system in which the bassist switches from fingering the notes with the first ('index'), second ('middle') and fourth ('pinkie') fingers,⁴¹ with the thumb pressed against the back of the neck acting as an anchor, to a position in which the thumb is also brought around the neck to rest on the fingerboard and used to press down notes.

This switching into thumb position usually occurs when the bassist plays 'higher up' the fingerboard.⁴² The 'transition area' from normal fingering to thumb position is often considered to be around the octave harmonic of each string.⁴³

Thumb position is most useful to a jazz bassist when playing a passage or improvising in the higher registers of the bass. While the most virtuosic soloists in any idiom are able to play in thumb position across all four strings, the strings most frequently desirable to play on in thumb position are the thinnest, highest pitched (D and G) strings.

In conventional handedness approaches, these strings closest to the fingering hand, making them easily accessible in thumb position. Conversely, for the idiodextrous bassist, these strings most desirable to play when in thumb position (D and G) are

⁴¹ The third ('ring') finger is very rarely used below thumb position.

⁴² Note that in double bass terminology, 'higher up' the fingerboard actually means as the fingering hand moves vertically 'downwards' in space, towards the ground. The term 'higher up' prioritises increase in pitch, rather than abstract movement in space.

⁴³ A notable exception to this is the technique of François Rabbath (mentioned in 4.1.2), which advocates transitioning into thumb position much lower down the fingerboard if it will facilitate better fingering options, especially of a very fast passage.

located nearest the bassist's body, meaning that the fingering hand has to reach across the fingerboard in order to press them down:

Fig 5.6a – wrist position accessing G string in thumb position, right-handed



Fig 5.6b – wrist position accessing G string in thumb position, idiodextrous



The bodily consequences of this are significant. Because reaching to the inside of the fingerboard makes it more difficult to use the weight of the fingering arm to provide downward pressure, the muscles controlling the fingers and thumb have to work harder to generate the downward pressure required to press down the string.⁴⁴

Additionally, the wrist of the fingering hand may become uncomfortably angled, which weakens the support it offers the fingers and thumb. The reaching action required can also draw the elbow and consequently the shoulder forward, causing extra tension in the upper back and neck.

Alexander Technique teacher Eileen Troberman (in Kertz 2015b) notes that when playing in thumb position, it is vitally important to maintain awareness of any extraneous tension in the atlas joint, where the spine meets the base of the skull. She advises that remembering to allow the head to be free and the spine to 'lengthen over' affords the bassist 'freer use of [their] arms.'

This is particularly important for idiodextrous bassists, since the 'reaching' action required to access the D and G strings in thumb position may increase the tendency to acquire tension in the bassist's neck. The Alexander Technique has useful applications for idiodextrous bassists in dealing with this and other physical challenges.

⁴⁴ The observation of these physical ramifications are rooted in my own practice as an idiodextrous jazz bassist and confirmed by consultation with bassists, luthiers and body experts.

West (2015) addresses the issue in a completely different way, using ‘guitar fingerings’ in the higher register of the bass and avoiding using his thumb to press the strings down, either keeping it anchored to the side of the fingerboard or allowing it to float freely. West feels that taking the thumb out of the equation resolves issues of accessing the D and G strings. He clarifies that this is not a conscious problem-solving strategy or a deliberate injury prevention strategy, but an ergonomically intuitive approach.

Footage of Tony Archer soloing in thumb position clearly shows that he adopts a similar approach, with the thumb kept on the side of the fingerboard (see 6.3 for photos). That the technique intuitively occurred to both bassists suggests that there may be some ergonomic value in exploring this adaptive technique.

5.2.2 Applying the Alexander Technique

5.2.2.1 AT philosophies applied to double bass

Kasoumpi (2015) emphasises one of the key philosophies of AT as applied to music: ‘We bring the instrument to us – we don’t go to it.’ Kind (2011: 7) describes this concept as ‘opposition’, which means ‘allowing the space between you and your instrument’ and to ‘be in contact with the instrument, without pulling or pushing the double bass into you or away from you.’

Kind (ibid: 5) also considers that ‘the general relationship of the whole body to the instrument is one of compromise’ and that there are very few ‘mechanically advantageous postures’ that are ‘truly comfortable and allow effortless access to the double bass’.

While Kind advocates using the Alexander Technique to discover advantageous posture for as many situations as possible, he concedes that ‘it is nearly impossible to sustain a position of mechanical advantage of the torso when you play in the highest register’. He echoes Troberman’s thoughts on the subject (see **5.2.1.2**), arguing that maintaining ‘a free neck and lengthening back and free shoulders and

grounding’ enables a bassist to ‘not harm your body’ even in such positions of mechanical compromise (ibid: 6).

AT is particularly useful for addressing the physical consequences of idiodexterity because of its capacity to do what Kind calls ‘troubleshooting’:

Every fine performer I have ever worked with who couldn’t play a particular passage was operating from lies about their ability.... There was always a solution that worked, if the performer gave him or herself the gift of letting go of limiting beliefs that compromised his or her technique. (ibid: 4)

The malleability of the Alexander Technique as an approach to using the body can be considered as a kind of conceptual antidote to the social pressures that view unconventional handedness as purely disadvantageous (see 5.3.1). Rather than thinking of the physical consequences of idiodexterity as insurmountable problems, one can apply the Alexander Technique to address its unique challenges.

5.2.2.2 AT and idiodexterity: string order

Addressing the extra physical effort required to excite the heaviest strings furthest from the body, Detnon (2015) notes that if the weight of the arm is less available for generating power, it is useful to consider developing strength in the hand and fingers.⁴⁵ He clarifies that strength should be developed without ‘compromising anywhere else.’

In an informal video interview, Kertz (2015c) suggested that idiodextrous bassists might do well to favour a two-finger plucking style when playing on the E and A strings:

See video at www.idiodextrous.com/interviews/kertz

⁴⁵ British AT teacher and guitarist Joe Detnon’s own handedness story is interesting: after years of playing guitar right-handed, he has recently switched to playing left-handed on a right-handed guitar, giving him particular insight into issues of idiodexterity.

This technique is common practice among many jazz bassists, but is usually only reserved for moments of peak intensity and volume in a performance. Idiobassists might do well to implement this technique on the heaviest strings more often, alleviating extraneous tension from the shoulder of the plucking arm, relocating emphasis to the hand itself.

5.2.2.3 AT and idiobexterity: thumb position

Considering the physical challenge of playing in thumb position, Detnon (2015) emphasises the significance of finding a spatial relationship to the instrument that facilitates best use of the body. He argues that the core issue lies in creating balance in the opposition between the body and the instrument, and that idiobassists must explore different relationships than those for conventional right- or left-handed players.

Kind (2011: 13) clarifies that although most people ‘live’ in their hands and ‘experience your hands as moving your arms’, in reality, ‘the musculature of the torso and the shoulders... places the hands where they need to be’ [original emphasis]. This means that having powerful hands actually relies almost entirely on balanced support from the whole body.

Kertz (2015c) concurs, recommending that idiobassists consider their specific needs when prioritising the position of the bass to facilitate playing in thumb position. He demonstrates how using ‘footwork’ to ‘get closer to the bass’ when transitioning into thumb position addresses the physical challenges more effectively than ‘worrying about your wrist’.

Detnon (2015) similarly warns against what AT teachers call ‘end-gaming’ – a mindset in which the need to achieve a result ‘becomes the focal point’ and obscures the ‘guiding principles of the Alexander Technique, so that ‘You just kind of pull yourself about to do it.’

Kind (2014) argues the Alexander Technique is very valuable to idiodextrous bassists for its application of universal, guiding principles to very specific physical situations. Synthesising the recommendations of the teachers consulted, the prevailing opinion is that idiodextrous bassists can best address the physical challenge of accessing thumb position by fine-tuning their stance and relationship to the instrument, turning the instrument slightly to facilitate better navigation if necessary.

5.3 IDENTITY

5.3.1 Handedness and identity in music

Christman (2010) attempts to establish a link between handedness, identity and musicianship, arguing that ‘the ability to coordinate and integrate the actions of his left and right hands was a critical foundation of Hendrix’s sonic experimentation and exploration’ (ibid: 257). He describes how Hendrix’s **handedness** interacts with the demands of his **instrument** to create distinguishing features of his musical **identity**.

In this conception, **body**, **instrument** and **identity** act on the process of music-making to form an ‘identity loop’. Accepting Macdonald et al’s (2002) premise that music is used to develop and redefine aspects of our individual identities and considering handedness approach as an expression of identity (see **4.2.2**) completes the loop.

Snowman (2010) suggests that Crotch’s self-image had some bearing on his unusual handedness approach to string instruments. She cites Crotch’s own assertion that ‘I could learn nothing – I could teach myself anything’ as his justification for ‘abandon[ing] the little fiddle and play[ing] any violin I’d get downwards like a violoncello, bowing with the left hand’ (ibid: 225). His confession to a stubborn determination to self-teach directly links that attitude with his idiodexterity.

Grossberg (in Torres 2008: 1) argues that, ‘identity is always constituted out of difference’. For someone with Crotch’s ‘Enlightenment background’, his divergence from the norm was undoubtedly challenging to the musical traditions with which he

engaged. His mentor and biographer, Schomberg believed that 'it certainly will be worthwhile without delay to teach him to bow with the right hand' (Snowman 2010: 225).

Clayton (in Hallam et al 2009: 40) argues that while 'notions of communion... can lead [musicologists] to write exclusively of social unity, that of 'encounter' leaves space for conflict, for exclusion and for maintaining a sense of alterity, which also have a place in musical performance'.

Idiodexterity can be understood as a form of alterity. It is a rare practice that inherently defies centuries of tradition. As such, it is worth considering how the attitudes encountered by idiodextrous and conventionally left-handed bassists influence their self-image, which in turn may inform their musicianship.

5.3.2 Attitudes towards handedness

In Victorian England, left-handed children were 'considered backward'. Some had their left arms tied behind their backs, were 'shouted at' to write right-handed, 'forbidden all games' and told they were 'hopeless' by their teachers – and 'everyone in the class repeated it' (Stacey in McManus 2002: 268).

Though disturbing, these attitudes sits somewhere in the middle of the scale of persecution experienced by left-handers. McManus (2002: Ch11) presents accounts ranging from the extremes of violence collected by widening the field of view geographically and historically, to the much more subtle stigma of modern times in Western societies.

How has prejudice against left-handers manifested in the history of music? Snowman (2010: 227) argues that Crotch, perhaps the first documented case of idiodexterity, felt at least some 'frustration with external... pressures' to suppress his handedness approach and notes that Crotch 'continued into old age to wonder about the stringing of instruments'. His own words (see **5.3.1**) suggest that his self-image contributed in large part to his questioning nature.

McManus (2002: 259) considers that a sense of 'cooperation' accounts for orchestral string players adhering a uniformly right-handed approach. Aversions to any disturbance of this tradition are cited here often, showing how deeply ingrained this trope has become.

For some classical bass pedagogues, this attitude is so extreme that even discussing the possibility of adopting another handedness approach is anathema⁴⁶. The social pressures of homogenisation are rooted in historical bias towards one handedness approach.

However, not all attitudes adhere to this paradigm. Harris (in Snowman 2010: 232) notes that Plato, 'advised against handedness training in any form and instead recommended methods for enhancing ambidexterity.' Angelo's 1787 *School of Fencing* (ibid: 230) encourages learning to fence with either hand, 'which will be advantageous to yourself, and will do honour to him that teaches.'

These approaches bestow value on our bimanual nature, emphasising the merit of learning to do things in more than one way. If there is value in both ways, then it follows that either way on its own must be a worthwhile pursuit. So in this attitude, choosing between handedness approaches is effectively a non-issue.

Alexander Technique shares something of this unbiased viewpoint. Detnon (2015) considers the tendency of Catalan virtuoso cellist Pablo Casals (1876-1973) to frequently disregard the technical advice given by his teacher as a form of 'ownership' of the learning process.

Detnon argues that idiodextrous musicians, rather than struggling with (or giving up on) the conventional handedness approach, 'take ownership' of 'creative input into how the instrument is played, physically'. He considers that idiodexterity is a 'vehicle' for expressing identity that avoids conforming to standard practices when

⁴⁶ One interviewee expressed particularly strong distaste when discussing left-handed bass playing, objecting even more strongly to idiodexterity. Although such an attitude is perhaps inevitable, this was an exception to the interested, supportive attitudes encountered in conducting this research.

they feel unintuitive and that this is in line with the AT philosophy of ‘bringing the instrument to us’ (ibid.).

It is clear that attitudes are changing to be more receptive to unconventional handedness approaches. Prejudices against left-handed musicians are rooted in obsolete, arbitrary belief systems and prolonged only by traditionalists. Even in the classical idiom, conventionally left-handed bassist Manny Flores Jr experienced a very supportive environment as a section player in the El Paso Symphony Orchestra and studying with Gary Karr in the mid-1980s (Flores Jr 2015).

Idiodexterity attracts additional prejudices, based on the belief that its physical consequences (see 5.2.1) are purely disadvantageous. While these attitudes may have some logical basis in the prescriptive demands of classical repertoire, they have considerably less credibility when applied to musical idioms with more emphasis on innovation and improvisation, such as jazz.

5.3.3 Jazz identities

No idiodextrous bassists playing classical music have yet been discovered. This is unsurprising, given that even ‘legit lefties’ may encounter prejudice in that environment. Hammond (2015) recalls that upon arriving with his left-handed bass to rehearse with Manchester’s Hallé Orchestra, the seven other bassists ‘looked horrified and bewildered’.

A jazz ensemble usually only has one bass instrument, which avoids the stigma associated with the visual disturbance to bowing directions in an orchestral section. Jazz may therefore better accommodate unusual handedness approaches. For example, in defining her identity as a jazz bassist, Leitham (2015) considers that, ‘being a left-handed bass player, bucking tradition is sort of a foundation in what I do’.

Russell (in Williams 1959: 193) considered the string bass ‘the workhorse of the [rhythm] section; its function is to maintain at all times the steady 4/4 beat of bebop

jazz'. Writing only seven years later, Butler (1966) argues that evolutions in the instrument's function (see **2.6.1**) continually recreate the 'musical identity of the double bass... as a result of evolution of form in jazz itself'.

By extrapolation, this implies that the changing concerns of the idiom redefine the technical demands of the instrument. Hollerbach (2004: 156) argues that how musicians 'situate [themselves] within a matrix of issues attendant to the jazz life... form[s] a multi-layered complex of sonic possibilities and social identities that inflect [their] aesthetic values and musical self-image'.

A bassist's handedness approach can be thus understood as an expression of his/her priorities of the malleable technical demands of jazz. This invites the question: what aspects of jazz cultures and playing environments might allow for adopting an alternative handedness approach? (**RQ2**)

5.3.4 Idiodexterity in jazz

Jazz pianist Herbie Hancock (in Berliner 1994: 341) describes modern jazz playing as 'controlled freedom'.⁴⁷ Given their emphasis on innovation and individuality, the cultures of jazz can validate alterity. Difference is accepted and can even become a point of pride.

Ruscio (2015) argues that the meanings musicians create around 'stories' about the body influence how they 'perform with other people'. He views Earl May's idiodexterity as an adaptive kind of 'resourcefulness' (ibid.) that tracks to narratives of alterity in jazz.

Jam session culture has long been an integral part of the communal fabric of many jazz scenes. Performers take part in the rich tradition of the music's spontaneous nature, while engaging in crucial networking. Idiodextrous bassists have a practical

⁴⁷ Hancock here referred specifically to the explorations of Miles Davis's seminal 1960's quintet, of which he was a key member.

advantage over conventionally left-handed bassists for their ability to play on ‘right-handed’ instruments.⁴⁸

Jennings (2015) ‘got tired of going to jam sessions and bringing [his] bass for one song’ and for the last four years has preferred the ‘game’ of playing idiodextrously at jam sessions. The competing desires of individuality and inclusion may thus be resolved through the choice to adopt an idiodextrous approach to the instrument.

Jazz cultures emphasise sonic identities, disregarding the classical fixation with visual normalcy. West (2015) argues that his idiodexterity ‘makes [him] sound different than a right-handed player.’ He notes that an idiodextrous approach makes playing with the bow more difficult, but that for playing jazz ‘it’s not a problem’.

Idiodextrous bassist Bud Loyacano (1879-1960) was a proponent of the slap bass technique popular in early jazz. Loyacano would ‘pop the hell out of the strings’ to ‘make them hit the fingerboard’ and called that style ‘woodblock bass’ for its percussive effect (Brown & Allen 1959a: 27). Depth of tone was clearly not an issue and Geddes (2015) notes that in a technique in which the strings are pulled perpendicularly outward from the fingerboard rather than towards the bassist’s body, the physical challenges posed by the reversed string order are somewhat mitigated.

Glasser (2015) was a bandmate of Earl May’s for more than two decades, but only learned he was left-handed well into that tenure, noting that ‘I was mostly just listening’. He is one of many of May’s peers who revered him for his deep, warm sound and crisp attack, which suggests that May was able to overcome the

⁴⁸ Ironically, May is also able to relate a perilous story about not being able to sit in at a jam session: “I’ll give you a story. I was in Philadelphia once. Saturdays and Mondays were matinee days. So I would go to a club to hear whoever was playing. This one Saturday, I go to this club to hear somebody, somebody who was local. There was this guy who was the leader and happened to be a bass player. He was also left-handed and he had re-strung his bass. I walked in and he goes, ‘Hey everybody! It’s Earl May! We’re going to get him to sit in!’ So I asked him if his bass was re-strung and he says, ‘Yeah, just the way you play it!’ I told him, ‘Look, I can’t play it that way’. But they forced me to get up onto the bandstand. I kept telling them, ‘Look! I can’t play this bass because it’s strung left-handed!’ They could not understand that! Do you know, they called something slow so I could play it and I couldn’t even find the ‘C’ note on that bass! They got really mad at me and started saying, ‘Why you jive turkey!!’ If they’d had fruit, they probably would have thrown it at me! (laughs) I went out of there in shame! It was terrible! (laughs)” (Matthews 2002a)

challenges of sound production described in **5.1.3**. May (in Matthews 2002a) stated that, 'even now a bass player is pretty much judged by his sound and his time'. This reflects something of his musical values, which Glasser (2015) asserts made May 'truly the epitome of a group bassist' and 'a master of... making the music come alive from where he sat.'

In a value system in which 'enabling' the music is prioritised above soloistic virtuosity, the physical challenges of idiodexterity become less important. Mingus's comment that May was 'probably the only one who's playing the bass correctly' (May in Matthews 2002a) exemplifies the attitude of inclusivity towards alterity in jazz – in this case, specifically validating idiodexterity.

While it is unlikely that Mingus meant to endorse an idiodextrous approach as facilitating greater virtuosity, May believed that his logic was based on the relationship between the improved access of the fingering hand to the heaviest strings and a belief that 'the function of the instrument is to put a 'bottom' to the band' (ibid.). While harmonic support is also a priority in many other idioms, there is no similar evidence to suggest that any classical pedagogues have ever been supportive of an idiodextrous approach.

Although the aural tradition predating formalised jazz study existed is often inaccurately romanticised as a totally autodidactic environment (Prouty 2011: 48), it is nevertheless worth considering that earlier generations of jazz bassists were largely responsible for developing their own approach. Allen (in McManus 2002: 259) describes how idiodextrous jazz bassist Sherwood Mangiapane (1912-1992), 'picked it up by ear and played it his own way', noting that 'it was just the way he learned.' The experiences of Loyacano, Mangiapane, May and West all support the notion that jazz, by allowing for the assertion of individual identities, caters for the development of individual fingering styles and highly personal techniques, including idiodexterity.

This raises the pertinent question: do idiodextrous jazz bassists develop their own unique improvising vocabularies that are noticeably different to those of conventionally right- and left-handed bassists? (RQ4)

5.4 JAZZ VOCABULARY

Identifying improvising vocabulary that might be specific to idiodexterity means understanding how improvisation works in jazz. More specifically, knowing what vocabulary is conventionally idiomatic to the double bass in jazz creates a point of comparison.

5.4.1 Embodied vocabulary

Berliner (1994) argues that ‘the body pursues physical courses shaped not only by the musical language of jazz, but by idiomatic patterns of movement associated with the playing techniques of an instrument.’ If a case is to be made for any vocabulary stemming from idiodexterity, then the primary motivation for that type of vocabulary must be related to physical concerns of the instrument – not purely idiomatic.

For example, it is common practice to translate across instruments the type of melodic and rhythmic vocabulary associated with the bebop idiom. Looking for clues to idiodexterity in the melodic ideas and the rhythmic phrasing of a bassist soloing in the bebop idiom is problematic, since those choices may be motivated by stylistic fidelity, rather than by ergonomic concerns.

Berliner (1994: 794) employs an interdisciplinary approach, applying Sheets-Johnstone’s dance improvisation terminology ‘kinetic intelligence’, ‘thinking in movement’ and a ‘fundamental creativity founded upon a body logos... a mindful body, a thinking body’ to jazz. This distinguishes between the conscious process of learning technique and the state of performance, in which the ‘body logos’ guides movement more than thought.

Sudnow (Clarke in Sloboda 1988: 6) proposes that improvising creates a metaphorical ‘improvisatory hand’ with its own ‘logic’ and ‘necessity’ of movement, with the real hands ‘acting simply as executive agents.’ Berliner (1994: 794) cites a variation of this concept in Baily’s research on lute performance in Afghanistan:

The spatiomotor mode can be regarded as a legitimate and commonly used mode of thought, used to instigate and to control musical performances...

These conceptions all suggest that some performative states rely more on *embodied* knowledge than they do on ‘abstract musical thought’. It is therefore logical that at least some of the improvising vocabulary of bassists will stem directly from the ergonomic tendencies of their bodies in navigating the landscape of the instrument.

5.4.2 Idiodextrous tendencies

Idiodexterity is not a complete inversion of the pitch relationships in a conventionally right-handed approach. In both cases, the action of moving the fingering hand downwards in the direction of the ground⁴⁹ corresponds to a rise in pitch.

This is because the instrument has not literally been turned ‘upside down’. Although the direction of raising and lowering pitch *on each string* is the same in both conventional and idiodextrous approaches, the direction in which pitch goes up and down has been reversed *across the strings*.

How does this fundamental difference in pitch direction across strings affect a jazz bassist’s improvising vocabulary? Well, in a very general sense, it might determine which areas of the fingerboard are most comfortable, which may in turn influence the register in which a bassist predominantly plays.

⁴⁹ Note that movement in this direction is typically referred to as shifting ‘up the fingerboard’, indicating that precedence is given to the pitches involved rather than the spatial direction of the hand’s movement.

Jazz pianist Dr Billy Taylor noted that Earl May ‘spent a lot more time on the lower strings than other bass players of the same era’ (Shipton 2015). While May can be heard playing in other registers of the bass, his own assertion (in Matthews 2002a) that he had ‘the facility... for playing the low notes very easily’ suggests that he may have favoured the lower register for ergonomic reasons.⁵⁰

5.4.3 ‘Raking’

Monson (1996: 29) describes how engaging rhythmically with a soloist (or other members of the rhythm section) is one of the key interactive choices jazz bassists can make. She is quick to point out that in accompanying lines, ‘rhythmic embellishment of the four quarter notes tends not to disturb the basic quarter-note pulse for very long’ (ibid: 30).⁵¹

‘Raking’ is perhaps the most iconic rhythmic embellishment technique in jazz bass playing today. It involves using the weight of the arm to ‘quickly pull’ the plucking finger across the strings, often utilising muted, percussive ‘ghost notes’ within the figure (Goldsby 2002: 176). ‘Rakes’ impart a rhythmic effect compatible with desired rhythmic articulations across instruments in jazz, and the practice has been idiomatic to jazz walking bass lines since the ‘beboppers in the 40s and 50s’ (ibid: 218).

Because the ergonomic efficiency of raking depends on the order of the strings in relation to the bassist’s body, the result for a conventionally right- or left-handed bassist is a *descending* arpeggio, moving ‘from the instrument’s upper register to the lower register’ (ibid: 176).

This has sonic importance, since landing on accented, low pitches creates powerful punctuations in a walking line that contribute rhythmic drive – like the accents of the bass drum in bebop, known as ‘dropping bombs’ (Monson 1996: 56).⁵²

⁵⁰ From the 100+ recordings I have surveyed, May appears rarely, if ever, to have ventured into thumb position.

⁵¹ A ‘quarter note’ is the American equivalent of the ‘crotchet’ (♩) in British nomenclature.

⁵² Albert ‘Tootie’ Heath (in Iverson 2009) calls a jazz bassist’s descending rakes ‘bass bombs’ or ‘diggety-booms’.

This is a clear example of jazz double bass vocabulary that is not ergonomically suitable to an idiodextrous approach. In that case, do idiodextrous bassists have a corresponding inversion of ‘raking’ and that constitute unique vocabulary?

5.4.4 Ascending arpeggios

Heyde (in Snowman 2010: 220) concedes that Crotch’s argument for idiodexterity ‘makes some sense’, since playing an ascending arpeggio on the cello in the conventional stringing, ‘demands an ‘unnatural’ lifting against the arc of the arm and against the pull of gravity.’

On hearing Earl May play in NYC during the mid-1990s, Leitham (2015) observed one peculiar aspect of his vocabulary:

“Interesting thing about Earl, you know, he couldn’t go ‘tikadidong’ [sings descending rake], he would go ‘tikadidaa’ [sings ascending rake, laughs] his ‘tikadidaas’ were strange.”⁵³

Unlike the conventional emphasis on landing on low pitches, raking an ascending arpeggio gives a sense of lightness to a walking line. Leitham’s felt May’s rakes were ‘strange’ because they deviated from the idiomatic, ‘heavy’ effect of the ‘bombs’ interjected by conventional raking of descending arpeggios.

West (2015) identifies the advantage of idiodextrous bassists over right-handers in articulating ascending arpeggios in *soloining*, noting that he can play them ‘much faster and cleaner’ because ‘they’d have to pick it and I just brush it’.⁵⁴ West believes that this fundamental ergonomic inversion can exert a strong influence on the melodic, soloing concepts of idiodextrous bassists.

⁵³ In 7.1, a sample transcription will provide some evidence of this tendency in May’s playing.

⁵⁴ West uses ‘brush’ as a synonym for ‘rake’.

This suggests that the ergonomic ease of executing ascending arpeggios could be consciously exploited to further develop a uniquely 'idiodextrous vocabulary' of the double bass. **(RQ4)**

5.4.5 'Thumb workout'

Reid (2000: 59) advocates learning to play in thumb position on all four strings of the bass, advising that each string has 'a slightly different physical requirement' and that 'the dexterity obtained will definitely increase your confidence and facility'. The subtext of Reid's comment is that playing on the E and A strings promises the conventionally left- or right-handed bassist development of extra facility because playing in thumb position on those strings poses difficulties of access in thumb for the same reasons that the D and the G do to idiodextrous bassists (see **5.2.1.2**).

Playing in thumb position on the E and A strings may at first glance seem undesirable, since the pitches available are also accessible in the D and G strings in lower positions. This is an oversimplification, for two reasons. Firstly, the same pitch played on two strings of different diameters will have a different timbral quality on each string.

Secondly, thumb position employs two extra digits for fingering notes – the thumb and the third ('ring') finger, which is usually not used below the transition area. So although the notes accessible in thumb position on the E and A string are also accessible in lower positions on the D and G strings, playing them in thumb position may facilitate greater speed and an increase in possible fingerings.

This suggests that exploring thumb position on the 'lower strings' offers the potential for developing unique improvising vocabulary. Idiodextrous bassists would be at an advantage in creating and executing that vocabulary for exactly the same reasons that conventionally right- and left-handed bassists are at an advantage for playing in thumb position on the D and G strings. **(RQ4)**

6. CASE STUDIES – Idiodextrous Jazz Bassists

So far, we have considered idiodexterity in four main contexts: Body, Instrument, Identity and Jazz Vocabulary. Case studies are essential to understanding how those elements converge in the lives and music of idiodextrous bassists.⁵⁵

6.1 Earl May



Earl Charles Barrington May (1927-2008) is the most prominent idiodextrous jazz bassist to date. He recorded with John Coltrane, Dizzy Gillespie and Chet Baker, toured with Cab Calloway and Charlie Parker, and nurtured the careers of countless emerging talents.

May described himself as, ‘a natural lefty. I do everything left-handed.’ (Matthews 2002a: 19). He recalled his resilience in the face of chastisement from a high school band director:

"I would play right handed. And when he wouldn't look I would play left handed. Then he would stop the band — 'get on the other side!' So it took me a while before I decided, well I don't know what side to stand on, I'm more comfortable playing left handed, but I'd never heard of a left handed bass player. But I decided to just stay [with playing back-to-front] and make myself comfortable." (Rowe 2001: 2)

May, ‘tried every way possible’ during his early years as a bassist (Matthews 2002a: 19). It wasn't until he began working regularly with Billy Taylor that practical

⁵⁵ Brief bios and summaries of these case studies, including video and audio links, can be found at www.idiodextrous.com/idiodextrous

considerations compelled him to permanently adopt an idiodextrous approach (ibid.).⁵⁶ Leitham (2015a) confirms ‘it was the travel that made him do it’.

May lamented that ‘the downside of [playing back-to-front] was that I couldn’t study with Fred Zimmerman and some of the great bass teachers’ (Matthews 2002a: 20). He remembers the prevailing attitude as, ‘(playing right-handed) is the only way to play the bass’ (ibid.) and cites the stereotypical aversion to disturbing the uniformity of bowing directions in the orchestral string section.⁵⁷ May’s peers note that he rarely, if ever, mentioned playing back-to-front. Alto saxophonist Jimmy Cozier (1954-), who toured with May in Cab Calloway’s band from 1986 to 1995, remembers that May was more concerned with ‘playing the band parts and being the music’ and that, ‘he never thought of it as a difficulty or anything like that – it was natural to him’ (Cozier 2015).

May’s *Cadence* interviewer Paul Matthews (2015) makes a nuanced assessment of May’s sound and handedness approach:

“In the [2002] interview [Earl] makes a passing comment on how he thought that being [idiodextrous] allowed him to always make his bottom notes heard. To my ears... he had a ‘lighter’, more fluid sound. It was not that booming ‘heart beat’ kind of sound... Earl’s playing always made me think more of the pulse in your wrist. You felt it as much as heard it but your ear always sensed his presence. He had a noticeable (to my eyes) agility, which

⁵⁶ “In those days (early 1950s), Manhattan was jammed with people walking and strolling. It looked like New Year’s Eve every weekend... But in between some of those sets, we’d have to go to the studio and maybe do ‘The Tonight Show,’ or something like that... and run out again to get back to the club for the next set. So there was no time to change the strings [on a studio bass]. Now you could hardly get a taxi, much less two so I could take my bass. So I figured I’d better learn how to play a right-handed bass left-handed so that I could always play anybody else’s instrument.” (Matthews 2002a: 19)

⁵⁷ May offers a humorous ‘jazz version’ of this trope: “I have a Percy Heath story about that, when I was with Billy [Taylor’s trio]. We were playing at a club called Le Downbeat. Percy was playing with Art Blakey. They were playing at Birdland, I think it was. They decided to go over and see who was at Le Downbeat. Well, somebody had given them a joint. So they smoked the joint on the way over. This was in January and it was cold. When they finally got into the club, they had their collars pulled up to their ears [mimics a head tucked down into a coat]. Coming from the cold into all that heat made Percy’s glasses fog up. Up on the bandstand is [drummer] Charlie Smith, who’s left-handed, and me... I’m left-handed. Percy wipes off his glasses and sees us playing our instruments from the ‘wrong’ side! He says, ‘Damn! I’m not smokin’ any more of that shit!’ And he turned around and flew out of there! [laughs]” (Matthews 2002a: 20)

always impressed me all the more thinking about his unconventional playing technique.”

These comments seemingly contradict the assertions of others (including May) that his sound was ‘bottom heavy’.⁵⁸ This disparity can actually be resolved by taking into account the ‘thinning’ effect that the asymmetries of the bass can have on an idiodextrous player’s sound (discussed in **5.1.3**).

Considering this effect in combination with the proximity of the heaviest strings to Earl’s fingering hand, it is possible to propose an overall effect of increased *clarity* in the low notes of his playing, without them necessarily being louder or ‘deeper’. A low note produced with ergonomically enhanced fingering might have clarity (one interpretation of Taylor’s and May’s beliefs about the presence of low notes in his sound) by virtue of actually being slightly thinner⁵⁹ (supporting Matthews’s experience of a ‘lightness’ in Earl’s sound).

Heyman (2014) makes a strong case for, ‘how music iconography provides useful information on such visually centered aspects like postures and performance stances.’ While May played on at least 130 studio sessions (Lord 2015), there are few performance photos in public domain and video footage of him playing is very rare.

Two videos, housed in a private collection⁶⁰ at the New York Public Library (NYPL), depict May not only accompanying, but soloing – a true rarity. While viewing a performance of Fats Navarro’s *Nostalgia* at May’s 75th birthday concert (Spilka 2002a), I noted that May solos ‘mostly down in half position’ and wondered:

does having the potentially thinner sound that we get from plucking 'backwards' allow us to solo in the lower register with a bit more clarity?

⁵⁸ It is worth considering the subjectivity of sound perception, not to mention the vast array of variables in the environments in which that sound is experienced. See Clarke (2007) for a thorough psychological, physiological and environmental analysis.

⁵⁹ ‘Thinner’ in this case means that although the overall pitch of the note sounded is the same as that note played by a conventionally right- or left-handed bassist, it has more of the higher harmonic overtones produced by that note, due to factors of ‘attack transience’ (see Evans in **5.1.1**) and internal construction features (see **5.1.3**).

⁶⁰ The videos form part of the Bill Spilka Collection of Jazz Videorecordings and their library call numbers are LVH 2214 and LVH 2231. Both are available to members of the NYPL for viewing by appointment.

Matthews's observation, which was made later and independently, supports this theory. I also noted that May 'doubles up with two fingers on the left hand a lot', supporting Kertz's (2015c) suggestion that idiodextrous bassists might benefit from adopting a two-finger plucking technique.

Footage of May displays his noticeably upright posture. NYC-based drummer Adam Nussbaum (1955-) once commented on a septuagenarian May's 'great carriage', which May attributed to hanging 'upside down on an inversion table every day' (Nussbaum 2015). May's widow, singer Lee Boswell-May, verifies Nussbaum's story, adding that, 'from carrying the bass a lot, his back was bothering him – but that tilt table... would relieve the tension' (Boswell-May 2015).

While these anecdotes show that May was conscious of how he used his body, this is perhaps as much an acknowledgment of the physicality of the instrument in general than anything related specifically to his idiodexterity.

Reid (2015) believes it is unlikely that Earl ever made any effort to alter his bass to support his idiodextrous approach better. He laments never having the opportunity to 'talk shop' with May at length, since he felt that 'the instrument that he had actually... should've been set up a little better than it was.' (ibid.)

However, the fingerboard of May's 'recording bass' (affectionately nicknamed *Coltrane*) has a fingerboard with even curvature and no ridge under the E string.⁶¹ This means that the instrument to which Reid is referring (which he notes did have a ridge – see **5.1.2.1**) may well have been May's 'gigging bass'.

⁶¹ During my visit to New York, I was fortunate enough to meet *Coltrane* (video here: kickstarter.com/projects/itsallaboutthatbass/fund-a-jazz-legends-bass-repair-and-preserve-jazz/posts/1279847). The encounter took place in the foyer of David Gage String Instruments (DGS), where the bass was being checked in for extensive repairs. Lee Boswell-May recently gifted the bass to New Jersey bassist Mike Griot, who launched a successful Kickstarter crowd-funding campaign to, 'Fund a Jazz Legend's Bass Repair & Preserve Jazz History!' The campaign's video (Griot 2015a) depicts DGS employee Charles Mike Weatherley assessing the repairs needed and theorising about the provenance of the bass. While the '165-year-old instrument' was in poor condition, playing it for a few moments before it went into the shop was a very special experience and gave me some small insights. One is that this bass does not have a ridge under the E-string.

Coltrane would have accommodated May's idiodexterity much better. The quality of the instrument and its favourable fingerboard contribute to the sonic identity of May's recorded legacy. Boswell-May (2015) recalls that Charles Mingus, who was 'like [May's] coach', found *Coltrane* for him and impressed upon May the need to own a bass 'that... has a really good sound and that you always record with, so that your sound is always the same.'

May's colleagues note that although he was 'a master of enabling and making the music come alive from where he sat' (Glasser 2015), he 'hated soloing' (Boswell-May 2015).⁶² NYC-based German bassist Martin Wind (1968-) considers that usually 'the character of the person and the way they play... go hand in hand' and recalls Earl as 'very gentle, soft spoken' and 'always about... serving the music, making everybody else sound good.' (Wind 2015)

How might this attitude relate to May's idiodexterity? Ruscio (2015) suggests that 'if you value humility, it's going to inform how you perform with other people' and that May's reluctance to solo was likely rooted in 'how he felt about himself, or how he felt he fit into the world.'

Ruscio (ibid.) juxtaposes the trend of recent decades in pedagogy towards 'social justice and promoting people to be authentically themselves' against the marginalisation of left-handers of May's generation as an 'oppressed minority'. Herek (2003) likens the historical stigma of left-handedness in American society with that of homosexuality – both genetic traits.

Ruscio (2015) notes that 'people sometimes have "stories" about their bodies' and that 'the meaning you make around that is really the key part'. He views May's adoption of an idiodextrous approach as an adaptive kind of resourcefulness – a compromise that demonstrates both determination and humility. Ruscio concludes that, 'identity is malleable, it changes over time' (ibid.) and that if May ever

⁶² Earl is nevertheless a competent and engaging soloist. To my ears, his lyrical phrasing, consummate time feel, well developed sound and command of jazz and bebop vocabulary contradict his own feelings about soloing.

struggled with his handedness approach, interviews conducted during his later life suggest that he had come to embrace it.

6.2 Lyles West



West (1956-) is an idiodextrous bassist currently active on the Texan jazz scene. He has worked with such jazz greats as Dizzy Gillespie,⁶³ Kenny Burrell and Randy Brecker and had a long tenure (1991-2003) with Dallas-based world music band Café Noir.

Born into a musical family in North Carolina's Blue Ridge Mountains, West recalls at the age of five that holding his first ukulele back-to-front was 'the way it felt right', insisting until his father eventually 'gave up and showed me the chords that way':

"My mother had a theory... they used to put the guitar in the crib with me... Because of the way the crib was, they put it in there [to his right] and I plucked it with this hand [mimes plucking with left hand]. And I don't know if that's the reason I did it – it just... feels natural that way to me, you know."⁶⁴

West describes himself as right-handed, but eats, throws and catches with either hand. He first played double bass at 23 and gravitated towards jazz with the encouragement of classmate and pianist Frank Kimbrough. By that time, an idiodextrous approach was deeply ingrained after years of playing guitar, ukulele and electric bass.

⁶³ Gillespie's is not the only band that both Earl May and Lyles West have played in at different times – West also had six-month tenure with blues singer Charles Brown in NY in the early eighties and Brown's subsequent bassist was May. West met May at the One Step Down jazz club in Washington DC around 1980: "I said, 'I play the same way you do'. He says, 'Really? Show me!' ... He said I was the only one he'd ever met – at that time, anyway"

⁶⁴ NB: Unless otherwise noted, all direct quotations are from the author's interview with West on 16/9/15

Describing his current instrument, a full-size Austrian bass estimated to be around 190 years old, West believes that:

“It doesn’t sound as good right-handed as it does left- [laughs] ... It’s a very dark bass right-handed... It’s a big bass. It has more of a punch left-handed.”⁶⁵

Here, West supports Matthews’s notion that an idiodextrous approach may actually achieve greater clarity in the lower registers. He goes on to argue tongue-in-cheek that ‘everybody else is playing the bass wrong’, since ‘the fingering is the hardest work. Why would you use your weak hand doing the stuff that’s the hardest?’

West feels that using his left, non-dominant hand for sound production has never been an issue for pizzicato playing, but admits that bowing is an issue when playing back-to-front, ‘because it’s hard to get pressure on the low string, on the E string, when you’re on the other side of the bass – I can understand why it would be better right-handed.’

West argues that he may be at an ergonomic advantage and reports seeing ‘a lot of guys getting tendonitis in their fingering hand, since it’s not their strong [one]’. He is aware of the Alexander Technique and practices yoga, but cites age rather than idiodexterity-related issues as the motivation for becoming conscious of his body use.

While he has never encountered any strictly negative attitudes towards his idiodexterity, West notes that his friends who are classical bassists, ‘think [he’s] a strange person’, but concede that he is ‘a good jazz player and they can’t do that’. He notes that non-musicians rarely notice his unusual handedness approach and that fellow musicians are uniformly more interested in ‘good groove’, his ability to play in tune and the fact that his considerable facility as a soloist.

⁶⁵ West adds that, “It’s been played left-handed longer so I think the molecules, you know, have worked their way into going that way... or something! [laughs]” During our Skype interview, he showed me wear markings that quite conclusively show that his bass has been played idiodextrously by at least one of its previous owners!

West offers unique and insightful perspective on the challenges of playing in thumb position as an idiodextrous bassist:

“I use guitar fingerings. That’s another thing they tell you not to do, if you play right-handed... I use these three fingers [1,2,3] in thumb position, instead of using my thumb – and go across [the strings], you know. Instead of playing like on the G string like you’re supposed to I guess.”

He believes that taking the thumb out of the equation resolves issues of accessing the D and G strings. For West, this is not a conscious problem-solving strategy or a deliberate injury prevention strategy – but an ergonomically intuitive approach:

“If it hurt I wouldn’t do it [laughs]... I mean, like I say – I’m a country, self-taught bass player, so... nobody can tell me how to do it. I do it the way I want to do it, the way it feels best. However I can get the music out, you know.”

When asked whether he believes there might be any improvising vocabulary specific to idiodextrous bassists, West immediately identified an advantage over right-handers in articulating ascending arpeggios:

“That’s what makes me sound different than a right-handed player, ‘cause like I can play these ascending arpeggios... much faster and cleaner- I mean, they’d have to pick it and I just brush it, you know.”⁶⁶

During a Skype interview, West demonstrated some exercises that he has developed for ‘playing in tune’ in which he utilises upward raking to construct arpeggios of fingered notes ‘underneath’ a G string drone. The resulting music did indeed sound and look uniquely ergonomically intuitive.⁶⁷

⁶⁶ West went on to say, “So- of course, going ‘tickatigong’ [emulates raking a descending arpeggio] is not very easy for me, but I figured ways to get around that.” West and I discussed how he has creatively adapted idiomatic jazz bass ‘raking’ into his own technique. Although it is ergonomically unintuitive to idiodextrous bassists, the resulting sound is nevertheless a desirable part of a jazz bassist’s vocabulary.

⁶⁷ It is my intention to ask West to contribute a video demonstrating this technique to the online resource of this research. If forthcoming, the video will appear at www.idiodextrous.com/idiodextrous/west

West believes that this fundamental ergonomic inversion can exert a strong influence on the melodic, soloing concepts of idiodextrous bassists.

“It makes you play different... When you’re soloing... a lot of lines go up... I think more go up than down... I just think it’s the natural thing to do – I play what I hear and I hear those kinda lines more... It works out for me [laughs].”

These final comments actually slightly obscure West’s argument, suggesting that the improviser’s ‘ear’ might play at least as much part in the construction of a personal vocabulary as do ergonomic factors. Nevertheless, his logic concerning the ease of playing ascending arpeggios is sound and echoes Crotch’s musings about string order (see 5.2.1.1).

6.3 Tony Archer



Archer (1938-) was prominent on the British jazz scene from 1961 until the early 2000s, working with such luminaries as Don Rendell, John Dankworth, Kenny Baker. His most famous association is with pianist Tony Lee, of whose trio he was a member from the early 70s until Lee’s death in 2004 and with whom he regularly accompanied international artists at Ronnie Scott’s.

Although most of Archer’s 20 documented studio sessions are out of print, there is a substantial body of ‘bootleg’ live recordings available online, as well as two videos posted to Youtube that demonstrate his considerable command of the instrument.

There is some mythology surrounding the origin of Archer’s idiodexterity.⁶⁸ Promoter Bernie Stringle (2015) explains one popular theory:

⁶⁸ Archer, though alive and still living in the UK, has unfortunately been unavailable for comment to date.

“[Tony Lee’s trio] were doing a gig at the Gargoyle Club in Soho and a fight broke out... Tony tried to save his bass, which... looked like it was going to get destroyed in the fracas – it was really getting heavy – and he got knifed... It went through a tendon... and Tony couldn’t play for ... [something like] nine months... But he then really altered his technique and – I’m not sure whether he turned around his method of playing... but he came back playing well.”

Switching handedness approach due to injury or disability is not without precedent.⁶⁹ A photo of Archer used for the album cover of the 1976 LP *Tony Lee Trio - British Jazz Artists Vol. 1* (LYN3416) appears to show a young Archer playing right-handed and with the bow. The resolution of the digitised image available online is inconclusive, but the original LP cover might show the order of the strings clearly enough to settle the issue.⁷⁰ For now, the question remains open.



However Archer came to play idiodextrously, he clearly developed considerable technical facility with that approach. Extensive listening to his recorded work reveals that while his accompanying style is grounded in the mainstream tradition of Ray Brown’s lineage, Archer’s soloing concepts are much more modern. From the 60s onwards, he appears to consciously combine amplification and low action to facilitate the nimble execution of very fast passages.⁷¹

A 1981 video performance of Tony Lee’s quintet performing Carl Perkins’s *Grooveyard* (kromedome87 2010) includes close-up shots of Archer soloing that

⁶⁹ Violinist Ryan Thomson (2003) writes about his experiences of making that change – see 5.3.4.

⁷⁰ A more hi-res version of the image is available from here: <http://eil.com/shop/moreinfo.asp?catalogid=495498> and I have used the site’s ‘request next available copy’ function.

⁷¹ ‘Action’ is the height of the strings above the fingerboard, which affects ease of playing and volume, usually in inverse proportion.

reveal certain aspects of his technique.⁷² For example, as Archer moves into thumb position, he can be clearly seen to *keep his thumb on the side of the neck*, rather than involving it in the fingering:



That Archer's approach to playing in the high registers of the bass is very similar to West's (see 6.2) suggests that this technique might be ergonomically intuitive for idiodextrous bassists.

All four of the videos of Archer playing that are available on Youtube depict him playing in a seated position. This could imply that Archer dealt with the challenges of accessing the fingerboard by changing the position of the bass in relation to his body. The intuitive gravitation towards such an approach – which echoes the recommendations of Kertz (2015c) and Detnon (2015) not to let the bass dictate the position of the body – is logical considering the emphasis on soloing heard in Archer's recorded work.⁷³

⁷² <https://www.youtube.com/watch?v=qXHe8Y9bpDk>

⁷³ Of the 200+ 'bootlegged' tunes available online, Archer solos on more than three quarters of them.

6.4 Bud Loyacano



While New Orleans-born John William ‘Bud’ Loyacano (1879-1960) is the earliest idiodextrous bassist known to date, he didn’t hear ‘jazz’ until his mid-twenties (Brown & Allen 1959b). His most notable associations were with Triangle Band (1917-1925) and the Halfway House Orchestra (1923-1928) (Bjerstedt 2007).

Loyacano and his six siblings grew up listening to their father play ‘popular songs’ on guitar and all four brothers went on to become active and influential musicians in an around New Orleans during the pre-jazz, rag-time and early jazz eras.

Bud began playing aged ten and performed on ‘Jew’s harp’, harmonica, guitar, mandolin, violin, tuba and eventually double bass. He worked in situations ranging from playing ‘polka, mazurka, schottische, valse’ for society dances to ‘ballyhoing outside burlesque shows’ and ‘thirteen years in the Mardi Gras parades’ playing jazz (Brown & Allen 1959b: 15).

The self-taught Loyacano proudly declared ‘I was a ‘whippin’ piece of furniture’ on the bass fiddle; I used to slap them like nobody’s business’ (ibid: 4). He notes that bassists of his day almost always played two in a bar (ibid: 39). When discussing his back-to-front playing, he described how he pulled the strings and let them slap back onto the fingerboard ‘just like any other’ (ibid: 5).

Considering that Loyacano says he never played walking bass lines (nor employed embellishments like raking and certainly never soloing), his idiodexterity may not have had any significant technical consequences at all. In the case of the ‘slap bass’ technique popular in early jazz of the 1920s, it may even have been an advantage, given that the desired sound was thin and percussive rather than deep and flowing.

Bud's younger brother Joe revered the way he would 'pop the hell out of the strings. Make them hit the fingerboard' and noted that they called that style 'woodblock bass' for its percussive similarity to the drummer playing sticks on woodblocks (Brown & Allen 1959a: 27). This clarifies that depth of tone was not a priority and further supports the idea that Loyacano's idiodexterity had no impact on his abilities as an early jazz musician.

6.5 Sherwood Mangiapane



Mangiapane (1912-1992) was considered by Rose and Souchon (1967: 81) to be 'one of the all-time great New Orleans bassists'. He worked with Johnny Wiggs, Raymond Burke, Edmond Souchon and the Louisiana Repertory Jazz Ensemble and was a Preservation Hall regular (ibid.).

Mangiapane played his first paid gig as a drummer aged eleven, switched to sousaphone during high school and, unable to afford his own, was loaned his first string bass by bandleader Joe Clesi (Allen & Russell 1959). Mangiapane's German grandfather 'played all

string instruments' and showed him how to tune it, but neither objected to his intuitively idiodextrous approach nor suggested restringing (ibid: 1).

Mangiane admired the 'slapping' style of Pops Foster (1892-1969) and adopted a similar technique (ibid: 8). Unlike Loyacano, Mangiapane recalls playing mostly four to the bar – 'a nice, flowing, easy beat' (ibid: 10).



Video of Mangiapane performing in Art Ford's 1958 all-star 'New Orleans Jazz Party' (hoffmanjazz 2013) reveals how that four to the bar feel was nevertheless slap-based and very different to a modern walking feel. Mangiapane's left hand is clearly 'popping' the strings away from the fingerboard in typical slap style. The thumb of his right hand is visible on the side of the fingerboard, indicating a technique not overly concerned with fast mobility of the fingering hand. Unfortunately, no evidence has yet surfaced regarding Mangiapane's own thoughts about the consequences of adopting an idiodextrous approach.

7. SAMPLE TRANSCRIPTION

In 5.4.4, Leitham (2015) proposed that Earl May's propensity for raking ascending arpeggios might constitute a feature of his improvising vocabulary. West (2015) identifies that idiodextrous bassists have an ergonomic 'advantage' in executing this kind of phrase, prompting the proposal that this might be the most easily identifiable trait of a 'uniquely idiodextrous vocabulary' (RQ4).

The following transcriptions provide examples of this type of raked, ascending arpeggio and are contextualised by brief analysis. The purpose of this chapter is to test the suitability of informal transcription analysis for conducting future large-scale projects transcribing idiodextrous bassists, searching for potential clues to this and other ergonomically intuitive improvising vocabulary.

Ex 1: Earl May's bass solo on *Earl May*, from the Billy Taylor Trio's album *The Billy Taylor Touch* (1958, Atlantic 1277)

♩ = 200bpm, swung

14

In the first bar of the seventh and final chorus of his commanding solo on this up-tempo, 12-bar blues in Bb, May executes a raked, ascending Bb7#9 arpeggio. This is the only instance in the entire solo of May being able to execute quaver triplets without relying on hammer-on or pull-off techniques.⁷⁴ This suggests that the raked arpeggio was indeed ergonomically favourable, being employed to execute rapid rhythmic embellishments at the peak of the solo's intensity.

⁷⁴ Goldsby (2002: 176) describes a pull-off as plucking the string 'with your [fingering] hand as you pull it away' from the string', and a hammer-on as achieved 'in the opposite manner', by '[striking] the fingerboard hard, sounding the note as you finger the string'. Both are used to execute fast rhythmic embellishments.

The D on beat one of Bar 157 was likely fingered with the fourth finger on the A string, the second finger ‘barring’ the F on the D string and the Bb on the G string and the fourth finger pivoting over to finger the Db on the G string at the top of the arpeggio. This fingering facilitates raking and allows the rapid spanning of an interval of a major seventh with minimal shifting.

Ex 2: Earl May’s bass solo on *Midnight*, from the Billy Taylor Trio’s album *The Billy Taylor Trio At The London House* (1956, ABC-Paramount ABC-134)

♩ = 120bpm, swung

This excerpt is taken from the second chorus of May’s solo on a blues in the same key, but at a more relaxed tempo than the previous example. It contains two clear examples of raked, ascending arpeggios – a Dm7 arpeggio in Bar 147 and a Cm7 arpeggio in Bar 150. Comparing the two may provide an example of how not all ascending arpeggios are necessarily raked.

In Bar 147, if the D is played on the A string with the 4th finger as in the previous example, the slower tempo might allow the second finger to quickly shift back to play the F on the D string, putting the first finger in place to finger the A on the G string as the fourth finger pivots over to play the C on the G string. This would allow the first three notes to be raked, with the final note plucked anew, but would require two small shifts.

Perhaps a more intuitive way to finger this arpeggio might be to play the D open, hammer-on the F with the second finger, placing the first finger in position to play the A on the G string and performing just one semi-tone shift to give the fourth finger access to the C on the G string.

While the timbre of the notes on heard on the recording suggests (to my ears) the first option, the second option cannot be completely ruled out. This further illustrates Heyman's (2014) argument that visual iconography can be of great value in making this kind of retroactive technical analysis.

By contrast, the ascending Cm arpeggio in Bar 150 is clearly raked. The C is fingered with the fourth finger on the A string, the Eb with the first finger on the D string and the G played open while the fourth finger pivots over to play the Bb on the string. This is the most ergonomically efficient of the three rakes analysed here. It covers an interval of a minor 7th, requires no shifting and utilises the open string to allow more time for pivoting the fourth finger.

During a skype interview, West (2015) demonstrated to me some exercises that he has developed for 'playing in tune' in which he utilises upward raking to construct arpeggios of fingered notes 'underneath' a G string drone. These employ a similar concept to May's arpeggio in Bar 150, utilising playing the 'top string' open to give time for rapid shifts in the fingered notes.

It is important to note that conventionally right- and left-handed bassists can develop tricks for executing ascending arpeggios, but they are not ergonomically intuitive to those approaches. Equally, West (2015) highlights the 'doing that fall' (playing an idiomatic, descending arpeggio) is 'not very easy', but notes that he has 'figured ways to get around that', including using pull-offs to simulate the sonic texture of rakes.

The key realisation is that the ergonomic 'intuitiveness' of a technique affects how it sounds. This, in turn, may influence how often a bassist chooses to employ that

technique. For this reason, any large-scale transcription project hoping to pull out clear evidence of uniquely idiodextrous vocabulary (as suggested in **8.2**) should compare a large body of transcriptions of idiodextrous bassists with an equal sized sample of conventionally right- or left-handed bassists. This would enable both qualitative assessments, as well as quantitative comparisons of the number of instances of specific techniques.

8. CONCLUSIONS & RECOMMENDATIONS

I have attempted to construct a framework within which idiodextrous jazz double bass can be understood. There is much still to be researched on this subject beyond this study, which is limited to the scope of a one-year MA by Research. Conclusions are presented here in the form of brief answers to each of the core research questions. Recommendations are then made for further study.

8.1 Conclusions

RQ1 asks: what are the physical and sonic consequences of an idiodextrous approach to the double bass?

Idiodexterity is an embodied phenomenon that affects the body-instrument interface. The unique physical challenges stem mainly from the 'reversed' order of the strings in relation to the body. Playing on the most desirable (D and G) strings in thumb position places extra demands on the body when compared to conventional handedness approaches. Alexander Technique philosophies of positioning the body favourably and allowing 'opposition' from the instrument can be employed to alleviate this somewhat. It can be argued that the difficulties of the sound producing hand in exciting the heaviest strings furthest from the body are mitigated by improved access for the fingering hand. The sonic consequences are more clearly identifiable as disadvantageous, with the internal asymmetry of the instrument contributing to a 'thinner' tone and decreased volume when played idiodextrously. Where finances permit, these concerns could feasibly be addressed by 'converting' the inside of the bass by switching the locations of the soundpost. Even more ideal would be having an 'idiodextrous bass' built from scratch, with the fingerboard also customised.

RQ2 asks: why do some bassists adopt this approach?

None of the idiodextrous jazz bassists studied received much direct instruction in their early experiences of playing the instrument and none have studied with classical teachers. In each case, an unconventional but intuitive handedness

approach was applied to a conventional instrument. Earl May experimented with 'every way possible' before ultimately settling on an idiodextrous approach for practical reasons, especially the ability to borrow other people's right-handed instruments when travelling. In comparison to the classical academy, jazz cultures are certainly more receptive to unusual handedness approaches. The idiomatic concerns of some styles of jazz also render idiodexterity a non-issue. Moreover, where a musician's value systems emphasise interactive, supportive aspects of musicality above personal virtuosity, an idiodextrous approach is no hindrance to pursuing those values.

RQ3 asks: how does idiodexterity challenge predominant assumptions and attitudes about handedness inherent in string instrument traditions?

The recurring assertion that naturally left-handed bassists excel at playing 'right-handed' by virtue of assigning their dominant hand to fingering has its logical equivalent in right-handed people playing left-handed. Although there is no evidence of anyone adopting the latter as their preferred handedness approach, the concept renders the predominance of right-handed instruments arbitrary, mostly the product of tradition. Feasible arguments have been made that Jimi Hendrix 'intuitively' recognised that assigning his dominant hand to fingering on the guitar ideally met the needs of modern rock guitar playing. Idiodexterity further challenges assumptions about the ideal order of strings in relation to the body, which William Crotch wondered about as early as the 18th century. Conventional handedness approaches to the double bass ergonomically favour descending arpeggios, while idiodextrous approaches favour ascending arpeggios. This raises the question of whether different string orders might be preferable for meeting the demands of different playing situations. For example, just as there are 'soloist tunings' for double bass, could there also be a 'soloist' stringing and a 'sectionalist' stringing?

RQ4 asks: is there improvising vocabulary that is uniquely, ergonomically intuitive to idiodextrous bassists?

While the facility to 'rake' descending arpeggios is deeply embedded in idiomatic jazz bass playing, Lyles West argues that the corresponding advantage idiodextrous

bassists have in playing ascending arpeggios can be exploited to create unique vocabulary. Unusual melodic and timbral vocabulary could also be developed by capitalising on the improved access that idiodextrous bassists have to playing in thumb position on the E and A strings.

8.2 Recommendations

For idiodextrous bassists, the recommendations based on this research are:

1. Understanding the physical consequences of idiodexterity can help to formulate strategies for overcoming them. Equally, studying the 'intuitive' solutions of past idiodextrous bassists can be enlightening. The Alexander Technique can also be employed to great effect in negotiating the unique challenges of idiodexterity.
2. Understanding how the construction features of the instrument affect sound production can help to compensate for the sonic consequences of idiodexterity. Consulting luthiers is the best way to access this information and, where financially feasible, they could be enlisted to consider how to convert or build a bass better suited to an idiodextrous approach.
3. Idiodextrous musicians are invited to share their experiences and insights, send in videos and recordings, and to participate in ongoing research into this rare practice, by contacting the author or by visiting:

www.idiodextrous.com/participate

For future research with greater scope to employ interdisciplinary methodologies, I recommend:

1. A large-scale transcription project could be employed to search for ergonomically intuitive techniques in the improvisations of Earl May and Tony Archer, the two most well-recorded idiodextrous bassists. The process of transcribing and analysing their solos might uncover more specific new knowledge that could be compiled into a

unique method book. Visual documentation of their performances should be employed wherever possible.

2. Luthiers could be employed to build the world's first ever idiodextrous double bass. The design could be informed by further testing of the sonic consequences of idiodexterity across a range of construction variables and the finished product could be based on an existing right-handed model for comparison.

3. Neuroscientists could study brain activity in a bassist who switches between playing in the conventionally left-handed manner and idiodextrously. Prescribed passages could be used as control mechanisms to compare the weightings of faculties engaged with each handedness approach. The experiment could then be modified to include improvisation, to see what tools (visual, spatial, cognitive, linguistic) bassists rely on most when trying to invert their usual perception of an instrument's landscape.

Epilogue

How is this research going to be helpful in my own practice? I have spent the last year collecting information on the landscape and design of the double bass, studying the movements of the human body interacting with the instrument and writing a history of a rare approach to playing.

The process of writing about the body in action helps to attain clarity, which must then be recycled into practice, becoming embodied knowledge. At the end of a year of studying idiodexterity, I have begun to feel more keenly attuned to the body-instrument interface when performing. There is no smooth, immediate transition to a more natural way of playing, but a slow and deliberate will to incorporate the advice of Detnon, Kasoumpi, Kertz and Kind.

My understanding of the construction of the double bass has deepened significantly. This informs my sound production and compels me to explore further the ways of drawing out the sound of the instrument, as well as possible design modifications.

Searching for ergonomically intuitive vocabulary inspires me to explore these ideas in performance. The techniques of West and Archer can be developed into practice exercises, improvising patterns and compositions that uniquely exploit idiodexterity.

Knowledge transforms performance, because the performer we see on stage is the sum total of their experiences (Kasoumpi 2015). Researching adds to my vocabulary for speaking about the instrument, strengthening my practice as both performer and teacher. It has also instilled a taste for inquiry, stirring a sense of searching that transcends the current project.

BIBLIOGRAPHY

Texts cited

Allen, Richard B. & Crawford, Paul R. 1959a. *Interview with Joe Loyacano*. New Orleans, 20/8/1959

Allen, Richard B. & Crawford, Paul R. 1959b. *Interview with Bud Loyacano*. New Orleans, 28/8/1959

Allen, Richard B. & Russell, William. 1959. *Interview with Sherwood Mangiapane*. New Orleans, 5/5/1959

Arnecke, Volkmar. 2015. *Arnis Lefthand Bass Community: News*. [Online] [Accessed 20/9/2015] http://www.leftybass.com/e_start.htm

Batchelor, Chris. *Interview with the author*. 9/7/2015 at Middlesex University, London

Berliner, Paul F. 1994. *Thinking in Jazz*. Chicago Studies in Ethnomusicology.

Bjerstedt, Sven. 2007. *Loyacano*. [Online] [Accessed 23/9/2015] <http://www.network54.com/Forum/27140/message/1182814047/Loyacano>

Bland, Ron. *Interview with the author*. 6/6/15 at ISB Convention, Fort Collins, CO

Boswell-May, Lee. *Interview with the author*. 13/6/2015 at Hat City Streets Festival, NJ

Brown, Andrew W. 2004a. Documentation of Double Bass Plate Modes Using the Scanning Laser Vibrometer. *Proceedings of the International Symposium on Musical Acoustics, ISMA2004*, 344-347

Brown, Andrew. 2004b. *Acoustical Studies on the Flat-backed and Round-backed Double Bass*. PhD, University of Music and Performing Arts Vienna, Austria.

Brown, Andrew W. and Bertsch, Matthias. 2004. The paradox of musical acoustics: Objectivizing [sic] the essentially subjective. In: R. Parncutt, A. Kessler & F. Zimmer (Eds.) *Proceedings of the Conference on Interdisciplinary Musicology, CIM04*, 1-6

Brown, Ray. 1999. *Ray Brown's Bass Method*. Milwaukee, Hal Leonard.

Brun, Paul. 2000. *A New History of the Double Bass*. Villeneuve d'Ascq, P. Brun Productions.

Butler, David Medford. 1966. *An Investigation of the Musical identity of the Double Bass*. MA, Ohio State University.

Carter, Ron. 1998. *Building Jazz Bass Lines*. Milwaukee, Hal Leonard.

Christman, Stephen. 2010. Eclectic lefty-hand: Conjectures on Jimi Hendrix, handedness, and Electric Ladyland. *Laterality: Asymmetries of Body, Brain and Cognition*, 15(1-2), 253-269

Christman, Stephen. 2011. Handedness and 'open-earedness': Strong right-handers are less likely to prefer less popular musical genres. *Psychology of Music*, 41(1) 89-96

Clarke, David and Clarke, Eric. 2014. Music and consciousness: A continuing project. *Arts and Humanities in Higher Education*, 13(1-2), 77-87

Clarke, Eric. 2007. The Impact of Recording on Listening. *twentieth-century music*, 4(1), 47-70

Clayton et al (eds). 2003. *The Cultural Study of Music: A Critical Introduction*. East Sussex, Psychology Press.

Cozier, Jimmy. *Interview with the author*. 9/6/2015 at Lincoln Center, NYC

Cranshaw, Bob. *Interview with the author*. 10/06/2015 via phone, NYC

Detnon, Joe. *Interview with the author*. 17/8/2015 at Bloomsbury Alexander Technique Centre, London

Evans, François. *MA supervisory consultation with the author*. 1/7/2015 at Jin Sushi, London

Flores Jr, Manny. *Interview with the author*. 26/6/2015 via Skype, London to El Paso, TX

Ford, Andrew. 2012. *Thomas Martin and the Double Bass*. [Online]. [Accessed 14/9/2015]. <http://www.abc.net.au/radionational/programs/musicshow/thomas-martin-and-the-double-bass/4275494>

Forinash, Kyle. 2013. *SOUND: An Interactive eBook on the Physics of Sound*. [Online] [Accessed 26/9/2015] https://soundphysics.ius.edu/?page_id=1054

Frisch, Jack. *Email conversation with the author*. Initiated 20/9/2015 (ongoing)

Fujisan. 2011. Special Feature: Left-handed bass playing. *The Walker's*, 26 [E-magazine] <http://www.fujisan.co.jp/product/1281683930/b/622702/>

Gage, David. 1999. *On Setting up the Bass, Part II: Bridge, Bassbar and Soundpost*. [Online] [Accessed 26/9/2015] <https://davidgage.com/luthier.php?id=8>

- Geddes, Mark. *Conversation with the author*. 16/7/15 via facebook (ongoing)
- Glasser, David. *Interview with the author*. 10/6/2015 at Le Singe Vert, NYC
- Goldsby, John. 2002. *The Jazz Bass Book: Technique and Tradition*. San Francisco, Backbeat Books.
- Greenberg, Michael. 2000. The Double Bass Class at the Paris Conservatory, 1826-1832. *Journal of the American Musical Instrument Society*, 26, 83-140
- Griot, Mike. 2015a. *Fund a Jazz Legend's Bass Repair and Preserve Jazz History!* [Online] [Accessed 10/4/2015] <https://www.kickstarter.com/projects/itsallaboutthatbass/fund-a-jazz-legends-bass-repair-and-preserve-jazz/>
- Hallam, Susan et al (eds). 2009. *The Oxford Handbook of Music Psychology*. Oxford University Press.
- Hammond, Richard. *Interview with the author*. 17/9/2015 via Skype, London to Wakefield
- Hardy, Bob. 2008. *Stan Sulzmann+Tony Lee Trio - Green Dolphin St/Nows The Time*. [Online]. [Accessed 28/8/2014]. <https://www.youtube.com/watch?v=8HnsBs3HWzQ>
- Hartigan, Royal. 1999. Paul F. Berliner's 'Thinking in Jazz'. *Annual Review of Jazz Studies*, 9, 351-366
- Herek, Gregory M. 2003. Evaluating interventions to alter sexual orientation: Methodological and ethical considerations. *Archives of Sexual Behavior*, 32(5), 438-439
- Heyman, Matthias. 2014. Of Icons and Iconography: Seeing Jimmie Blanton. *Journal of Jazz Studies*, 10(2), 119-156
- hoffmanjazz. 2013. *New Orleans Jazz Party - Art Ford 1958 16 Clement Tervalon - Just A Closer Walk+ 17 When The Saints*. [Online] [Accessed 25/5/2015] <https://www.youtube.com/watch?v=vDMJrhCLUSA>
- Hollerbach, Peter. 2004. (Re)voicing tradition: improvising aesthetics and identity on local jazz scenes. *Popular Music*, 23(2), 155-171
- ISB. 2015. *International Society of Bassists: Welcome*. [Online] [Accessed 10/3/2015] <http://www.isbworldoffice.com>
- Iverson, Ethan. 2009. *Interview with Albert "Tootie" Heath*. [Online] [Accessed 10/9/2015] <http://dothemath.typepad.com/dtm/interview-with-albert-tootie-heath.html>
- Jäncke, Lutz et al. 1997. Hand Skill Asymmetry in Professional Musicians. *Brain and Cognition*, 34, 424-432

Jazz Services Ltd. 2011. Musician: Richard Hammond. [Online] [Accessed 17/9/2015] <http://www.jazzservices.org.uk/index.php/component/directory/?task=musician&id=5248>

Jennings, Chris. *Interview with the author*. 23/9/2015 via Skype, London to Paris

Karr, Gary. 1967. Our Purpose. *The Bass Sound Post*, 1, 3-4

Kasoumpi, Stella Evangelia. *Interview with the author*. 5/9/2015 in Loutraki

Kernfeld, Barry (ed.). 2002. *The New Grove Dictionary of Jazz*. 2nd ed. London, Macmillan.

Kertz, Randall. *Interview with the author*. 5/6/2015(a) at ISB Convention, Fort Collins, CO

Kertz, Randall. 2015b. *Body & Bass: May 2015*. [Online] [Accessed 26/5/2015] <http://isbconnect.org/body-bass-may-2015/>

Kertz, Randall. 2015c. *Video interview with Greg Gottlieb*. [Online] [Filmed 6/6/2015 at ISB Convention, Fort Collins, CO]

Kind, Ethan. 2011. *An Alexander Technique Approach to Double Bass Technique*. New Mexico, self-published.

Kind, Ethan. *Email conversation with the author*. Initiated 21/9/2014 (ongoing)

Kirchner, Bill (ed.). 2000. *The Oxford Companion to Jazz*. Oxford University Press.

Kopiez, Reinhard et al. 2011. No disadvantage for left-handed musicians: The relationship between handedness, perceived constraints and performance-related skills in string players and pianists. *Psychology of Music*, 40(3), 357-384

kromedome87. 2010. *Tony Lee, Tony Archer & Bill Le Sage LIVE - "Grooveyard" - '81*. [Online]. [Accessed 28/8/2014]. <https://www.youtube.com/watch?v=qXHe8Y9bpDk>

La Musica. 1973. *The Unanswered Question: Lecture 1 - Musical Phonology / Leonard Bernstein / Norton*. [Online]. [Accessed 11/8/2015]. <https://www.youtube.com/watch?v=ntmTQ8J7m5Y>

Laeng, Bruno and Park, Ariane. 1999. Handedness Effects on Playing a Reversed or Normal Keyboard. *Laterality: Asymmetries of Body, Brain and Cognition*, 4(4), 363-377

Leitham, Jennifer. *Interview with the author*. 1/5/2015(a) via Skype, London to Los Angeles

Leitham, Jennifer. 2015b. *JENNIFER LEITHAM: Jazz Bassist – Composer – Vocalist*. [Online] [Accessed 1/5/2015] <http://jenniferleitham.com/#biography>

Lord, Tom. 2015. *Tom Lord Discography: Earl May*. [Online] [Accessed 17/7/2015] <https://www.lordisco.com/tjd/MusicianDetail?mid=5853>

Macdonald, Raymond A. R. et al (eds). 2002. Oxford University Press.

Macdonald, Raymond and Wilson, Graeme. 2005. Musical identities of professional jazz musicians: a focus group investigation. *Psychology of Music*, 33(4), 395-417

Macdonald, Raymond A. R. and Wilson, Graeme B. 2006. Constructions of jazz: how jazz musicians present their collaborative musical practice. *Musicae Scientiae*, 10(1), 59-83

McIntosh, Robbie. *Interview with the author*. 1/6/2015 at ISB Convention, Fort Collins, CO

McManus, Chris. 2002. *Right Hand, Left Hand*. London, Weidenfeld & Nicolson.

McManus, Chris. *Email conversation with the author*. Initiated 17/7/2015 (ongoing)

Martin, George & Martin, Tom. *Interview with the author*. 20/9/2015 via phone, London to Oxfordshire

Matthews, Paul. 2002a. Earl May Interview Part One. *Cadence*, 28(9), 17-25

Matthews, Paul. *Email conversation with the author*. Initiated 11/7/2015 (ongoing)

Melrose, Susan. 2007. *Confessions of an Uneasy Expert Spectator*. [Online] [Accessed 21/8/2015] <http://www.sfmelrose.org.uk>

Monson, Ingrid. 1996. *Saying Something: Jazz Improvisation and Interaction*. Chicago Studies in Ethnomusicology.

Nelson, Robin. 2009. Modes of Practice-as-Research Knowledge and their Place in the Academy. In: Allegue, L. et al (eds). *Practice-as-research in performance and screen*. Basingstoke, Palgrave Macmillian, 112-130

Nussbaum, Adam. *Interview with the author*. 7/6/2015 at 55 Bar, NYC

Oldfield, Richard D. 1969. *Handedness patterns among professional musicians*. California State University.

Park, Hyekyung. 2012. *Theoretical Approaches to Deconstruction in Music: Music as a Language, Signature, Yin-Yang, and the Function of Motive*. PhD, State University of New York (Buffalo).

Planyavsky, Alfred. 1998. *The Baroque Double Bass Violone*. Lanham, Scarecrow Press.

Prouty, Ken. 2011. *Knowing Jazz: Community, Pedagogy, and Canon in the Information Age*. University Press of Mississippi.

Reel, James. 2011. How the Rabbath Method Helps Bassists Get Unstuck. *Strings*, 194, 46-47

Reid, Rufus. 1977. *Evolving Upward*. Teaneck, NJ, Myriad.

Reid, Rufus. 2000. *The Evolving Bassist*. Millenium ed. Teaneck, NJ, Myriad.

Reid, Rufus. *Interview with the author*. 5/6/2015 at ISB Convention, Fort Collins, CO

Rickover, Robert. 2015a. *Who Was Frederick Matthias Alexander?* [Online] [Accessed 13/2/2015] www.alexandertechnique.com/fma.htm

Rickover, Robert. 2015b. *Here and Now! Aldous Huxley, Consciousness and The Alexander Technique* [Online] [Accessed 13/2/2015] alexandertechnique.com/articles/huxley/

Rose, Al & Souchoun, Edward. 1967. *New Orleans Jazz – A Family Album*. Louisiana State University Press.

Rowe, Monk. 2001. *Earl May*. [Online] [Accessed 28/5/2014] <http://contentdm6.hamilton.edu/cdm/ref/collection/jazz/id/1079>

Ruscio, Robin. *Interview with the author*. 25/6/2015 via Skype, London to Denver

Schleuter, Stanley L. 1978. Effects of Certain Lateral Dominance Traits, Music Aptitude and Sex Differences with Instrumental Music Achievement. *Journal of Research in Music Education*, 26(1), 22-31

Schnitzer, Arnold. *Interview with the author*. 1/6/2015 at ISB Convention, Fort Collins, CO

Shipton, Alyn. *Interview with the author*. 29/5/2015 via Skype, London to Oxford

Slatford, Rodney and Pettitt, Stephen. 1985. *The Bottom Line: New Prospects for Teaching and Learning the Double Bass*. London, Calouste Gulbenkian Foundation.

Sloboda, John (ed.). 1988. *Generative processes in music: the psychology of performance, improvisation, and composition*. Oxford, Clarendon Press.

Snowman, Janet. 2010. The left and right hands of the eighteenth-century British musical prodigies, William Crotch and Samuel Wesley. *Laterality: Asymmetries of Body, Brain and Cognition*, 15(1-2), 209-252

Soanes, Catherine & Stevenson Angus. 2003. *Oxford Dictionary of English*. 2nd ed. Oxford University Press.

Spilka, Bill. 2002a. *Performance : Earl May's 75th birthday, Sep. 15, 2002*. Videocassette (VHS). New York, NY. [Accessed 8/6/2015 at Rodgers & Hammerstein Archives of Recorded Sound, New York Public Library]

Spitzer, John and Zaslav, Neal. 2005. *The Birth of the Orchestra: History of an Institution, 1650-1815*. Oxford University Press.

Stringle, Bernie. *Interview with the author*. 29/3/2015 en route to Thropshire

Taylor, Billy. 1956. Midnight Piano. Billy Taylor Trio. *The Billy Taylor Trio At The London House*. [CD] Chicago, ABC-Paramount ABC-134

Taylor, Billy. 1958. Earl May. Billy Taylor Trio. *The Billy Taylor Touch*. [CD] NYC, Atlantic 1277

Thomas, Craig. *Interview with the author*. 5/6/2015 at Lincoln Center, Fort Collins, CO

Thomson, Ryan. 2003. *Playing Violin and Fiddle Left Handed*. New Hampshire, Captain Fiddle Publications.

Thomson, Ryan. 2010. *Violinist Ryan Thomson plays both left and right handed fiddles, teaches how*. [Online] [Accessed 9/9/2015] <https://www.youtube.com/watch?v=-brMXn2wOCU>

Torres, Cecilia A. R. 2008. The Construction of Identity and Musical Identities: A Literature Review. *Visions of Research in Music Education*, 11

vidimah. 2009. *Session david berkman joris teepe Steve Altenberg*. [Online] [Accessed 23/9/2015] <https://www.youtube.com/watch?v=shnEGvhEV2Y>

Wesolowski, Brian C. 2014. Timing deviations in jazz performance: The relationships of selected musical variables on horizontal and vertical timing relations: A case study. *Psychology of Music*, 1-20

West, Lyles. *Interview with the author*. 16/9/2015 via Skype, London to Dallas

White, Russell. 1977. Composers Forum: The Evolving Bassist, By Rufus Reid - Reviewed by Russell White. *International Society of Bassists: Education Forum*, 4(1), 345

Williams, Martin. 1959. *The Art of Jazz: Ragtime to Bebop*. Oxford University Press.

Wind, Martin. *Interview with the author*. 2/6/2015, Café Vino, Fort Collins, CO

Other texts consulted

Bottomley, Trevor. 2011a. *The Tony Lee Trio 1982*. [Online]. [Accessed 30/8/2014] <https://www.youtube.com/watch?v=RB27hHtwVSY>

Bottomley, Trevor. 2011b. *Tony Lee Trio Live at the Piper*. [Online]. [Accessed 30/8/2014] <https://www.youtube.com/watch?v=-I7GAPoN6Nk>

Kneeland, Thomson. 2008. *Peripheral Bass Techniques 1 - Pulloffs, Raking and More*. [Online]. [Accessed 15/9/2015] <https://www.youtube.com/watch?v=0WhWZtkEMlY>

Lee, Tony. 1971-1987. 32 albums. [Online]. London. Robert Page's live recordings. https://drive.google.com/folderview?id=0B_4h4o5gAuTOTEdVdzJXSml2M1E&usp=drive_web

Matthews, Paul. 2002b. Earl May Interview Part Two. *Cadence*, 28(10), 5-23

Matthews, Paul. 2002c. Earl May Interview Part Three. *Cadence*, 28(11), 8-26

Schnitzer, Arnold E. 2013. *Articles: Bass Gear*. [Online]. [Accessed 10/9/2015]. <http://www.aesbass.com/bassgear.htm>

Spilka, Bill. 2002b. *Performance / Jane Jarvis ; Benny Powell, . Sept. 12, 2002*. Videocassette (VHS). New York, NY. [Accessed 9/6/2015 at Rodgers & Hammerstein Archives of Recorded Sound, New York Public Library]

Zollinger, Matthew. 2014. *inspirational left handed violinist, Claire Zollinger plays with Jenny Oaks*. [Online] [Accessed 25/9/2015] <https://www.youtube.com/watch?v=IYyAc2RqSlw>

APPENDIX 1: 'Legit lefty' case studies

As noted in 5.1.1, there is functionally no difference between the conventional right- and left-handed ways of playing double bass. Interviews with conventionally left-handed jazz bassists reveal that all have experience of playing idiodextrously – to varying degrees and usually due to logistic necessity rather than preference. Their insights are therefore particularly valuable for their ability to make direct comparisons between conventional and idiodextrous approaches.

The comments of these bassists that have specific to idiodexterity specifically have been inserted into the main text. The following are intended to be brief interview summaries to provide context for their unique perspectives.

(NB: Unless otherwise noted, all information in this section is sourced from interviews with the author)

A1.1 Jennifer Leitham



Leitham (1953-) achieved fame playing for prominent jazz artists such as Mel Tormé, Peggy Lee, George Shearing, Woody Herman, Benny Carter and Louis Bellson and has recorded eight albums as a leader to date.

Although Leitham plays in the conventionally left-handed way, she describes herself as, 'ambidextrous but I favour my right hand a little more, which puts my stronger hand on the fingerboard'.

She recalls that bassist Red Mitchell also 'felt that left-handed people should play right-handed' because 'much of the character in a bass player's sound is from your grip strength' and passes that on to left-handed students who seek her out for tuition:

“Because... they progress faster. At first, especially, the fingering hand does much harder work than the pizzicato hand, for jazz players ... In the beginning you already have some grip strength and dexterity... so if you’re left handed ... putting your better hand on the fingerboard, I think you advance quicker.”

Leitham believes that most of the famous classical virtuosos of the bass are left-handers playing right-handed. If having the dominant hand assigned to fingering is really an advantage, this raises the question of why the right (usually dominant) hand is traditionally assigned to sound production instead.

She considers that the conventional approach to string instruments is really, ‘a dumb religious, Western tradition’, its origins going ‘back to the time when being left-handed was thought of being the work of the devil’. She believes the right hand was chosen for bowing and plucking:

“Because that’s considered the controlling hand. The dominant hand is the one that actually makes the sound, not the one that caresses the sound. The violent hand is the one that’s in charge, you know [laughs]”

Leitham often plays idiodextrously, especially when teaching, sitting in or borrowing a bass on tour and once even played ‘upside down’ on live national television. She describes how she has to ‘think and simplify’ when playing in that less familiar way and notes that playing for any length of time can make her ‘a little dizzy’. Leitham likens the effect of switching between the two approaches (idiodextrous and conventionally left-handed) in quick succession to ‘vertigo’:

“My hands wouldn’t go the right way. I can’t do it too long or my brain will stick to that... I think I zero in so much on ... trying to make it not physical, that what I’m playing is coming out of my head, [switching] messes my brain waves up [laughs].”

Leitham met Earl May twice and remembers how they, 'hit it off nicely because we were both dealing with that bit about being different'. Watching Earl play, she noted that he was an 'ultra supportive player' with driving time and 'a knack for playing a great bassline', but observed one peculiar aspect of his vocabulary:

"Interesting thing about Earl, you know, he couldn't go 'tikadidong' [sings descending rake], he would go 'tikadidaa' [sings ascending rake, laughs] his 'tikadidaas' were strange."

She likens May's musical successful implementation of an idiodextrous approach to the more general case of bassists like Charlie Haden, who, 'had a really unorthodox left hand technique on the string bass, yet was able to make brilliant music.' She asserts that because there is 'a certain ergonomic aspect to playing the bass that's unique to each player', as long as a musician has 'the skill and the desire and the ear... there's no "easier", it's just what calls to you and what you practice.'

Leitham's first teacher was Al Stauffer, who never saw her handedness approach as a limitation and enjoyed in lessons relating 'as though we were looking at each other in a mirror'. Stauffer helped Leitham get her first bass converted in the 1970s – the first instance of this practice documented so far.

She was refused tuition only once, by Roger Scott of the Philadelphia Orchestra, who was 'really a traditionalist'. Leitham sought lessons from Scott because, as someone who is 'more right-handed than left-', playing with the bow is perhaps 'more of a challenge than for a lot of people', requiring constant practice 'to feel like the left hand can relax'.

Asked about her individual voice as an improviser, Leitham concludes that:

"Well, obviously being a left-handed bass player, bucking tradition is sort of a foundation in what I do... I consider the bass a melody instrument and I have no qualms about playing a tune from beginning to end where I never even play a bass line. But, at the same time, I honour the traditions – and I just love

to sit in the groove and swing my butt off. That's as much fun to me as playing a really notey solo."

A1.2 Joris Teepe



As well as working with jazz greats Rashied Ali (for 9 years), Benny Golson and Randy Brecker, Teepe (1962-) has been a featured soloist with several orchestras, recorded 10 albums as leader and is an active composer and producer. The Dutch-born bassist has been based in NYC since 1992.

Teepe describes himself as a 'totally left-handed' person⁷⁵, but says that in hindsight he regrets choosing to play left-handed basses. He recalls that when shopping for his first electric bass at 17, he tried both right- and left-handed basses (playing them right- and left-handed respectively) and 'didn't feel any difference – I almost flipped a coin'. In the end, he settled on a left-handed bass purely on the recommendation of the shop assistant.

Teepe notes that he doesn't 'see any advantages' to playing in the conventional left-handed way:

"I just picked it up this way and now I'm stuck with it... I had no idea that I would become a professional bass player travelling around the world. [laughs] It's been a drag to carry around the basses. But it's also good 'cause you have your own instrument, so you know what you get."

Whenever transporting his own left-handed bass on long tours would be difficult, Teepe borrows right-handed basses and switches the strings himself, which takes

⁷⁵ Teepe notes one exception – he bats right-handed in baseball, because 'it's the same way you hold a [left-handed] bass'.

‘about forty-five minutes’ before and after each gig. He notes that sometimes that when playing on right-handed basses re-strung left-handed, the angle of the fingerboard can be problematic – particularly when ‘it has a huge ridge under the E, then it’s really hard to play’.

Teepe met Earl May in NYC during the mid-90s and ‘was very happy to meet him because we were both lefties’. Earl used to tease him at gigs by inviting him to sit in on his right-handed bass, but Teepe would rise to the challenge:

“I would still sit in. ‘Cause I can play both ways [conventionally left-handed and idiodextrously]. I’ve been to so many jam sessions... you have to think about ‘ok, the F is there, instead of there’... you go up this instead of this way. I don’t do it seriously, but I can get away with it.”⁷⁶

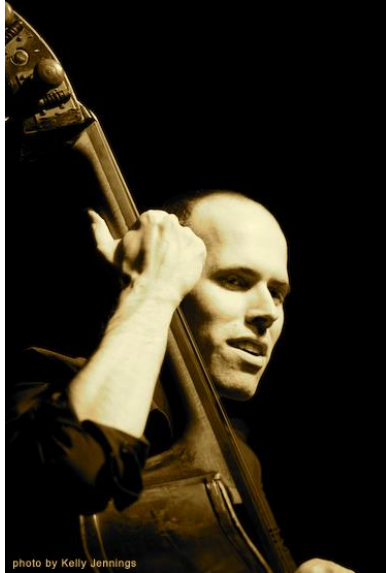
Teepe believes that while adopting an idiodextrous approach might have logistical appeal for enabling access to regular right-handed instruments, he considers it to be a technically challenging way to play. He identifies ‘sound [as] the biggest problem’, noting that:

“Some basses don’t sound good when you pull the strings the other way – if you don’t change the sound post and the bass bar... the sound is much thinner. I always turn it up a little bit on the amp... and then drink a couple of beers so you don’t think too much, then you just listen to yourself and it’s ok.”

Teepe recalls that in his early years as a jazz musician, being left-handed gave him ‘a cool excuse’ to not sit in at a jam session if he felt intimidated, which gave him ‘a lot of chances to observe and learn’. While he never felt any negativity from his Dutch conservatoire teachers towards his handedness, Teepe did feel ostracised when his sister, a classical flautist, asked him to ‘fill in with the orchestra’ where he was made ‘to sit on the outside... because I was bowing the other way. But later in my life I wrote three symphonies and I played as a soloist with orchestras, so...’

⁷⁶ Teepe has also observed the even more rare, technically also idiodextrous instance of bassists playing right-handed on his left-handed bass at jam sessions, but notes that usually ‘they can only play ballads or blues’.

A1.3 Chris Jennings



Jennings (1978-) was born in Canada, has been based in Paris since 2002 and is well established in Europe for his work with Dhafer Youssef, Nguyễn Lê and several of his own groups.

As a child, he played classical guitar and recalls that his parents would often find him playing ‘upside down’ and decided to buy him a left-handed instrument. In junior high school, Jennings played a right-handed electric bass ‘poorly converted’ to be

left-handed. Soon after, he attended a specialised music school and began taking lessons on double bass, which he had re-strung straight away.

Jennings recalls that his first double bass teacher wanted him to ‘play right-handed, like everyone else’, but that he and his parents insisted that since he had ‘been playing a guitar-like instrument for five years, [it didn’t] make sense to change’. In hindsight, he has mixed feelings about having made that decision, contrasting the difficulties of travel with the advantages of always having his own instrument.⁷⁷

He notes that, even for right-handed players, it has become the convention to borrow basses on tour, but that there is ‘no standard like there is with classical pianos’. Jennings also observes that what constitutes an appropriately playable instrument is ‘too individual’, and that a ‘setup’ that is ideal for one bassist may be ‘a nightmare for another’.

Jennings has some experience of playing idiodextrously:

⁷⁷ In 2004, luthiers Tom and George Martin built a custom left-handed bass for Jennings, which he named *Karla*.

“Actually I always play backwards at jam sessions and it’s become like a kind of game. I got tired of going to jam sessions and bringing my bass for one song... so I started... to try to play a couple of songs backwards... And actually I love it because I’m totally enthusiastic to go.”

On the physicality of playing idiodextrously, Jennings first observation is that for ‘the fingering hand, the heavy strings are ‘actually in a more convenient location’. He notes that the asymmetry of the bass means you ‘get less sound and less low end than if someone plays the same instrument just standing on the other side’. He acknowledges that ‘to a certain point you can compensate’ and ‘figure out how to pull out the sound of that instrument’, but feels that the structural imbalances are ultimately limiting.

Jennings notes that for someone who only occasionally plays idiodextrously, ‘you have to change the way you’re playing’ to do it. He suggests that playing up and down one string has increased appeal, since it avoids having to remember the inversion of pitch in the reversed string order.

Jennings likens the conceptual challenge of trying to play idiodextrously to an English-speaker using ‘a computer with a French keyboard’:

“You’d have to look at the keyboard a lot, and then every now and then you kinda take some risks and sometimes it works and sometimes you would type where the English keys are a little bit. It’s exactly like that actually.”

Jennings considers that as a consequence, ‘you find different things’, primarily because the landscape of the double bass ‘presents itself differently’ to the idiodextrous bassist:

“Note choice-wise, it makes you see different things. It’s a balance between playing something you know, which would mean basically transposing something I play on my bass normally... and taking risks and searching stuff that feels good that way, that I wouldn’t normally find.”

A1.4 Richard Hammond



Hammond (1976-) is a prominent British double and electric bassist, composer and educator who has performed with notable artists including Tina May, Stuart McCallum and Bucks Fizz.

He describes himself as ‘very left-handed’ and now plays on left-handed instruments as a preference, but as a teenager Hammond picked ‘automatically’ played a right-handed guitar ‘upside-down’. He eventually bought his own left-handed guitar and ‘had to relearn all my chord shape’, but believes that those early experiences ingrained an ability to think and play idiodextrously that enables him to easily adapt when sitting in at jam sessions or teaching on right-handed instruments.

Hammond’s first electric bass was a right-handed Fender Jazz re-strung left-handed, but when he noticed a tendency to inadvertently turn down the volume knobs with his sleeve, he opted to buy a left-handed version of the same model. When Hammond first borrowed a double bass during college, he played it idiodextrously. It wasn’t until much later that he realised it was possible to get a right-handed instrument converted to be left-handed.

Comparing idiodextrous and conventionally left-handed playing, Hammond argues that in either orientation, the asymmetry inherent in the order of the strings means that there is always a compromise for either the plucking or the fingering hand. Hammond’s observations when playing idiodextrously support Kertz’s (2015c) suggestion, as discussed in 5.2.2.2:

“...instead of being able to sort of pull through... that Rufus Reid thing of that twist on the bottom E... you’ve got the other three strings and the fingerboard in the way. So, I end up playing it more like a Cuban-y type of two-finger thing. Because I can’t get the attack on the bottom E... playing one finger, it just sounds really thin. So I tend to find I’m double-fingering it.”

Conversely, Hammond considers that an idiodextrous approach relieves strain from the fingering hand when playing on the heaviest strings, which demands 'coming round to get it' and bringing 'your elbow right out' in the conventional left-handed (or right-handed) approach. So in Hammond's experience, playing conventionally left-handed is easier on the left (plucking) hand, while playing idiodextrously is easier on the right (fingering) hand. He concludes that this is the source of a compromise fundamental to playing all string instruments.

Discussing Christman's (2010) article on Hendrix's handedness approach, Hammond states that he also wonders about the assigning of roles to hands in modern styles of guitar playing, especially when someone is predominantly 'a chord player':

"Why would you like your dominant hand just doing this [strumming up and down]? And then supposedly your weakest hand doing all the fancy stuff?"

He suggests that maybe the tradition is rooted in assigning the dominant hand to being 'the driving force' of sound production, while the non-dominant hand is 'catching up to that' in its fingering.

Hammond also plays and teaches classical guitar and noticed that when developing the complex finger-picking required, he discovered that his left (dominant, sound-producing) hand felt 'underdeveloped, movement-wise'. He considered that 'apart from two finger electric [bass] playing, which is sort of just alternating', his left hand 'felt like it had been redundant'.

Hammond contends that this supports Christman's (2010: 259) explanation of the tradition of assigning sound production to the dominant hand in classical guitar. He then suggests that it might be preferable to 'do classical [guitar] left-handed... and then electric [bass] right-handed', which is also in line with the intuitive logic of Hendrix's handedness approach proposed by Christman (ibid: 260).

Hammond also mentions a friend who plays electric bass left-handed, but double bass right-handed: “He just says he treats it like a completely different instrument.” This is an interesting example of Plato’s ideal (see **5.3.2**) in action – developing skill with both hand allows selection of the handedness approach most advantageous or practical to each situation.

In some ways, Hammond wishes he’d learnt to play double bass idiodextrously, particularly to address problems of instrument availability. Hammond originally considered having one built ‘from scratch’ and found a luthier willing to forego the usual upcharge compared to making the same instrument right-handed (which Hammond jokes is ‘handist’), but eventually opted for conversion.

Hammond’s current double bass cost around £1000 to convert inside- and out-, including re-cambering the fingerboard, re-drilling the tuning pegs and making a new bridge. He cautions that even converting a bass can be problematic:

“I tried [my current bass] out in the shop and it was right-handed, and I thought yeah it sounds great, that. Paid for it, paid for converting, come back and... just the tone of it sounds completely different. I preferred it before.”

The change in sound was likely due to the subtly asymmetric carving of the top plate of the bass, designed to accommodate the bass bar and soundpost in their original, right-handed configuration (Leitham 2015a).

Hammond feels that playing the conventionally left-handed way is useful for teaching, since ‘you’ve got the two sets of hands going the same way – it’s just like a mirror of each other’.

Conversely, while studying at Wakefield college, Hammond’s double bass teachers insisted that ‘it’s impossible to play double bass left-handed’, forbade him from doing it and insisted that he must ‘re-train [his] brain’ and play right-handed. Hammond struggled through playing right-handed ‘abysmally’ in the lessons, then immediately reverted to playing idiodextrously when practicing at home. His

teachers' argument was principally based on preserving uniformity in bowing directions in the orchestra – a familiar argument by now, and one refuted by Manny Flores Jr's experiences of being welcomed and accommodated into the El Paso Symphony Orchestra (see **5.3.2**).

More recently, Hammond has performed with Manchester's Hallé Orchestra and remembers that 'the first time he walked in with [his] left-handed double bass', the seven other bassists 'looked horrified and bewildered'. They later told him that initially, 'they couldn't figure out what was wrong, because it's not [horizontal] like an electric... it's straight up' and that the visual disturbance was 'a bit more subtle'.